



Plant Inventory No. 216

Plant Materials Introduced in 2007
(Nos. 644218 - 652415)



Foreword

Plant Inventory No. 216 is the official listing of plant materials accepted into the U.S. National Plant Germplasm System (NPGS) between January 1 and December 31, 2007 and includes PI 644218 to PI 652415. The NPGS is managed by the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). The information on each accession is essentially the information provided with the plant material when it was obtained by the NPGS. The information on an accession in the NPGS database may change as additional knowledge is obtained.

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The following were developed by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Robert Kane, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 01/15/2007.

PI 644218. *Daucus carota* L. subsp. *carota*

Breeding. Inbred. B1111.

The following were developed by William D. Branch, University of Georgia, Coastal Plain Experiment Station, Department of Crop and Soil Sciences, Tifton, Georgia 31793-0748, United States. Received 01/11/2007.

PI 644219. *Arachis hypogaea* L. subsp. *hypogaea*

Cultivar. Pureline. "GEORGIA GREENER". CV-95; PVP 200700207. Pedigree - Georgia Green x C-99R. From 2003-2005 in 16 multilocation Georgia tests planted in mid-May and 8 multilocation Georgia tests planted earlier in mid-April, Georgia Greener was lowest in TSWV and total disease resistance, highest in yield, grade, and dollar value return per hectare when compared to other runner-type peanut cultivars. When tested in the 2005 Uniform Peanut Performance Tests (UPPT), Georgia Greener was highest in pod yield and highest in total sound mature kernel (TSMK) grades averaged across the southeast and southwest UPPT locations. Similar to Georgia Green above-ground in having an intermediate or decumbent runner growth habit and medium maturity. Has darker green foliage and tan testa color. In 3 years of shelling outturns, Georgia Greener has lower percentage of jumbo runner seed than Georgia-06G (31 vs. 41%, $P < 0.05$), but more medium size seed (30 vs. 23%, $P < 0.05$) and No. 1 seed (6 vs. 4% $P < 0.05$). Similar to Georgia Green in blanchability, protein content, oil content, and roasted leic (O) to linoleic (L) fatty acid ratio and iodine values are slightly higher (2.5 vs. 1.9 and 90 vs. 94, respectively) for Georgia Greener compared to Georgia Green but neither are high-oleic cultivars.

PI 644220. *Arachis hypogaea* L. subsp. *hypogaea*

Cultivar. Pureline. "GEORGIA-06G". CV-94; PVP 200700208. Pedigree - Georgia Green x C-99R. Pedigree selection was practiced within the F2, F3 and F4 populations for TSWV resistance, desirable pod shape, seed size, testa color, growth habit, maturity, high yield, and grade characteristics. During 2003-2005 in 16 multilocation Georgia tests planted in mid-May and 8 multilocation Georgia tests planted earlier in mid-April, Georgia-06G was lowest in TSWV and total disease resistance, highest in yield, grade, and dollar value return per hectare when compared to other runner-type peanut cultivars. When tested in the 2004 Uniform Peanut Performance Tests (UPPT), Georgia-06G was found to have the highest pod yield (5648 kg ha⁻¹) and highest total sound mature kernel (TSMK) grade at 78% averaged across all UPPT locations. Has shown very good performance stability and a wide-range of adaptability throughout the major peanut production areas of the U.S. Similar to Georgia Green above-ground in having an intermediate or decumbent runner growth habit and medium maturity. Has darker green foliate and tan testa color. 2003-2005 shelling outturns resulted in Georgia-06G having higher percentage of jumbo runner seed than Georgia Green (41 vs. 18%,

P<0.05) but fewer medium size seed (vs. 40%, P.<0.05) and No. 1 seed (4 vs. 8%, P<0.05). Similar to Georgia Green in blanchability, protein content, oil content, and roasted flavor. Oleic (O) to linoleic (L) fatty acid ratio and iodine values are slightly higher (2.4 vs. 1.9 and 94, respectively) for Georgia-06G compared to Georgia Green, but neither are high-oleic cultivars.

The following were developed by W. Erskine, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Sarker, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Fikre, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; S. Ahmed, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; K. Ali, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia. Received 01/03/2007.

PI 644221. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "TESHALE"; ILL 7978. CV-30. Pedigree - Breeding line, FLIP 96-46L developed at ICARDA following a bulk-pedigree method. Has an erect growth habit with strong stem, thus providing lodging resistance and is suitable for machine harvest. Plants are medium-statured (29 cm) with more basal primary branches compared to local cultivars. Leaves are dark green with narrow leaflets, ending as a long tendril. Produces 50% flowers in a range of 48 to 68 d; matures in 97 to 139 d. Hundred seed weight varies from 3.1 to 4.3 g compared to 2.2 g for the local cultivars. Due to its smooth seed surface, its splitting quality is remarkable of about 90%. Its dehulled seed has a protein content of 25.3% and straw has a protein content of 6.6%.

The following were developed by James S. Quick, Colorado State University, Soil and Crop Sciences, Fort Collins, Colorado 80523, United States; Frank Peairs, Colorado State University, Dept. of Bioagricultural Sciences & Pest Management, Fort Collins, Colorado 80523-1177, United States; J.B. Rudolph, Colorado State University, Dept. of Entomology, Fort Collins, Colorado 80523, United States; John Stromberger, Colorado State University, Dept. of Soil and Crop Sciences, 1170 Campus Delivery, Fort Collins, Colorado 80523, United States; B.W. Seabourn, USDA, ARS, Grain Marketing and Production Research Center, Hard Winter Wheat Quality Lab., Manhattan, Kansas 66506, United States; Scott D. Haley, Colorado State University, Soil and Crop Sciences Department, 1170 Campus Delivery, Fort Collins, Colorado 80523, United States; J.J. Johnson, Colorado State University, Dept. of Soil and Crop Sciences, Fort Collins, Colorado 80523, United States; James Kolmer, USDA-ARS, Cereal Disease Laboratory, 1551 Lindig, St. Paul, Minnesota 55108, United States; Sally Clayshulte, Colorado State University, Dept. of Soil and Crop Sciences, Plant Science Building W18, Fort Collins, Colorado 80523, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; Guihua Bai, USDA-ARS, 4008 Throckmorton Hall, Kansas State University, Manhattan, Kansas 66506, United States; J.D. Butler, Colorado State University, Soil and Crop Sciences Department, Fort Collins, Colorado 80523, United States. Received 01/04/2007.

PI 644222. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "RIPPER"; CO00016. PVP 200700302; CV-1016. Pedigree - PI 220127/P5//TAM-200/KS87H66 (CO940606)/CO850034/PI 372129//5*TAM 107 (TAM107R-2). Released 2006. Ripper is an awned, white-chaffed, medium maturing, semidwarf, hard red winter wheat. Shattering tolerance and

winterhardiness of Ripper are both good while straw strength is average. Ripper is moderately resistant to stem rust (caused by *Puccinia graminis* Pers.:Pers f. sp. *tritici* Eriks. & E. Henn; composite of races MCCF, QFCS, QTHJ, RCRS, RKQQ, TPMK, and TTTT), susceptible to leaf rust (caused by *Puccinia triticina* Eriks.; composite of races MLRT, MFBP, TKBP, TDGT, and KBQT), susceptible to stripe rust (caused by *Puccinia striiformis* Westend., natural field infection with unknown races), moderately susceptible to wheat streak mosaic virus, susceptible to the Great Plains Biotype of Hessian fly [*Mayetiola destructor* (Say)], and susceptible to greenbug Biotype E [*Schizaphis graminum* (Rondani)]. Ripper is resistant to the original North American biotype (designated as biotype 1) of the Russian wheat aphid [*Diuraphis noxia* (Mordvilko)] and susceptible to Russian wheat aphid biotype 2.

The following were developed by Marie Langham, South Dakota State University, Department of Plant Science, 219 Agr. Hall, Box 2207-A, Brookings, South Dakota 57007, United States; P. Stephen Baenziger, University of Nebraska, Department of Agronomy, 362D Plant Science Bldg., Lincoln, Nebraska 68583-0915, United States; Don V. McVey, USDA, ARS, University of Minnesota, Cereal Rust Laboratory, St. Paul, Minnesota 55105, United States; O.K. Chung, USDA-ARS, U.S. Grain Marketing Research Lab., Hard Winter Wheat Quality Lab., Manhattan, Kansas 66506, United States; J. Rickertsen, South Dakota State University, Plant Science Dept., Brookings, South Dakota 57007, United States; S. Kalsbeck, South Dakota State University, Plant Science Department, Brookings, South Dakota 57007, United States; B.W. Seabourn, USDA, ARS, Grain Marketing and Production Research Center, Hard Winter Wheat Quality Lab., Manhattan, Kansas 66506, United States; Scott D. Haley, Colorado State University, Soil and Crop Sciences Department, 1170 Campus Delivery, Fort Collins, Colorado 80523, United States; R. Little, South Dakota State Univ., Plant Science Dept., Brookings, South Dakota 57007, United States; Amir Ibrahim, South Dakota State University, Plant Sciences Department, Brookings, South Dakota 57007, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; Guihua Bai, USDA-ARS, 4008 Throckmorton Hall, Kansas State University, Manhattan, Kansas 66506, United States; Ming-Shun Chen, USDA ARS, 123 Waters Hall, Manhattan, Kansas 66506, United States; J. Ingemansen, South Dakota State University, Plant Science Dept., Brookings, South Dakota 57007, United States. Received 01/09/2007.

PI 644223. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "ALICE"; SD97W609. CV-1023. Pedigree - Abilene/Karl. Released 2006. A hard white wheat with very good milling and baking quality. In 2004 Wheat Quality Council tests, its bread baking quality was found to be better than all hard winter wheat experimental lines and was found to be acceptable for Chinese raw noodles and Thailand bamee noodles. Early maturing wheat, 148 d to heading from 1 January. Has excellent winter survival, based on the very cold winter of 2001 data. Has fair winter survival, similar to Rose. Based on the 2002-2006 data, Alice has excellent winter survival, similar to Harding. Had best pre-harvest sprouting resistance among any hard white winter wheat tested in the South Dakota Crop Performance Testing variety trial.

PI 644224. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "DARRELL"; SD98102. CV-1024. Pedigree - 2076-W12-11/Karl92. Released 2006. Has good disease resistance and excellent yield potential in the northern Great Plains. Medium maturing

wheat (152 d to heading from 1 January). Winter survival of Darrell, as tested in South Dakota in the very cold winter of 2001, was good to excellent. Is resistant to stem rust, but moderately susceptible to leaf rust. Has the best head scab resistance record of any hard winter wheat tested in south Dakota over the past 5 years. Moderately resistant to wheat streak mosaic virus.

The following were developed by USDA-ARS, Charleston, South Carolina 29414, United States; Caudill Seed and Warehouse Company, Inc., Louisville, Kentucky 40203, United States. Received 01/11/2007.

PI 644225 PVPO. Brassica oleracea var. botrytis L.
Cultivar. "HOPKINS". PVP 200700022.

The following were developed by Syngenta Seeds, Inc. - Vegetable, Boise, Idaho, United States. Received 01/08/2007.

PI 644226 PVPO. Citrullus lanatus (Thunb.) Matsum. & Nakai var. lanatus
Cultivar. "SP-4". PVP 200700023.

The following were developed by Stoneville Pedigreed Seed Company, Stoneville, Mississippi, United States. Received 01/08/2007.

PI 644227 PVPO. Gossypium hirsutum L.
Cultivar. "ST 5327B2RF". PVP 200700037.

PI 644228 PVPO. Gossypium hirsutum L.
Cultivar. "ST 4427B2RF". PVP 200700038.

PI 644229 PVPO. Gossypium hirsutum L.
Cultivar. "ST 6622RF". PVP 200700039.

PI 644230 PVPO. Gossypium hirsutum L.
Cultivar. "ST 6565B2RF". PVP 200700040.

PI 644231 PVPO. Gossypium hirsutum L.
Cultivar. "ST 6611B2RF". PVP 200700041.

PI 644232 PVPO. Gossypium hirsutum L.
Cultivar. "ST 5283RF". PVP 200700042.

PI 644233 PVPO. Gossypium hirsutum L.
Cultivar. "ST 4554B2RF". PVP 200700046.

PI 644234 PVPO. Gossypium hirsutum L.
Cultivar. "NG3550RF". PVP 200700047.

PI 644235 PVPO. Gossypium hirsutum L.
Cultivar. "ST 4664RF". PVP 200700048.

PI 644236 PVPO. Gossypium hirsutum L.
Cultivar. "NG1572RF". PVP 200700049.

The following were developed by Holden's Foundation Seeds L.L.C., Waterman, Illinois 60556, United States. Received 01/10/2007.

PI 644237 PVPO. Zea mays L. subsp. mays
Cultivar. "EX6864". PVP 200700061.

Unknown source. Received 01/10/2007.

PI 644238 PVPO. Zea mays L. subsp. mays
Cultivar. "EX7834". PVP 200700062. Developed in United States.

The following were developed by Holden's Foundation Seeds L.L.C., Waterman, Illinois 60556, United States. Received 01/10/2007.

PI 644239 PVPO. Zea mays L. subsp. mays
Cultivar. "LH313". PVP 200700063.

PI 644240 PVPO. Zea mays L. subsp. mays
Cultivar. "LH327". PVP 200700064.

PI 644241 PVPO. Zea mays L. subsp. mays
Cultivar. "LH352". PVP 200700065.

PI 644242 PVPO. Zea mays L. subsp. mays
Cultivar. "LH354". PVP 200700066.

PI 644243 PVPO. Zea mays L. subsp. mays
Cultivar. "LH361". PVP 200700067.

PI 644244 PVPO. Zea mays L. subsp. mays
Cultivar. "LH363". PVP 200700068.

PI 644245 PVPO. Zea mays L. subsp. mays
Cultivar. "LH371". PVP 200700069.

PI 644246 PVPO. Zea mays L. subsp. mays
Cultivar. "LH382". PVP 200700070.

PI 644247 PVPO. Zea mays L. subsp. mays
Cultivar. "LH401RR2". PVP 200700071.

PI 644248 PVPO. Zea mays L. subsp. mays
Cultivar. "LH410". PVP 200700072.

The following were developed by Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States; Heathcliffe Riday, USDA, ARS, US Dairy Forage Research Center, 1925 Linden Drive West, Madison, Wisconsin 53706, United States. Received 01/12/2007.

PI 644249. Medicago sativa subsp. falcata (L.) Arcang.
Breeding. IAFAL-C3.

The following were donated by Gus Schmid, Swiss Federal Research Station for Fruit, Growing, Viticulture and Horticulture, Wadenswil, Zurich CH-8820, Switzerland. Received 01/13/1982.

PI 644250. *Malus domestica* Borkh.

Cultivar. "Leuenapfel"; C 08367; Q 22795; GMAL 4626.

The following were collected by Herb S. Aldwinckle, Cornell University, New York State Agric. Exp. Station, Department of Plant Pathology, Geneva, New York 14456-0462, United States; Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Received 10/01/1999.

PI 644251. *Malus domestica* Borkh.

Cultivar. "Demir Elmasi"; Q 42411; GMAL 4688. Collected 09/15/1999 in Turkey. Latitude 41° 17' 29" N. Longitude 41° 31' 27" E. Elevation 660 m. Demir Elmasi means 'Iron' apple. Leaves collected in field were large and free of disease.

PI 644252. *Malus orientalis* Uglitzk.

Cultivar. 99TU-06-01; Q 42414; GMAL 4689. Collected in Turkey. Latitude 41° 1' 10" N. Longitude 42° 10' 59" E. Elevation 1510 m. Artuin Province, village of Bali. Slope: Incline 10%. Aspect is west. Tree Species: Dominant is *Picea*. Shrub species: Dominant is *Rosa*; Associated is *Gonylas*. Upright tree on west facing slope.

PI 644253. *Malus orientalis* Uglitzk.

Cultivar. 99TU-21-01; Q 42418; GMAL 4690. Collected 09/21/1999 in Tokat, Turkey. Latitude 40° 30' 58" N. Longitude 36° 44' 21" E. Elevation 950 m. Tokat, Niksar District. East of the village of Avlunar.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Barbara Hellier, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Donated by Harold E. Bockelman, USDA, ARS, National Small Grains Collection, 1691 S 2700 W, Aberdeen, Idaho 83210, United States. Received 04/20/2006.

PI 644254. *Mentha longifolia* (L.) Huds.

Wild. CMEN 713. Collected 08/27/2005 in Central Greece, Greece. Latitude 38° 39' 34" N. Longitude 22° 17' 6" E. Elevation 1673 m. Circuitous route to Mt. Giona. Reference Anavasi Giona, Oeta, Vardousia:Topo 50, #2.3 At end of dirt road hiked by unused road and trail to higher elevations. Full exposure, north facing, ten degree slope. Pedigree - Collected from the wild in Greece.

The following were collected by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Paul Lyrene, University of Florida, Department of Fruit Crops, 2135 Fifield Hall, Gainesville, Florida 32611, United States. Donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 05/30/2006.

- PI 644255. *Vaccinium elliottii* Chapm.
Wild. CVAC 1704. Collected 05/23/2006 in Florida, United States.
- PI 644256. *Vaccinium fuscatum* Aiton
Wild. CVAC 1715. Collected 05/26/2006 in Florida, United States.
- PI 644257. *Vaccinium darrowii* Camp
Wild. CVAC 1718. Collected 05/26/2006 in Florida, United States.
Eastern edge of Lake Wales Ridge region. Housing developments
encroaching into natural areas.

The following were donated by USDA, ARS Tropical Agriculture Research Station, 2200 Pedro Albizu Campos Ave. Ste. 201, Mayaguez, Puerto Rico. Received 1966.

- PI 644258. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3421; NSL 50400; 65I 1158. Collected in India.
- PI 644259. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3979; SA 7530; NSL 50440; 65I 1198. Collected in United States.
- PI 644260. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3969; IC 8900; NSL 50446; 65I 1204. Collected in India.
- PI 644261. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3427; NSL 50901; 65I 1659.
- PI 644262. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4671; NSL 51046; 65I 1807. Collected in Maharashtra, India.
Ahmednagar.
- PI 644263. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3387; 5112; NSL 51075; 65I 1836. Collected in Beijing, China.
- PI 644264. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3384; NSL 51092; 65I 1853. Collected in Beijing, China.
- PI 644265. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3385; NSL 51093; 65I 1854. Collected in Beijing, China.
- PI 644266. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3782; NSL 51103; 65I 1864. Collected in China.
- PI 644267. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3126; 5116; NSL 51109; 65I 1870. Collected in United States.
- PI 644268. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3085; NSL 51119; 65I 1880. Collected in Iran.
- PI 644269. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3148; DL 60/102; DL 60/103; NSL 51152; 65I 1913. Collected in South Africa.
- PI 644270. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3135; NSL 51155; 65I 1916. Collected in South Africa.

- PI 644271. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3144; DL 60/101; NSL 51156; 65I 1917. Collected in South Africa.
- PI 644272. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3606; NSL 51210; 65I 1971. Collected in Japan.
- PI 644273. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3968; IC 8889; NSL 51225; 65I 1987. Collected in India.
- PI 644274. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81230; IS 3228; NSL 51252; 65I 2016. Collected in United States.
- PI 644275. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4038; NSL 51254; 65I 2018. Collected in India.
- PI 644276. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4284; NSL 51255; 65I 2019. Collected in Madhya Pradesh, India. Betul.
- PI 644277. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4289; NSL 51257; 65I 2021. Collected in Madhya Pradesh, India. Betul.
- PI 644278. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4612; NSL 51258; 65I 2022. Collected in Maharashtra, India. Osmanabad.
- PI 644279. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4644; NSL 51259; 65I 2023. Collected in Maharashtra, India. Sholapur.
- PI 644280. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4717; NSL 51260; 65I 2024. Collected in Punjab, India. Karnal.
- PI 644281. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4719; NSL 51261; 65I 2025. Collected in Punjab, India. Karnal.
- PI 644282. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3159; DL 60/123; NSL 51317; 65I 2084. Collected in South Africa.
- PI 644283. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3147; 5124; DL 60/114; NSL 51321; 65I 2088. Collected in South Africa.
- PI 644284. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4293; NSL 51345; 65I 2112. Collected in Madhya Pradesh, India. Betul.
- PI 644285. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3137; DL 60/98; NSL 51397; 65I 2165. Collected in South Africa.
- PI 644286. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3399; NSL 51399; 65I 2167. Collected in Botswana.
- PI 644287. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3926; 5128; SA 9819; NSL 51408; 65I 2176. Collected in California, United States.

- PI 644288. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3927; SA 9836; NSL 51409; 65I 2177. Collected in California, United States.
- PI 644289. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3138; DL 60/99; NSL 51420; 65I 2188. Collected in South Africa.
- PI 644290. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3140; DL 60/116; NSL 51451; 65I 2219. Collected in South Africa.
- PI 644291. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3142; DL 60/120; NSL 51452; 65I 2220. Collected in South Africa.
- PI 644292. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3688; SA 8026-1-5-4-2-3-3; NSL 51480; 65I 2248. Collected in Texas, United States. 71 days to maturity. Vine 30". Medium heavy. Dark. Pod 3- 1/4". Light. Blunt. Double. Seed medium sized. Wrinkled. High quality. High yield. Wilt resistant. Cultivated.
- PI 644293. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3693; NSL 51481; 65I 2249. Collected in United States.
- PI 644294. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3796; SA 7529-56-3-4-1-4; NSL 51482; 65I 2250. Collected in Texas, United States.
- PI 644295. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3922; SA 9798; NSL 51483; 65I 2251. Collected in California, United States.
- PI 644296. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3923; SA 9799; NSL 51484; 65I 2252. Collected in California, United States.
- PI 644297. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3924; SA 9804; NSL 51485; 65I 2253. Collected in California, United States.
- PI 644298. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3925; SA 9806; NSL 51486; 65I 2254. Collected in California, United States.
- PI 644299. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3954; NSL 51487; 65I 2255. Collected in Kansas, United States.
- PI 644300. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3977; SA 9602-1; NSL 51488; 65I 2256. Collected in United States.
- PI 644301. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3149; NSL 51527; 65I 2295. Collected in South Africa.
- PI 644302. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3165; DL 60/129; NSL 51528; 65I 2296. Collected in South Africa.
- PI 644303. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3170; DL 60/135; NSL 51529; 65I 2297. Collected in South Africa.

- PI 644304. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3171; DL 60/136; NSL 51530; 65I 2298. Collected in South Africa.
- PI 644305. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3403; NSL 51563; 65I 2330. Collected in Botswana.
- PI 644306. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3436; Wain DL 60/760; NSL 51564; 65I 2331. Collected in South Africa.
- PI 644307. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3168; DL 60/132; NSL 51597; 65I 2364. Collected in South Africa.
- PI 644308. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3162; DL 60/126; NSL 51628; 65I 2395. Collected in South Africa.
- PI 644309. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3791; SA 8769-27-5912; NSL 51629; 65I 2396. Collected in Texas,
United States.
- PI 644310. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3410; NSL 51747; 65I 2515. Collected in Zaire.
- PI 644311. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3760; EC 11605; NSL 51858; 65I 2626.
- PI 644312. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3157; DL 60/121; NSL 51864; 65I 2632. Collected in South Africa.
- PI 644313. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3155; DL 60/113; NSL 52022; 65I 2790. Collected in South Africa.
- PI 644314. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3982; NSL 52108; 65I 2878. Collected in United States.
- PI 644315. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3930; SA 9842; NSL 54130; 66I 3027. Collected in California, United
States.
- PI 644316. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3932; NSL 54131; 66I 3028. Collected in United States.
- PI 644317. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3933; SA 9848; NSL 54132; 66I 3029. Collected in California, United
States.
- PI 644318. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3934; SA 9849; NSL 54133; 66I 3030. Collected in California, United
States.
- PI 644319. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3941; SA 10015; NSL 54134; 66I 3031. Collected in California, United
States.
- PI 644320. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3804; SA 9499 8009-17-4-1-6; NSL 54183; 66I 3083. Collected in
Texas, United States.

- PI 644321. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3935; SA 9850; NSL 54200; 66I 3101. Collected in California, United States.
- PI 644322. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3940; SA 10014; NSL 54201; 66I 3102. Collected in California, United States.
- PI 644323. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3976; SA 8590-30-1-2; NSL 54254; 66I 3158. Collected in United States.
- PI 644324. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3980; SA 9255-1; NSL 54255; 66I 3159. Collected in United States.
- PI 644325. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3166; DL 60/130; NSL 54279; 66I 3183. Collected in South Africa.
- PI 644326. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3402; NSL 54280; 66I 3184. Collected in Botswana.
- PI 644327. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3146; DL 60/111; NSL 54289; 66I 3193. Collected in South Africa.
- PI 644328. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3134; DL 60/97; NSL 54293; 66I 3197. Collected in South Africa.
- PI 644329. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3151; DL 60/107; NSL 54314; 66I 3220. Collected in South Africa.
- PI 644330. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3398; NSL 54334; 66I 3238. Collected in Botswana.
- PI 644331. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3974; NSL 54336; 66I 3240. Collected in India.
- PI 644332. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3389; NSL 54376; 66I 3279. Collected in China.
- PI 644333. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3981; SA 9225-6; NSL 54422; 66I 3325. Collected in United States.
Collected in Gujarat, India.
- PI 644334. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4609; NSL 54423; 66I 3326. Collected in Maharashtra, India. Nanded.
Collected in Gujarat, India. Nanded.
- PI 644335. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4738; NSL 54424; 66I 3327. Collected in Gujarat, India. Rajkot.
- PI 644336. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3798; SA 8009-17-4-3-1-4-1; NSL 54501; 66I 3100. Collected in Texas,
United States.
- PI 644337. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3943; NSL 54729; 66I 3632. Collected in India.

- PI 644338. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4479; NSL 54767; 66I 3672. Collected in Madhya Pradesh, India.
Khargone.
- PI 644339. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4482; NSL 54768; 66I 3673. Collected in Madhya Pradesh, India.
Khargone.
- PI 644340. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4496; NSL 54771; 66I 3676. Collected in Maharashtra, India. Parbhani.
- PI 644341. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4519; NSL 54772; 66I 3677. Collected in Maharashtra, India.
Aurangabad.
- PI 644342. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4522; NSL 54773; 66I 3678. Collected in Maharashtra, India.
- PI 644343. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4523; NSL 54774; 66I 3679. Collected in Maharashtra, India.
- PI 644344. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4530; NSL 54775; 66I 3680. Collected in Maharashtra, India.
- PI 644345. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4538; NSL 54777; 66I 3682. Collected in Maharashtra, India.
- PI 644346. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4539; NSL 54778; 66I 3683. Collected in Maharashtra, India.
- PI 644347. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4543; NSL 54780; 66I 3685. Collected in Maharashtra, India.
- PI 644348. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4544; NSL 54781; 66I 3686. Collected in Maharashtra, India.
- PI 644349. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4545; NSL 54782; 66I 3687. Collected in Maharashtra, India.
- PI 644350. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4546; NSL 54783; 66I 3688. Collected in Maharashtra, India.
- PI 644351. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4575; NSL 54785; 66I 3690. Collected in Maharashtra, India. Dhulia.
- PI 644352. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4576; NSL 54786; 66I 3691. Collected in Maharashtra, India.
- PI 644353. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4578; NSL 54787; 66I 3692. Collected in Andhra Pradesh, India.
Adilabad.
- PI 644354. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4579; NSL 54788; 66I 3693. Collected in Karnataka, India. Bidar.
- PI 644355. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4582; NSL 54789; 66I 3694. Collected in Maharashtra, India. Parbhani.

- PI 644356. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4647; NSL 54796; 66I 3701. Collected in Maharashtra, India. Sholapur.
- PI 644357. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4651; NSL 54797; 66I 3702. Collected in Maharashtra, India. Sholapur.
- PI 644358. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4697; NSL 54799; 66I 3704. Collected in Maharashtra, India. North Satara.
- PI 644359. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4701; NSL 54800; 66I 3705. Collected in Maharashtra, India. North Satara.
- PI 644360. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4716; NSL 54801; 66I 3706. Collected in Punjab, India. Karnal.
- PI 644361. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4789; NSL 54803; 66I 3708. Collected in Gujarat, India. Amreli.
- PI 644362. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4791; NSL 54804; 66I 3709. Collected in Gujarat, India. Amreli.
- PI 644363. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3942; SA 8774-2-2-1; NSL 55242; 66I 4155. Collected in California, United States.
- PI 644364. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3369; Purdue No. 81687 OP; NSL 55245; 66I 4158. Collected in United States.
- PI 644365. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3104; NSL 55249; 66I 4162. Collected in United States.
- PI 644366. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3967; IC 8868; NSL 55256; 66I 4169. Collected in India.
- PI 644367. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3136; DL 60/104; NSL 55272; 66I 4185. Collected in South Africa.
- PI 644368. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3139; DL 60/118; NSL 55273; 66I 4186. Collected in South Africa.
- PI 644369. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4002; NSL 55275; 66I 4188. Collected in India.
- PI 644370. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4014; NSL 55276; 66I 4189. Collected in Punjab, India.
- PI 644371. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4016; 5412; NSL 55278; 66I 4191. Collected in India.
- PI 644372. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4026; NSL 55280; 66I 4193. Collected in India.
- PI 644373. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4028; NSL 55281; 66I 4194. Collected in India.

- PI 644374. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4040; NSL 55284; 66I 4197. Collected in India.
- PI 644375. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4047; NSL 55285; 66I 4198. Collected in Rajasthan, India. Alwar.
- PI 644376. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4051; NSL 55286; 66I 4199. Collected in Rajasthan, India. Bharatpur.
- PI 644377. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4054; NSL 55287; 66I 4200. Collected in Rajasthan, India. Bharatpur.
- PI 644378. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4085; NSL 55289; 66I 4202. Collected in Rajasthan, India. Sawai.
- PI 644379. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4092; NSL 55292; 66I 4205. Collected in Rajasthan, India. Tonk.
- PI 644380. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4093; NSL 55293; 66I 4206. Collected in Rajasthan, India. Tonk.
- PI 644381. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4094; NSL 55294; 66I 4207. Collected in Rajasthan, India. Tonk.
- PI 644382. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4098; NSL 55295; 66I 4208. Collected in Rajasthan, India. Sawai.
- PI 644383. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4109; NSL 55298; 66I 4211. Collected in Rajasthan, India. Tonk.
- PI 644384. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4112; NSL 55299; 66I 4212. Collected in Rajasthan, India. Tonk.
- PI 644385. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4117; NSL 55302; 66I 4215. Collected in Rajasthan, India. Ajmer.
- PI 644386. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4143; NSL 55311; 66I 4224. Collected in Rajasthan, India.
- PI 644387. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4174; NSL 55314; 66I 4227. Collected in Rajasthan, India.
- PI 644388. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4210; NSL 55317; 66I 4231. Collected in Rajasthan, India.
- PI 644389. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4442; NSL 55348; 66I 4268. Collected in Madhya Pradesh, India.
Ratlam.
- PI 644390. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4474; NSL 55359; 66I 4279. Collected in Madhya Pradesh, India.
Khargone.
- PI 644391. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4476; NSL 55360; 66I 4280. Collected in Madhya Pradesh, India.
Khargone.

- PI 644392. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4478; NSL 55361; 66I 4282. Collected in Madhya Pradesh, India.
Khargone.
- PI 644393. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4497; NSL 55369; 66I 4290. Collected in Maharashtra, India. Parbhani.
- PI 644394. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4498; NSL 55370; 66I 4291. Collected in Maharashtra, India. Parbhani.
- PI 644395. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4499; NSL 55371; 66I 4292. Collected in Maharashtra, India.
Aurangabad.
- PI 644396. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4507; NSL 55375; 66I 4296. Collected in Maharashtra, India.
Aurangabad.
- PI 644397. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4509; NSL 55376; 66I 4297. Collected in Maharashtra, India.
Aurangabad.
- PI 644398. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4511; NSL 55377; 66I 4298. Collected in Maharashtra, India.
Aurangabad.
- PI 644399. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4513; NSL 55378; 66I 4300. Collected in Maharashtra, India.
Aurangabad.
- PI 644400. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4516; NSL 55379; 66I 4301. Collected in Maharashtra, India.
Aurangabad.
- PI 644401. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4520; NSL 55381; 66I 4304. Collected in Maharashtra, India.
Aurangabad.
- PI 644402. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4521; NSL 55382; 66I 4305. Collected in Maharashtra, India.
Aurangabad.
- PI 644403. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4524; NSL 55383; 66I 4306. Collected in Maharashtra, India.
- PI 644404. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4526; NSL 55384; 66I 4307. Collected in Maharashtra, India.
- PI 644405. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4531; NSL 55386; 66I 4309. Collected in Maharashtra, India. Seed
from 3 locations within Rock Creek N.P. 1st site is.
- PI 644406. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4537; NSL 55387; 66I 4310. Collected in Maharashtra, India.

- PI 644407. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4552; NSL 55389; 66I 4312. Collected in Maharashtra, India. Parbhani.
- PI 644408. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4561; NSL 55391; 66I 4314. Collected in Maharashtra, India. Parbhani.
- PI 644409. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4571; NSL 55394; 66I 4317. Collected in Maharashtra, India. Parbhani.
- PI 644410. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4572; NSL 55395; 66I 4318. Collected in Maharashtra, India. Parbhani.
- PI 644411. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4573; NSL 55396; 66I 4319. Collected in Maharashtra, India.
Osmanabad.
- PI 644412. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4599; NSL 55398; 66I 4322. Collected in Maharashtra, India. Nanded.
- PI 644413. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4602; NSL 55400; 66I 4324. Collected in Maharashtra, India. Nanded.
- PI 644414. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4605; NSL 55401; 66I 4325. Collected in Maharashtra, India. Nanded.
- PI 644415. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4668; NSL 55408; 66I 4332. Collected in Maharashtra, India.
Ahmednagar.
- PI 644416. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4676; NSL 55410; 66I 4334. Collected in Maharashtra, India. North
Satara.
- PI 644417. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4722; NSL 55413; 66I 4337. Collected in Gujarat, India.
Surendranagar.
- PI 644418. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4724; NSL 55414; 66I 4338. Collected in Gujarat, India.
Surendranagar.
- PI 644419. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4725; NSL 55415; 66I 4339. Collected in Gujarat, India.
Surendranagar.
- PI 644420. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4727; NSL 55416; 66I 4340. Collected in Gujarat, India.
Surendranagar.
- PI 644421. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4728; NSL 55417; 66I 4341. Collected in Gujarat, India.
Surendranagar.
- PI 644422. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4730; NSL 55418; 66I 4342. Collected in Gujarat, India.
Surendranagar.

- PI 644423. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4731; NSL 55419; 66I 4343. Collected in Gujarat, India.
Surendranagar.
- PI 644424. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4732; NSL 55420; 66I 4344. Collected in Gujarat, India.
Surendranagar.
- PI 644425. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4736; NSL 55422; 66I 4346. Collected in Gujarat, India. Rajkot.
- PI 644426. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4737; NSL 55423; 66I 4347. Collected in Gujarat, India. Rajkot.
- PI 644427. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4740; NSL 55424; 66I 4348. Collected in Gujarat, India. Rajkot.
- PI 644428. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4742; NSL 55425; 66I 4349. Collected in Gujarat, India. Rajkot.
- PI 644429. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4743; NSL 55426; 66I 4350. Collected in Gujarat, India. Rajkot.
- PI 644430. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4747; NSL 55427; 66I 4351. Collected in Gujarat, India. Rajkot.
- PI 644431. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4748; NSL 55428; 66I 4352. Collected in Gujarat, India. Rajkot.
- PI 644432. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4751; NSL 55429; 66I 4353. Collected in Gujarat, India. Rajkot.
- PI 644433. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4755; NSL 55431; 66I 4355. Collected in Gujarat, India. Rajkot.
- PI 644434. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4756; NSL 55432; 66I 4356. Collected in Gujarat, India. Rajkot.
- PI 644435. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4757; NSL 55433; 66I 4357. Collected in Gujarat, India. Rajkot.
- PI 644436. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4758; NSL 55434; 66I 4358. Collected in Gujarat, India. Jamnagar.
- PI 644437. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4760; NSL 55435; 66I 4359. Collected in Gujarat, India. Jamnagar.
- PI 644438. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4761; NSL 55436; 66I 4360. Collected in Gujarat, India. Jamnagar.
- PI 644439. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4764; NSL 55437; 66I 4361. Collected in Gujarat, India. Jamnagar.
- PI 644440. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4772; NSL 55440; 66I 4364. Collected in Gujarat, India. Jamnagar.

- PI 644441. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4773; NSL 55441; 66I 4365. Collected in Gujarat, India. Jamnagar.
- PI 644442. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4776; NSL 55442; 66I 4366. Collected in Gujarat, India. Junagadh.
- PI 644443. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4778; NSL 55443; 66I 4367. Collected in Gujarat, India. Junagadh.
- PI 644444. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4779; NSL 55444; 66I 4368. Collected in Gujarat, India. Junagadh.
- PI 644445. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4780; NSL 55445; 66I 4369. Collected in Gujarat, India. Junagadh.
- PI 644446. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4786; NSL 55448; 66I 4372. Collected in Gujarat, India. Junagadh.
- PI 644447. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4202; NSL 55574; 66I 4230. Collected in Rajasthan, India.
- PI 644448. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4477; NSL 55581; 66I 4281. Collected in Madhya Pradesh, India.
Khargone.
- PI 644449. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3083; NSL 55646; 66I 4566. Collected in Khuzestan, Iran. Ahwaz.
- PI 644450. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3921; NSL 55661; Double Imperial Kafir; 66I 4582. Collected in
California, United States.
- PI 644451. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3801; SA 9490 8723-1; NSL 55848; 66I 4780. Collected in Texas,
United States.
- PI 644452. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3802; NSL 55849; 66I 4781. Collected in United States.
- PI 644453. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3920; NSL 55874; Double Dwarf 38; 66I 4808. Collected in California,
United States.
- PI 644454. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3201; Purdue No. 81160; NSL 55888; 66I 4826. Collected in United
States.
- PI 644455. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3225; Purdue No. 81227; NSL 55889; 66I 4827. Collected in United
States.
- PI 644456. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3125; NSL 55893; 66I 4833. Collected in United States.
- PI 644457. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3191; Purdue No. 81112; NSL 55896; 66I 4838. Collected in United
States. Collected in United States.

- PI 644458. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3193; Purdue No. 81139; NSL 55897; 66I 4839.
- PI 644459. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3195; Purdue No. 81147 OP; NSL 55898; 66I 4840. Collected in United States.
- PI 644460. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3196; Purdue No. 81147-1; NSL 55899; 66I 4841. Collected in United States.
- PI 644461. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3197; Purdue No. 81149; NSL 55900; 66I 4842. Collected in United States.
- PI 644462. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3198; Purdue No. 81152; NSL 55901; 66I 4843. Collected in United States.
- PI 644463. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3199; Purdue No. 81155; NSL 55902; 66I 4844. Collected in United States.
- PI 644464. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3200; Purdue No. 81160 OP; NSL 55903; 66I 4845. Collected in United States.
- PI 644465. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3203; Purdue No. 81186; Purdue No. 81166; NSL 55904; 66I 4846.
Collected in United States.
- PI 644466. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3211; NSL 55905; 66I 4847. Collected in United States.
- PI 644467. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3212; Purdue No. 81186-2; NSL 55906; 66I 4848. Collected in United States.
- PI 644468. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3213; Purdue No. 81188-1; NSL 55907; 66I 4849. Collected in United States.
- PI 644469. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3214; Purdue No. 81196; NSL 55908; 66I 4850. Collected in United States.
- PI 644470. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3215; Purdue No. 81198 OP; NSL 55909; 66I 4851. Collected in United States.
- PI 644471. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3219; Purdue No. 81200-1; NSL 55910; 66I 4852. Collected in United States.
- PI 644472. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3222; Purdue No. 81220; NSL 55911; 66I 4853. Collected in United States.

States.

- PI 644473. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3223; Purdue No. 81224; NSL 55912; 66I 4854. Collected in United States.
- PI 644474. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3237; Purdue No. 81247; NSL 55914; 66I 4857. Collected in United States.
- PI 644475. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3238; Purdue No. 81247-1; NSL 55915; 66I 4858. Collected in United States.
- PI 644476. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3254; Purdue No. 81290; NSL 55917; 66I 4863. Collected in United States.
- PI 644477. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3258; Purdue No. 81302 OP; NSL 55918; 66I 4864. Collected in United States.
- PI 644478. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3270; Purdue No. 81345-1 (X)J; NSL 55919; 66I 4867. Collected in United States.
- PI 644479. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3272; Purdue No. 81346-1; NSL 55920; 66I 4868. Collected in United States.
- PI 644480. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3275; Purdue No. 81352-1 (X)J; NSL 55921; 66I 4869. Collected in United States.
- PI 644481. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3291; Purdue No. 81397-2 (X)J; NSL 55925; 66I 4873. Collected in United States.
- PI 644482. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3301; Purdue No. 81422-1; NSL 55926; 66I 4874. Collected in United States.
- PI 644483. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3310; Purdue No. 81549-1; NSL 55928; 66I 4877. Collected in United States.
- PI 644484. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3312; Purdue No. 81459-3; NSL 55929; 66I 4878. Collected in United States.
- PI 644485. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3328; Purdue No. 81513; NSL 55930; 66I 4879. Collected in United States.
- PI 644486. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3332; Purdue No. 81522-1; NSL 55931; 66I 4880. Collected in United States.

- PI 644487. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3336; Purdue No. 81531; NSL 55932; 66I 4881. Collected in United States.
- PI 644488. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3338; Purdue No. 81534-1; NSL 55933; 66I 4882. Collected in United States.
- PI 644489. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3343; Purdue No. 81553 OP; NSL 55935; 66I 4884. Collected in United States.
- PI 644490. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3347; Purdue No. 81582; NSL 55936; 66I 4885. Collected in United States.
- PI 644491. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3351; Purdue No. 81607; NSL 55937; 66I 4886. Collected in United States.
- PI 644492. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3354; Purdue No. 81609 OP; NSL 55938; 66I 4887. Collected in United States.
- PI 644493. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3359; Purdue No. 8167-1; NSL 55939; 66I 4888. Collected in United States.
- PI 644494. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3360; Purdue No. 81630; NSL 55940; 66I 4889. Collected in United States.
- PI 644495. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3362; Purdue No. 81658; NSL 55941; 66I 4890. Collected in United States.
- PI 644496. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3368; Purdue No. 81685-1; NSL 55942; 66I 4892. Collected in United States.
- PI 644497. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3371; Purdue No. 81688; NSL 55944; 66I 4894. Collected in United States.
- PI 644498. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3372; Purdue No. 81688-1; NSL 55945; 66I 4895. Collected in United States.
- PI 644499. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3374; NSL 55946; 66I 4896. Collected in United States.
- PI 644500. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3379; NSL 55948; 66I 4898. Collected in United States.
- PI 644501. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3381; NSL 55949; 66I 4899. Collected in United States.

- PI 644502. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3715; IECAMA ALEMAYA VAR NO 74; HYDERBAD NO 2438; NSL 55950; 66I 4900. Collected in Ethiopia.
- PI 644503. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3946; NSL 55951; 66I 4901. Collected in Punjab, India.
- PI 644504. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3947; NSL 55952; 66I 4902. Collected in Punjab, India.
- PI 644505. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3107; NSL 55955; 66I 4906. Collected in United States.
- PI 644506. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3124; NSL 55958; 66I 4909. Collected in United States.
- PI 644507. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3129; NSL 55959; 66I 4910. Collected in United States.
- PI 644508. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3631; NSL 55961; 66I 4912. Collected in United States.
- PI 644509. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3805; SA 9500 8745-3; NSL 55976; 66I 4931. Collected in Texas, United States.
- PI 644510. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4005; NSL 55977; 66I 4932. Collected in Punjab, India.
- PI 644511. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4517; NSL 67911; 66I 4302. Collected in Maharashtra, India. Aurangabad.
- PI 644512. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3302; Purdue No. 81433 OP; 66I 4830; NSL 67924. Collected in United States.
- PI 644513. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3321; Purdue No. 81501; NSL 67925; 66I 4831. Collected in United States.
- PI 644514. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3236; Purdue No. 81244-1; NSL 67927; 66I 4856. Collected in United States.
- PI 644515. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3246; Purdue No. 81260; NSL 67928; 66I 4861. Collected in United States.
- PI 644516. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3248; Purdue No. 81264; NSL 67929; 66I 4862. Collected in United States.
- PI 644517. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3266; Purdue No. 81336; NSL 67930; 66I 4865. Collected in United States.

- PI 644518. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3364; Purdue No. 81659-1; NSL 67931; 66I 4891. Collected in United States.
- PI 644519. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3082; NSL 86784; 74I 10558. Collected in Fars, Iran.
- PI 644520. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3145; DL 60/100; NSL 86788; 74I 10562. Collected in South Africa.
- PI 644521. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3150; DL 60/105; NSL 86789; 74I 10563. Collected in South Africa.
- PI 644522. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3153; DL 60/110; NSL 86790; 74I 10564. Collected in South Africa.
- PI 644523. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3156; DL 60/115; NSL 86791; 74I 10565. Collected in South Africa.
- PI 644524. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3158; DL 60/122; NSL 86792; 74I 10566. Collected in South Africa.
- PI 644525. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3160; DL 60/124; NSL 86793; 74I 10567. Collected in South Africa.
- PI 644526. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3161; DL 60/125; NSL 86794; 74I 10568. Collected in South Africa.
- PI 644527. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3164; DL 60/128; NSL 86795; 74I 10569. Collected in South Africa.
- PI 644528. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3172; NSL 86796; 74I 10570. Collected in South Africa.
- PI 644529. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3173; NSL 86797; 74I 10571. Collected in Ghana.
- PI 644530. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3176; NSL 86798; 74I 10572. Collected in Ghana.
- PI 644531. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81227-1; IS 3226; NSL 86799; 74I 10574. Collected in United States.
- PI 644532. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81233-2; IS 3231; NSL 86800; 74I 10576. Collected in United States.
- PI 644533. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81236-1; IS 3234; NSL 86801; 74I 10577. Collected in United States.
- PI 644534. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81248-1; IS 3240; NSL 86802; 74I 10578. Collected in United States.

- PI 644535. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81253-1; IS 3243; NSL 86803; 74I 10579. Collected in United States.
- PI 644536. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81275-1; IS 3252; NSL 86804; 74I 10582. Collected in United States.
- PI 644537. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81323-1; IS 3265; NSL 86805; 74I 10585. Collected in United States.
- PI 644538. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81339-1; IS 3268; NSL 86806; 74I 10586. Collected in United States.
- PI 644539. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81353; IS 3277; NSL 86807; 74I 10588. Collected in United States.
- PI 644540. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81383-1; IS 3283; NSL 86808; 74I 10590. Collected in United States.
- PI 644541. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81384; IS 3284; NSL 86809; 74I 10591. Collected in United States.
- PI 644542. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81397; IS 3289; NSL 86810; 74I 10592. Collected in United States.
- PI 644543. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81402-2; IS 3295; NSL 86811; 74I 10593. Collected in United States.
- PI 644544. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81419-2; IS 3299; NSL 86812; 74I 10594. Collected in United States.
- PI 644545. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81451; IS 3306; NSL 86813; 74I 10595. Collected in United States.
- PI 644546. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81452; IS 3307; NSL 86814; 74I 10596. Collected in United States.
- PI 644547. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81452-2; IS 3308; NSL 86815; 74I 10597. Collected in United States.
- PI 644548. Sorghum bicolor** (L.) Moench **subsp. bicolor**
Purdue No. 81459; IS 3309; NSL 86816; 74I 10598. Collected in United States.
- PI 644549. Sorghum bicolor** (L.) Moench **subsp. bicolor**

- Purdue No. 81464; IS 3313; NSL 86817; 74I 10599. Collected in United States.
- PI 644550. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81464-2; IS 3315; NSL 86818; 74I 10601. Collected in United States.
- PI 644551. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81464-3; IS 3316; NSL 86819; 74I 10602. Collected in United States.
- PI 644552. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81481; IS 3318; NSL 86820; 74I 10603. Collected in United States.
- PI 644553. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81501-1; IS 3322; NSL 86821; 74I 10605. Collected in United States.
- PI 644554. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81501-3; IS 3323; NSL 86822; 74I 10606. Collected in United States.
- PI 644555. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81507; IS 3324; NSL 86823; 74I 10607. Collected in United States.
- PI 644556. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81528; IS 3334; NSL 86824; 74I 10608. Collected in United States.
- PI 644557. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 8153-1; IS 3337; NSL 86825; 74I 10609. Collected in United States.
- PI 644558. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81535-1; IS 3339; NSL 86826; 74I 10610. Collected in United States.
- PI 644559. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81540; IS 3341; NSL 86827; 74I 10611. Collected in United States.
- PI 644560. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81607-2; IS 3353; NSL 86828; 74I 10612. Collected in United States.
- PI 644561. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81661; IS 3366; NSL 86829; 74I 10614. Collected in United States.
- PI 644562. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3373; NSL 86830; 74I 10616. Collected in United States.
- PI 644563. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3375; NSL 86831; 74I 10617. Collected in United States.

- PI 644564. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3383; NSL 86833; 74I 10620. Collected in United States.
- PI 644565. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3392; NSL 86834; 74I 10621. Collected in Beijing, China.
- PI 644566. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3400; NSL 86835; 74I 10622. Collected in Botswana.
- PI 644567. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3437; Hegari DL 60/761; NSL 86841; 74I 10630. Collected in South Africa.
- PI 644568. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3585; NSL 86867; 74I 10659. Collected in Sudan.
- PI 644569. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3607; NSL 86877; 74I 10671. Collected in Japan.
- PI 644570. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3657; NSL 86878; 74I 10673. Collected in Nebraska, United States.
- PI 644571. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3661; NSL 86879; 74I 10674. Collected in Nebraska, United States.
- PI 644572. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3663; NSL 86880; 74I 10675. Collected in Nebraska, United States.
- PI 644573. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3665; NSL 86881; 74I 10676. Collected in Nebraska, United States.
- PI 644574. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3667; NSL 86882; 74I 10677. Collected in Nebraska, United States.
- PI 644575. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3668; NSL 86883; 74I 10678. Collected in Nebraska, United States.
- PI 644576. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3673; NSL 86885; 74I 10681. Collected in Texas, United States.
- PI 644577. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3674; SA 9008; NSL 86886; 74I 10682. Collected in Texas, United States.
- PI 644578. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3675; SA 8871; NSL 86887; 74I 10683. Collected in Texas, United States.
- PI 644579. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3676; SA 8875; NSL 86888; 74I 10684. Collected in Texas, United States.
- PI 644580. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3677; SA 9020 A; NSL 86889; 74I 10685. Collected in Texas, United States.

- PI 644581. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3679; SA 6552-7-85-5-2-1; NSL 86891; 74I 10687. Collected in Texas,
United States.
- PI 644582. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3681; SA 6223-2-1-10-1-1; NSL 86892; 74I 10688. Collected in Texas,
United States.
- PI 644583. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3696; NSL 86895; 74I 10692; Penghu White. Collected in Taiwan.
- PI 644584. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3763; NSL 86903; 74I 10703. Collected in China.
- PI 644585. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3781; NSL 86908; 74I 10708. Collected in China.
- PI 644586. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3784; NSL 86910; 74I 10710. Collected in Texas, United States.
- PI 644587. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3789; NSL 86911; 74I 10711. Collected in Taiwan.
- PI 644588. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3790; NSL 86912; 74I 10712. Collected in Taiwan.
- PI 644589. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3795; NSL 86913; 74I 10714. Collected in Texas, United States.
- PI 644590. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3792; SA 8026-1-14-1-1; SA 8613-14-2-1; NSL 86914; 74I 10713.
Collected in Texas, United States.
- PI 644591. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3803; SA 9494-8724-5; NSL 86915; 74I 10718. Collected in Texas,
United States.
- PI 644592. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3806; SA 9503 8591-7-1; NSL 86916; 74I 10719. Collected in Texas,
United States.
- PI 644593. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3807; SA 9508 8591-7-1; NSL 86917; 74I 10720. Collected in Texas,
United States.
- PI 644594. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3808; SA 9524 8339-2-1-2-1; NSL 86918; 74I 10721. Collected in
Texas, United States.
- PI 644595. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3809; SA 9532 8026-1-2-3-1; NSL 86919; 74I 10722. Collected in
Texas, United States.
- PI 644596. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3936; SA 9855; NSL 86951; 74I 10758. Collected in California, United
States.

- PI 644597. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3937; SA 9866; NSL 86952; 74I 10759. Collected in California, United States.
- PI 644598. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3945; NSL 86953; 74I 10761. Collected in Nigeria.
- PI 644599. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3949; NSL 86954; 74I 10762. Collected in Punjab, India.
- PI 644600. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3952; NSL 86955; 74I 10763. Collected in Punjab, India.
- PI 644601. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3953; NSL 86956; 74I 10764. Collected in Kansas, United States.
- PI 644602. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3964; IC 9186; NSL 86960; 74I 10768. Collected in India.
- PI 644603. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3965; IC 8844; NSL 86961; 74I 10769. Collected in India.
- PI 644604. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3970; IC 8983; NSL 86963; 74I 10771. Collected in India.
- PI 644605. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3971; IC 8946; NSL 86964; 74I 10772. Collected in India.
- PI 644606. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3972; IC 8982; NSL 86965; 74I 10773. Collected in India.
- PI 644607. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4001; NSL 86970; 74I 10779. Collected in India.
- PI 644608. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4003; NSL 86971; 74I 10780. Collected in Punjab, India.
- PI 644609. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4004; NSL 86972; 74I 10781. Collected in Punjab, India.
- PI 644610. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4006; NSL 86973; 74I 10782. Collected in Punjab, India.
- PI 644611. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4007; NSL 86974; 74I 10783. Collected in Punjab, India.
- PI 644612. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4010; NSL 86976; 74I 10786. Collected in Punjab, India.
- PI 644613. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4019; NSL 86980; 74I 10792. Collected in India.
- PI 644614. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4022; NSL 86982; 74I 10794. Collected in India.
- PI 644615. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4024; NSL 86983; 74I 10795. Collected in India.

- PI 644616. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4025; NSL 86984; 74I 10796. Collected in India.
- PI 644617. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4027; NSL 86985; 74I 10797. Collected in India.
- PI 644618. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4032; NSL 86987; 74I 10800. Collected in India.
- PI 644619. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4041; NSL 86991; 74I 10804. Collected in India.
- PI 644620. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4042; NSL 86992; 74I 10805. Collected in India.
- PI 644621. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4045; NSL 86993; 74I 10807. Collected in Rajasthan, India. Alwar.
- PI 644622. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4046; NSL 86994; 74I 10808. Collected in Rajasthan, India. Alwar.
- PI 644623. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4048; NSL 86995; 74I 10809. Collected in Rajasthan, India. Alwar.
- PI 644624. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4053; NSL 86997; 74I 10812. Collected in Rajasthan, India. Bharatpur.
- PI 644625. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4055; NSL 86998; 74I 10813. Collected in Rajasthan, India. Alwar.
- PI 644626. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4056; NSL 86999; 74I 10814. Collected in Rajasthan, India. Bharatpur.
- PI 644627. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4060; NSL 87000; 74I 10815. Collected in Rajasthan, India. Bharatpur.
- PI 644628. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4061; NSL 87001; 74I 10816. Collected in Rajasthan, India. Bharatpur.
- PI 644629. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4062; NSL 87002; 74I 10817. Collected in Rajasthan, India. Bharatpur.
- PI 644630. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4064; NSL 87004; 74I 10819. Collected in Rajasthan, India. Sawai.
- PI 644631. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4065; NSL 87005; 74I 10820. Collected in Rajasthan, India. Sawai.
- PI 644632. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4066; NSL 87006; 74I 10821. Collected in Rajasthan, India. Sawai.
- PI 644633. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4084; NSL 87021; 74I 10837. Collected in Rajasthan, India. Sawai.
- PI 644634. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4086; NSL 87022; 74I 10838. Collected in Rajasthan, India. Sawai.

- PI 644635. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4087; NSL 87023; 74I 10839. Collected in Rajasthan, India. Sawai.
- PI 644636. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4090; NSL 87025; 74I 10841. Collected in Rajasthan, India. Tonk.
- PI 644637. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4095; NSL 87026; 74I 10842. Collected in Rajasthan, India. Tonk.
- PI 644638. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4096; NSL 87027; 74I 10843. Collected in Rajasthan, India. Tonk.
- PI 644639. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4097; NSL 87028; 74I 10844. Collected in Rajasthan, India. Sawai.
- PI 644640. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4116; NSL 87039; 74I 10855. Collected in Rajasthan, India. Ajmer.
- PI 644641. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4122; NSL 87040; 74I 10856. Collected in Rajasthan, India.
- PI 644642. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4123; NSL 87041; 74I 10857. Collected in Rajasthan, India.
- PI 644643. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4124; NSL 87042; 74I 10858. Collected in Rajasthan, India.
- PI 644644. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4139; NSL 87050; 74I 10866. Collected in Rajasthan, India.
- PI 644645. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4181; NSL 87067; 74I 10890. Collected in Rajasthan, India.
- PI 644646. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4201; NSL 87077; 74I 10905. Collected in Rajasthan, India.
- PI 644647. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4226; NSL 87090; 74I 10919. Collected in Madhya Pradesh, India.
Shajapur.
- PI 644648. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4246; NSL 87100; 74I 10930. Collected in Madhya Pradesh, India.
Rajgarh.
- PI 644649. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4247; NSL 87102; 74I 10931. Collected in Madhya Pradesh, India.
Rajgarh.
- PI 644650. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4251; NSL 87105; 74I 10934. Collected in Madhya Pradesh, India.
Rajgarh.
- PI 644651. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4275; NSL 87126; 74I 10956. Collected in Madhya Pradesh, India.
Hoshangabad.

- PI 644652. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4312; NSL 87141; 74I 10975. Collected in Madhya Pradesh, India.
Gwalior.
- PI 644653. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4336; NSL 87156; 74I 10991. Collected in Madhya Pradesh, India.
Datia.
- PI 644654. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4342; NSL 87158; 74I 10994. Collected in Madhya Pradesh, India.
Bhind.
- PI 644655. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4348; NSL 87160; 74I 10997. Collected in Madhya Pradesh, India.
Morena.
- PI 644656. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4351; NSL 87163; 74I 11000. Collected in Madhya Pradesh, India.
Morena.
- PI 644657. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4354; NSL 87165; 74I 11002. Collected in Madhya Pradesh, India.
Morena.
- PI 644658. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4410; NSL 87190; 74I 11029. Collected in Madhya Pradesh, India.
Dewas.
- PI 644659. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4415; NSL 87194; 74I 11033. Collected in Madhya Pradesh, India.
Dewas.
- PI 644660. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4419; NSL 87196; 74I 11035. Collected in Madhya Pradesh, India.
Dewas.
- PI 644661. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4473; NSL 87210; 74I 11053. Collected in Madhya Pradesh, India. Dhar.
- PI 644662. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4481; NSL 87211; 74I 11054. Collected in Madhya Pradesh, India.
Khargone.
- PI 644663. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4502; NSL 87215; 74I 11060. Collected in Maharashtra, India.
Aurangabad.
- PI 644664. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4506; NSL 87217; 74I 11062. Collected in Maharashtra, India.
Aurangabad.
- PI 644665. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4510; NSL 87219; 74I 11064. Collected in Maharashtra, India.
Aurangabad.
- PI 644666. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4525; NSL 87220; 74I 11067. Collected in Maharashtra, India.

- PI 644667. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4548; NSL 87221; 74I 11074. Collected in Maharashtra, India.
- PI 644668. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4553; NSL 87222; 74I 11075. Collected in Maharashtra, India.
Parbhani.
- PI 644669. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4554; NSL 87223; 74I 11076. Collected in Maharashtra, India.
Parbhani.
- PI 644670. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4555; NSL 87224; 74I 11077. Collected in Maharashtra, India.
Parbhani.
- PI 644671. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4559; NSL 87227; 74I 11080. Collected in Maharashtra, India.
Parbhani.
- PI 644672. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4566; NSL 87230; 74I 11084. Collected in Maharashtra, India.
Parbhani.
- PI 644673. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4577; NSL 87233; 74I 11088. Collected in Maharashtra, India.
Parbhani.
- PI 644674. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4580; NSL 87234; 74I 11089. Collected in Maharashtra, India.
Parbhani.
- PI 644675. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4581; NSL 87235; 74I 11090. Collected in Maharashtra, India.
Osmanabad.
- PI 644676. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4593; NSL 87239; 74I 11094. Collected in Maharashtra, India. Nanded.
- PI 644677. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4604; NSL 87242; 74I 11101. Collected in Maharashtra, India. Nanded.
- PI 644678. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4608; NSL 87244; 74I 11103. Collected in Maharashtra, India. Nanded.
- PI 644679. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4626; NSL 87248; 74I 11108. Collected in Maharashtra, India.
Osmanabad.
- PI 644680. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4631; NSL 87251; 74I 11111. Collected in Maharashtra, India.
Osmanabad.
- PI 644681. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4632; NSL 87252; 74I 11112. Collected in Maharashtra, India.
Osmanabad.

- PI 644682. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4634; NSL 87253; 74I 11114. Collected in Maharashtra, India.
Osmanabad.
- PI 644683. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4637; NSL 87254; 74I 11116. Collected in Maharashtra, India.
Osmanabad.
- PI 644684. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4641; NSL 87255; 74I 11118. Collected in Maharashtra, India.
Sholapur.
- PI 644685. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4659; NSL 87256; 74I 11126. Collected in Maharashtra, India.
Sholapur.
- PI 644686. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4663; NSL 87257; 74I 11129. Collected in Maharashtra, India.
Sholapur.
- PI 644687. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4664; NSL 87258; 74I 11130. Collected in Maharashtra, India.
Ahmednagar.
- PI 644688. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4705; NSL 87268; 74I 11152. Collected in Maharashtra, India. Pune.
- PI 644689. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4710; NSL 87271; 74I 11156. Collected in Maharashtra, India. Pune.
- PI 644690. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4718; NSL 87272; 74I 11160. Collected in Punjab, India. Karnal.
- PI 644691. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4720; NSL 87273; 74I 11161. Collected in Punjab, India. Karnal.
- PI 644692. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4721; NSL 87274; 74I 11162. Collected in Punjab, India. Karnal.
- PI 644693. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4726; NSL 87275; 74I 11164. Collected in Gujarat, India.
Surendranagar.
- PI 644694. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4734; NSL 87277; 74I 11167. Collected in Gujarat, India. Rajkot.
- PI 644695. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4739; NSL 87278; 74I 11168. Collected in Gujarat, India. Rajkot.
- PI 644696. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4745; NSL 87280; 74I 11171. Collected in Gujarat, India. Rajkot.
- PI 644697. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4749; NSL 87281; 74I 11173. Collected in Gujarat, India. Rajkot.
- PI 644698. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4752; NSL 87282; 74I 11175. Collected in Gujarat, India. Rajkot.

- PI 644699. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4762; NSL 87283; 74I 11177. Collected in Gujarat, India. Jamnagar.
- PI 644700. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4767; NSL 87284; 74I 11180. Collected in Gujarat, India. Jamnagar.
- PI 644701. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4768; NSL 87285; 74I 11181. Collected in Gujarat, India. Jamnagar.
- PI 644702. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4771; NSL 87286; 74I 11182. Collected in Gujarat, India. Jamnagar.
- PI 644703. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4774; NSL 87287; 74I 11183. Collected in Gujarat, India. Jamnagar.
- PI 644704. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4775; NSL 87288; 74I 11184. Collected in Gujarat, India. Junagadh.
- PI 644705. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4777; NSL 87289; 74I 11185. Collected in Gujarat, India. Junagadh.
- PI 644706. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4781; NSL 87290; 74I 11186. Collected in Gujarat, India. Junagadh.
- PI 644707. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4787; NSL 87292; 74I 11188. Collected in Gujarat, India. Junagadh.
- PI 644708. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81685; IS 3367; NSL 89334; 74I 10615. Collected in United States.

The following were donated by Antonio Sotomayor-Rios, USDA, ARS, National Germplasm Repository, Tropical Agric. Research Station, Mayaguez, Puerto Rico. Received 1979.

- PI 644709. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81112-1; IS 3192; NSL 103130; PR 10573. Collected in United States.
- PI 644710. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81261; IS 3247; NSL 103131; PR 10580. Collected in United States.
- PI 644711. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81270; IS 3250; NSL 103132; PR 10581. Collected in United States.
- PI 644712. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81294; IS 3255; NSL 103133; PR 10583. Collected in United States.
- PI 644713. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Purdue No. 81352; IS 3274; NSL 103134; PR 10587. Collected in United States.

- PI 644714. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81464-1; IS 3314; NSL 103135; PR 10600. Collected in United States.
- PI 644715. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Purdue No. 81481-1; IS 3319; NSL 103136; PR 10604. Collected in United States.
- PI 644716. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3380; NSL 103137; PR 10619. Collected in United States.
- PI 644717. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3736; NSL 103141; PR 10697. Collected in Ethiopia.
- PI 644718. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3799; NSL 103143; PR 10716. Collected in Texas, United States.
- PI 644719. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 3939; SA 9901; NSL 103145; PR 10760. Collected in California, United States.
- PI 644720. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4017; NSL 103148; PR 10790. Collected in India.
- PI 644721. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4029; NSL 103149; PR 10798. Collected in India.
- PI 644722. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4044; NSL 103150; PR 10806. Collected in Rajasthan, India. Alwar.
- PI 644723. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4179; NSL 103155; PR 10889. Collected in Rajasthan, India.
- PI 644724. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4193; NSL 103156; PR 10898. Collected in Rajasthan, India.
- PI 644725. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4274; NSL 103163; PR 10955. Collected in Madhya Pradesh, India. Hoshangabad.
- PI 644726. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
IS 4343; NSL 103167; PR 10995. Collected in Madhya Pradesh, India. Bhind.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1959.

- PI 644727. *Solanum lycopersicum* L.**
NSL 2879; Louisiana Dixi. Deep globe, pink fruits, vigorous plants, indeterminate vine Resistant to fusarium wilt and fruit cracking. Introduced by Reuter Seed company, originated by Louisiana St. Univ. in 1936. List of vegetable varieties by "Committee on vegetable breeding and varieties" Am'n. Soc. for Hort. Sc. August 1959, P.81.

The following were donated by USDA, ARS Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 1960.

PI 644728. *Solanum lycopersicum* L.

NSL 3233; Marglobe. First nailhead rust resistant tomato. Possesses some resistance or tolerance to fusarium wilt. Corneli Catalog #14.

The following were donated by USDA, ARS, Plant Science Research Division, Beltsville, Maryland 20705, United States. Received 1961.

PI 644729. *Solanum lycopersicum* L.

NSL 4667; US 159. Indeterminate, midseason, wilt resistant.

PI 644730. *Solanum lycopersicum* L.

NSL 4668; US 160. Indeterminate, midseason, wilt resistant.

PI 644731. *Solanum lycopersicum* L.

NSL 4669; US 257. Indeterminate, midseason, wilt resistant.

PI 644732. *Solanum lycopersicum* L.

NSL 4670; US 259. Indeterminant, late maincrop, wilt resistant.

PI 644733. *Solanum lycopersicum* L.

NSL 4671; US 260. Indeterminate, late maincrop, wilt resistant.

PI 644734. *Solanum lycopersicum* L.

NSL 4672; US 357. Indeterminate, early, wilt resistant.

The following were donated by University of Florida, Florida Agr. Exp. Sta., Department of Agronomy, Gainesville, Florida 32611, United States. Received 1968.

PI 644735. *Solanum lycopersicum* L.

NSL 5396; Tropic. J.W. Strobel & J.M. Walter -- Tropic - a new multiple disease resistant indeterminate tomato for Pink harvest. U. of Fla. Circ. (in preparation).

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

PI 644736. *Solanum lycopersicum* L.

Red Cushion/Red PNDR; NSL 5788; Beefsteak. 90 days, (ponderosa) color deep purplish pink, fruit large, deep flat & ribbed, splendid for slicing, mild flavor, medium late variety. Dessert Seed Co. 1959 catalog p.101.

The following were donated by J. Westman, New Jersey, United States. Received 1961.

PI 644737. *Solanum lycopersicum* L.

NSL 5789; Big Red. List of veg. var. "Committee on veg. breeding & var." Am'n Soc. for Hort. Sc. August 1959 p.74.

The following were donated by T.W. Wood & Sons Seed Co., Richmond, Virginia, United States. Received 1961.

PI 644738. *Solanum lycopersicum* L.

Woods Famous Brimmer; NSL 5793. 110 days, one of the larges & most productive tomatoes, without acidity. T.W. Woods & Sons 1959 catalog.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 1961.

PI 644739. *Solanum lycopersicum* L.

NSL 5794; Burpees Globe. 80 days, pink tomato, solid, firm, meaty, no core, little or no acid. Burpee's 1960 catalog p.96.

The following were donated by Burrell Seed Growers, Colorado, United States. Received 1961.

PI 644740. *Solanum lycopersicum* L.

Blood-Red Flesh; NSL 5797; Canners Jewel. 75 days, yields abundantly, large, very smooth, deep red fruits, firm thick walls, deep blood red color, globe shaped slightly flattened. Burrell's 1961 catalog.

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

PI 644741. *Solanum lycopersicum* L.

NSL 5800; Climbing Trip-L-Crop. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959 p.75.

PI 644742. *Solanum lycopersicum* L.

NSL 5801; Crackproof. Burgess 1960 catalog.

The following were donated by Northrup, King & Company, 1500 Jackson N.E., Minneapolis, Minnesota 55413, United States. Received 1961.

PI 644743. *Solanum lycopersicum* L.

Beefsteak/R Ponderosa; NSL 5803; Crimson Cushion. 95 days, (beefsteak or red ponderosa) fruit verly large, flattened, rather irregular, vine indeterminate. Northrup, King & Co. catalog GS-7-5.

The following were donated by Farmers Seed and Nursery Company, Faribault, Minnesota, United States. Received 1961.

PI 644744. *Solanum lycopersicum* L.

NSL 5817; Faribo Golden Heart. Smooth, golden yellow, thick walled fruits with typical tomato flavor, ripen 2 weeks before any other yellow variety. Farmer's Seed & Nursery 1961 catalog List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959 p.77.

PI 644745. *Solanum lycopersicum* L.

NSL 5818; Faribo Jumbo Red. An early maturing king-size tomato, large fruits are medium red, thick walls. Farmer's Seed & Nursery 1961 catalog.

PI 644746. *Solanum lycopersicum* L.

NSL 5819; Faribo Springtime. early ripening, small, bright red fruits, produced in tremendous quantities on small compact vines. Farmer's Seed and Nursery 1961 catalog.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1961.

PI 644747. *Solanum lycopersicum* L.

NSL 5824; Foremost E 21. 73 days, indeterminate vines bear prodigious yields of large, flavorful fruits. Fruits are deep scarlet red, large notably smooth, almost round, resistant to cracking Ferry-Morse 1959 catalog p.86.

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

PI 644748. *Solanum lycopersicum* L.

NSL 5826; Garden State Improved. 78 days, similar to Rutgersbut plant growht more compact & fruit slightly flatter, semi-determinate, very productive, fruit is oblate, meaty, firm, scarlet red. Corneli Cat. #15.

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1961.

PI 644749. *Solanum lycopersicum* L.

NSL 5829; Glamour. 77 days, large fruit, high cracking resistance, slightly flattened globe shape, solid flesh, mild flavored. Harris 1959 catalog p.37.

The following were donated by T.W. Wood & Sons Seed Co., Richmond, Virginia, United States. Received 1961.

PI 644750. *Solanum lycopersicum* L.

NSL 5830; Giant Tree. A potato leaved variety, best trained on a stake, vine will grow 18 ft. or mora a season, pink skinned fruit will frequently run over a pound (some over two pounds). Flesh is dark red and sparse seeder. Wood's 1959 cat. p.39.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 1961.

PI 644751. *Solanum lycopersicum* L.

NSL 5832; Gloriana. 55 days, Earliana type, excelling in quality, shape, appearance, & yield, scarlet red, semi-globular. Burpee's 1960 catalog.

The following were donated by T.W. Wood & Sons Seed Co., Richmond, Virginia, United States. Received 1961.

PI 644752. *Solanum lycopersicum* L.

NSL 5833; Golden Ponderosa. 110 days, like the well-known ponderosa, golden yellow color Woods 1959 Catalog p.40.

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

PI 644753. *Solanum lycopersicum* L.

NSL 5840; Homestead Improved No. 2. 83 days, fruit is red, large fruit, flattened globe, thick walls and firm, crack resistant, vine determinate. reselected this strain for uniformity and high yield. Peto Seed Co. descr. 1960 (see files).

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644754. *Solanum lycopersicum* L.

NSL 5841; Homestead 24. 83 days, fruit is red, medium large, slightly flattened globe shaped, medium thick walls and firm, relatively crack resistant. vine determinate, uniform selections from original Homestead. Peto Seed Co. descr. 1960 (see files).

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1961.

PI 644755. *Solanum lycopersicum* L.

NSL 5842; Homestead FM 61. In Ferry-Morse Co. 1959 catalog found Homestead F M but not Homestead F M 61.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644756. *Solanum lycopersicum* L.

NSL 5852; J Moran. 90 days, fruit scarlet, slightly larger and a little flatter than Improved Pearson with smaller core, vine determinate, similar to Improved Pearson. Peto's descr. folder 1960. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959 p.79.

The following were donated by University of Florida, Florida Agr. Exp. Sta., Department of Agronomy, Gainesville, Florida 32611, United States. Received 1961.

PI 644757. *Solanum lycopersicum* L.

NSL 5861; Manahill. List of veg. var. "Committee on veg. breeding and var." Am'n. Soc. for Hort. Sc. August 1959 p.81.

The following were donated by Burrell Seed Growers, Colorado, United States. Received 1961.

PI 644758. *Solanum lycopersicum* L.

NSL 5864; Marbon. 68 days, adapted to a wide range of growing conditions. features include earliness, size, globular shape and excellent red color. Burrell's 1961 catalog p.67.

The following were donated by Vaughan-Jacklin Corporation, 5300 Katrine Avenue, Downer'S Grove, Illinois 60515, United States. Received 1961.

PI 644759. *Solanum lycopersicum* L.

NSL 5873; Improved New Stone. 86 days, smooth skin, small core, fine grained flesh with little acidity. Vaughn's 1961 Catalog p.28.

The following were donated by Ohio State University, Ohio Agric. Exp. Station, Columbus, Ohio, United States. Received 1961.

PI 644760. *Solanum lycopersicum* L.

NSL 5874; Ohio Crack Resistant Red. List of veg. var. "Committee on veg. breeding and var." Am'n. Soc. for Hort. Sc. August 1959 p.82.

PI 644761. *Solanum lycopersicum* L.

NSL 5876; Ohio WR Globe 3. Ohio Res. Bul. 689, List of veg. var. "Committee on veg. breeding and var." Am'n Soc. for Hort. Sc. August 1959 p.83.

PI 644762. *Solanum lycopersicum* L.

NSL 5878; Ohio WR Seven. List of vegetable varieties by "Committee on vegetable breeding and varieties" Am'n. Soc. for Hort. Sc. August 1959 p.83.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644763. *Solanum lycopersicum* L.

NSL 5883; Pearson A-1. Verticillium wilt resistant, same maturity as Improved Pearson, fruits are large, slightly flattened & produces a heavy yield. Vine is determinate. Peto Seed Co sheet (files).

The following were donated by Burrell Seed Growers, Colorado, United States. Received 1961.

PI 644764. *Solanum lycopersicum* L.

NSL 5884; Pearson B. 84 days, an early pearson with less core, yields a heavy first picking and maintains uniformly large fruit size throughout the season, very high in solids, heavier than most tomatoes, meaty, firm, resistant to verticillium wilt. Burrell's 1961 Catalog p. 69.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644765. Solanum lycopersicum L.

NSL 5885; Pearson DF. 100 days, fruit is scarlet red, medium large globe shaped, free from cracks & puffiness, firm & smooth, vine is determinate. Peto Seed Co. descr. sheet (in files).

The following were donated by Dessert Seed Co., Inc, P.O. Box 181, El Centro, California 92243, United States. Received 1961.

PI 644766. Solanum lycopersicum L.

NSL 5889; Pearson VF-6. Vine is medium large, determinate & vigorous, fruits are a deep pearson shape but slightly smaller, deep red, smooth, thick walled, firm, meaty with a small core, heavy yielder. Dessert Seed 1959.

PI 644767. Solanum lycopersicum L.

NSL 5890; Pearson V 10. Fruit medium to large, red, vine determinate, large verticillium wilt resistance, suited for shipping. Northrup-king Catalog GS 5-30.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644768. Solanum lycopersicum L.

NSL 5891; Pearson XL. Fruit red, large flattened, meaty, firm & thick walled with almost no core. Vine large, determinate, resistant to verticillium wilt, produces uniform fruit throughout the season. Peto Seed (in file).

The following were donated by Dessert Seed Co., Inc, P.O. Box 181, El Centro, California 92243, United States. Received 1961.

PI 644769. Solanum lycopersicum L.

NSL 5892; Pearson VF-36. SRS Commercial Growers Guide Vol. 6.

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

PI 644770. Solanum lycopersicum L.

NSL 5894; Pink Ponderosa. 90 days, older late maturing, plants indeterminate, fruits very large, flat purplish-pink, somewhat rough, tendency to crack, mild flavor. Asgrow Catalog #19 1957, p.87.

The following were donated by Burrell Seed Growers, Colorado, United States. Received 1961.

PI 644771. Solanum lycopersicum L.

NSL 5895; Plainsman. 65 days, extra early, heavy yielder, red fruit with good globe shape & excellent quality. Burrell's 1961 Catalog.

The following were donated by Puerto Rico Agricultural Experiment Station, University of Puerto Rico, Mayaguez, Puerto Rico. Received 1961.

PI 644772. *Solanum lycopersicum* L.

NSL 5896; Plamar Caribe. Puerto Rico Agric. Exp. Sta.

The following were donated by Rudy-Patrick Seed Company, Kansas City, Missouri, United States. Received 1961.

PI 644773. *Solanum lycopersicum* L.

NSL 5898; Ponderosa Pink. 90 days, plants are large and vigorous, large fruits, variable shape, purplish-pink in color, very fleshy and a tendency to crack.

PI 644774. *Solanum lycopersicum* L.

NSL 5900; Ponderosa Yellow. 90 days, plants are large vigorous growing, large fruits, variable in shape, yellow in color, very fleshy, tendency to crack. Rudy-Patrick Catalog 1961.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644775. *Solanum lycopersicum* L.

NSL 5908; Red Top VR-9. Determinate, medium to small plants, red fruit, resistance to verticillium wilt, adapted to western areas, medium maturity, pear shaped. Peto's seed 1960.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1961.

PI 644776. *Solanum lycopersicum* L.

NSL 5909; Riverside. A late variety, possibly tolerant to fusarium & verticillium wilt: wilts. seed very old but some very likely to germinate. no more seed available. Seed World, March 26, 1937. List of veg. var. by "Committee on veg. var. & breeding" Am. Soc. for Hort. Sc. August 1959, p.84 Dr. H. L. Blood collection No. 827 USDA release 1937 Globe X Marvel.

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

PI 644777. *Solanum lycopersicum* L.

NSL 5915; Rutgers Improved. SRS Commercial Growers Guide Vol. 6. Burgess 1960 catalog.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1961.

PI 644778. *Solanum lycopersicum* L.

NSL 5918; Simi. Originally resistant to some strains of the pathogens, fusarium & verticillium but not resistant to all strains. seed very old but will germinate. Hilgardia 21(10), 1952. A processing(?) tomato resistant to verticillium and fusarium wilts. List of veg. var. by

"Committee on veg. breeding and var." Am'n. Soc. for Hort. Sc. August 1959, p.85.

The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1961.

- PI 644779. *Solanum lycopersicum* L.**
NSL 5920; Small Fruited Red Cherry. Burgess 1960 catalog.
- PI 644780. *Solanum lycopersicum* L.**
NSL 5921; Small Fruited Red Pear. Burgess 1960 catalog.
- PI 644781. *Solanum lycopersicum* L.**
NSL 5922; Small Fruited Red Plum. Burgess co. 1960 catalog.
- PI 644782. *Solanum lycopersicum* L.**
NSL 5923; Small Fruited Yellow Cherry. Burgess 1960 catalog.
- PI 644783. *Solanum lycopersicum* L.**
NSL 5924; Small Fruited Yellow Pear. 70 days, fruits are yellow, pear shaped with definite neck, 1.75 to 2 in. long, 2 in. in diameter and are borne narr: prolifically in clusters. Burpee 1960 Catalog, p. 94.
- PI 644784. *Solanum lycopersicum* L.**
NSL 5925; Small Fruited Yellow Plum. 70 days, immensely productive, small, fleshy, tomato, the size and shape of a plum. bright lemon yellow skin. Burpee 1960 Catalog, p.94.

The following were donated by E. State Farmers. Received 1961.

- PI 644785. *Solanum lycopersicum* L.**
NSL 5926; Solid Red Strain A. List of vegetable varieties by "Committee on veg. breeding and varieties" Am'n. Soc. for Hort. Sc. August 1959, p.85.
- PI 644786. *Solanum lycopersicum* L.**
NSL 5927; Solid Red Strain B. List of vegetable varieties by "Committee on veg. breeding and varieties" Am'n. Soc. for Hort. Sc. August 1959, p.85.

The following were donated by Corneli Seed Company, 101 Chouteau Avenue, Saint Louis, Missouri 63102, United States. Received 1961.

- PI 644787. *Solanum lycopersicum* L.**
S M; NSL 5929; Smoothie. Developed primarily for mechanical harvesting, Similar to Rutgers, 13 days earlier, less cracking. Corneli Catalog #14.
- PI 644788. *Solanum lycopersicum* L.**
S U; NSL 5933; Success. Developed primarily for mechanical harvesting, Similar to Rutgers, 10 days earlier, uniform ripening. Corneli Catalog #14.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644789. *Solanum lycopersicum* L.

NSL 5938; Super Sioux. Scarlet, medium size, almost globe shaped, thick walls, high uniformity and yielding, early maturity, determinate, red fruits. Peto's Seed 1960.

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1961.

PI 644790. *Solanum lycopersicum* L.

NSL 5940; Trellis 22. 75 days, standard outdoor trellis tomato, tremendous clusters of firm, medium sized fruit, slightly flattened with thick walls. Harris 1959 catalog. List of veg. var. by "Committee on veg. var. and breeding" Am'n. Soc. for Hort. Sc. August 1959, p.87.

The following were donated by W. B. Kille, New Jersey, United States. Received 1961.

PI 644791. *Solanum lycopersicum* L.

Valiant x Bounty; NSL 5944; Kings. Am'n. Soc. for Hort. Sc. August 1959, List of veg. var. by "committee on veg. breeding and varieties".

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1961.

PI 644792. *Solanum lycopersicum* L.

NSL 5945; Weshaven. Indeterminate, red fruits, resistance to fusarium wilt, adapted for Texas, late maturity, medium size fruit, deep oblate shape, smooth Peto's descriptive folder, 1962. List of veg. var. by "Committee on veg. var. and breeding" August 1959, p.88.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1961.

PI 644793. *Solanum lycopersicum* L.

NSL 5950; WR Globe 2070. Ferry-Morse 1959 catalog supplement.

The following were donated by Vaughan-Jacklin Corporation, 5300 Katrine Avenue, Downer'S Grove, Illinois 60515, United States. Received 1961.

PI 644794. *Solanum lycopersicum* L.

NSL 5951; Winsall. 85 days for maturity, fruits purplish pink, solid and meaty non-acid and smoother than other flat fruited varieties. Vaughn's 1961 Catalog p.28.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1961.

PI 644795. *Solanum lycopersicum* L.

NSL 6630; Norton WR. A resistant strain of Stone. Fruits ususally a little deeper than Stone. Extensively used for canning when fusarium wilt is present in the soil. Ferry-Morse obsolete catalog.

The following were donated by W. B. Kille, New Jersey, United States. Received 1961.

PI 644796. *Solanum lycopersicum* L.

NSL 6672; Killes No. 7. Kille's #7 is the reslut of an Ace X King cross. Early, heavy yielder. Fruit is globe shaped, very firm, good red color, determinate vine.

PI 644797. *Solanum lycopersicum* L.

NSL 6673; Killes No. 18. Killes #18 is the result of an Ace X King cross. Early, heavy yielder, fruit is globe shaped & firm, good red color, standard vine.

The following were donated by R. Portor, Campbell Soup Company, Camden, New Jersey, United States. Received 1961.

PI 644798. *Solanum lycopersicum* L.

NSL 6686; Campbell 135. Campbell Soup Plant Sci. Seminar Proc. 1960, pp. 102-108 List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959.

PI 644799. *Solanum lycopersicum* L.

NSL 6687; Campbell 146. Campbell Soup Plant Science Seminar Proceedings 1960 pp. 102-108. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort Sc. August 1959.

The following were donated by University of Minnesota, Minnesota Agr. Exp. Sta., St. Paul, Minnesota 55108, United States. Received 1979.

PI 644800. *Solanum lycopersicum* L.

NSL 6811; Minigold. Currence, T.M. The Mingold Tomato and the Duluth Snap Beans. Minnesota Hort. April, 1939. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959, p.82.

The following were donated by University of Wisconsin, Wisconsin Agr. Exp. Station, Madison, Wisconsin, United States. Received 1961.

PI 644801. *Solanum lycopersicum* L.

NSL 6817; Wisconsin Chief. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959, p.89.

The following were donated by USDA, ARS, Pennsylvania Agr. Exp. Station, State College, Pennsylvania, United States. Received 1961.

PI 644802. *Solanum lycopersicum* L.

NSL 6878; KC 146. Report of Cert. Acrgs. 1960.

The following were donated by University of New Hampshire, Agricultural Experiment Station, Durham, New Hampshire, United States. Received 1961.

- PI 644803. *Solanum lycopersicum* L.**
NSL 6881; Dixville. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959, p.75.
- PI 644804. *Solanum lycopersicum* L.**
NSL 6882; New Hampshire Victor. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1959, p.82.
- PI 644805. *Solanum lycopersicum* L.**
NSL 6884; Orange King. List of veg. var. "Committee on veg. breeding & var." Am'n Soc. for Hort. Sc. august 1959, p.83.
- PI 644806. *Solanum lycopersicum* L.**
NSL 6885; New Hampshire Red Pickling. New Hampshire AES Bul. #440.
- PI 644807. *Solanum lycopersicum* L.**
NSL 6886; New Hampshire Surecrop. New Hampshire Agric. Exp. Sta. Bul. 440.
- PI 644808. *Solanum lycopersicum* L.**
NSL 6887; Window Box. List of veg. var. "Committee on veg. breeding & var." Am'n Soc. for Hort. Sc. August 1959, p.89.
- PI 644809. *Solanum lycopersicum* L.**
NSL 6888; Rockingham. In season with Marglobe, potatoe leaf foliage, highly resistant to late blight disease. see letter dated december 15, 1961 from E.M Meader, Univ of N.H.
- PI 644810. *Solanum lycopersicum* L.**
NSL 6889; Fargo Yellow Pear. Early, determinate, heavy bearing. North Dakota Exp. Sta. Bul. 276. (see app.).

The following were donated by Massachusetts Agricultural Experiment, Station, Amherst, Massachusetts, United States. Received 1961.

- PI 644811. *Solanum lycopersicum* L.**
NSL 8562; Trellis 32 C R.
- PI 644812. *Solanum lycopersicum* L.**
NSL 8563; Trellis 43 C R. Trellis type, crack resistant, medium late maturity, very firm flat fruit, fruits are on the small side. Correspondence from Mass. AES.
- PI 644813. *Solanum lycopersicum* L.**
NSL 8564; Waltham Mold-Proof Forcing. Fruit medium size, matures early, medium deep , thick walls, vine is indeterminate, resistant to tomato leaf mold, greenhouse variety. List of veg. var. "Committee on veg. var. & breeding" Am'n. Soc. for Hort. Sc. August 1959, p.88.
- PI 644814. *Solanum lycopersicum* L.**
NSL 8565; Waltham Forcing. Fruits are flat, very firm, sets well in the

greenhouse, small size, about 4 to the pound. When grown outside would be classed as early. Corr. from Mass. AES.

The following were donated by University of Missouri, Missouri Agr. Exp Sta., Columbia, Missouri 65201, United States. Received 1961.

PI 644815. *Solanum lycopersicum* L.

NSL 8567; Mozark. Fruit is deep oblate, smooth & uniform, thick outer & inter-ocular walls, flesh is orange-red, plant is semi-determinate, resistant to fusarium wilt. Missouri AES Res. Bul. #680, 1958.

PI 644816. *Solanum lycopersicum* L.

NSL 8569; Mosage. Fruits are large in size, moderately flattened, meaty, thick locular walls & septa. Vigorous indeterminate growth habit, Highly resistant to fusarium wilt. Missouri AES Res. Bul. no. 681, Oct. 1958.

The following were donated by R. Portor, Campbell Soup Company, Camden, New Jersey, United States. Received 1961.

PI 644817. *Solanum lycopersicum* L.

NSL 8577; Campbell 1402. Resistance to fusarium & verticillium wilt, adapted to production in central Calif., higher yields than VF11 & T2, fruits smaller than T2 but larger than VF11, Pearson & Ace, vine is determinate, medium fruit size, ripens in season with Ace & T2. Seed World, Dec. 8, 1961.

The following were developed by David H. Timothy, North Carolina State University, Raleigh, North Carolina, United States; Brent Godshalk, BASF Plant Science, LLC, 26 Davis Drive, Research Triangle Pk, North Carolina 27709, United States; Joe Burns, USDA-ARS, North Carolina State University, 1119 Williams Hall, Raleigh, North Carolina 27695, United States. Received 01/12/2007.

PI 644818. *Panicum virgatum* L.

Cultivar. Population. "PERFORMER". CV-247; REST 644818. Pedigree - Performer resulted from three cycles of selection. The original source population (Cycle 0) consisted of a selected group of 161 switchgrass plants of the lowland form, representing 11 different germplasm sources. Three cycles of selection were conducted, selecting for forage digestibility. A total of eight Cycle 3 plants, selected on digestibility over initial growth and regrowth, were transplanted in a crossing block, with 16 replicates per plant. They were allowed to open-pollinate and the seed was harvested and bulked to constitute the cultivar Performer. Performer was selected for its improved nutritive value as estimated by in vitro dry matter disappearance. Consequently, it is not as tall a grower as some of the present lowland cultivars. However, emphasized were improved digestible nutrients produced per acre, a combination of yield and digestibility. Performer produced 7,567 lb/ Ac of digestible nutrients with a dry matter digestibility of 56.5%. When offered to animals in separate experiments, they selected from Performer a diet that averaged 66.5% digestible. The consumed forage averaged 53.2 % large particles that were 65.6 % digestible, 33.0% medium particles that were 66.6 % digestible and 13.9% small

particles that were 68.9% digestible. Performer consistently had the greatest digestibility among other cultivars included in the tests. It improved digestibility is attributed, in part, to its reduced lignin concentration which averaged 5.8% at the heads-emerging stage. Performer is well adapted across the Coastal plain and Piedmont regions. It is well liked by animals and can be used for either grazing or as a stored feed. Performer appears to have no obvious pests, although limited acreage does not generally carry the potential for high infections .

The following were donated by E. State Farmers. Received 1962.

PI 644819. Solanum lycopersicum L.

Heinz 24; NSL 8728; E S 24. Eastern States Farmers Exchange 1962 cat. p.22 Penn-Jersey Farmer Jan. 1962. Am'n Veg. Grower Dec. 1961 Registered with Am'n. Seed Trade Assoc. Nov. 30, 1961.

PI 644820. Solanum lycopersicum L.

NSL 8730; Improved Solid Red. Eastern States Farmers Exchange 1962 cat. p.22.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1962.

PI 644821. Solanum lycopersicum L.

NSL 8798; VF 145. Fusarium & Verticillium resistant, early canning variety, description from California AES.

PI 644822. Solanum lycopersicum L.

NSL 8799; VF 14. Fusarium & Verticillium resistant, sets fruits at high temp. Fruit is oblate shaped, similar to VF 36. Mimeo description from California AES.

The following were donated by Michigan State University, Michigan Agr. Exp. Sta., East Lansing, Michigan 48824, United States. Received 1962.

PI 644823. Solanum lycopersicum L.

New Truckers Favorite; NSL 9448; Spartan Pink 10. Vine is indeterminate, resistant to fusarium wilt, 7 days earlier than Ohio W R 7 Globe. Fruits are medium to large size, globe shaped, thick outer walls, less cracking than Ohio W R 7, sets fruit at high temp. Mich. AES Quart. Bul. Vol. 44, No. 4, pp.684-687, May 1962. Mich. Aes Announ. of a New Greenhouse Tomato Variety March 1, 1962. American Vegetable grower May 1962.

The following were donated by Standard Seed Co, Maryland, United States. Received 1962.

PI 644824. Solanum lycopersicum L.

NSL 15590; Mocross Surprise. Fruits attractive, medium to large, flattened, red, uniform ripening, solid, meaty, good resistance to cracking, very productive, early maturity (65-70 days), semi determinate vine, resistant to race 1 of fusarium wilt. Standard Seed Co.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1962.

PI 644825. *Solanum lycopersicum* L.

NSL 16937; De La Plata. Indeterminate, red fruit, adapted to Latin. Amer., late maturity, medium size, deep oblate. Peto Seed Co, 1962 cat.

PI 644826. *Solanum lycopersicum* L.

NSL 16940; T-2 Improved. Determinate, large plant, red fruits, resistant to fusarium and verticillium wilt, adapted to west, medium early maturity, large size, deep oblate, firm. Peto Seed Co. 1962 catalog.

PI 644827. *Solanum lycopersicum* L.

NSL 16941; Peto C-VF. Fruit even ripening, deep oblate shape, large size, deeper and smoother fruited than improved T2, meaty, small core, vine determinate, resistant to fusarium & verticillium wilt. Peto Seed Co. description sheet (see files).

PI 644828. *Solanum lycopersicum* L.

NSL 16943; Red Cherry Large. Indeterminate, red fruits, general adaptation, medium late maturity, small size (1.25 oz), round shape, smooth Peto Seed co. 1962 catalog.

PI 644829. *Solanum lycopersicum* L.

NSL 16948; San Marzano VR. Indeterminate, red fruits, resistant to verticillium, general adaptation, medium late maturity, medium small size, pear shaped, smooth, firm. Peto Seed Co. 1962 catalog.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1962.

PI 644830. *Solanum lycopersicum* L.

NSL 16961; VF 1402. Fruit is medium size, deep oblate, even ripening, good interior color, very firm, late maturing variety, resistant to verticillium & fusarium wilt. Peto Co. descr. cat. 1962.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1962.

PI 644831. *Solanum lycopersicum* L.

NSL 19986; Moran Perfected. Determinate, large plant, red fruit, adapted to west, medium late maturity, large fruit size, deep oblate shape, smooth, firm. Peto Seed Co. descriptive catalog 1962, Ferry-Morse 1959 catalog suppl.

PI 644832. *Solanum lycopersicum* L.

NSL 19987; Pearson VF-11. Determinate, loarge plant, red fruits, resistant to fusarium and verticillium wilt, adapted to west, late maturity, medium fruit size, deep oblate shape, firm. Peto Seed descriptive catalog 1962. Ferry-Morse 1959 catalog suppl.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1962.

PI 644833. *Solanum lycopersicum* L.

NSL 20066; Alamo. 77 days, relatively early fusarium wilt resistant variety, vines indeterminate, medium large, fruits medium to full globe, medium thick walls, solid, slightly smaller than Rutgers. Asgrow catalog #19, p.83.

PI 644834. *Solanum lycopersicum* L.

NSL 20068; Earlypak L. 90 days, plants medium large, determinate, heavy yields fruits more nearly uniform for slightly flattened globe shape with tough skin. Asgrow catalog #19, p.84.

PI 644835. *Solanum lycopersicum* L.

NSL 20072; Jefferson. 83 days, general purpose, plants indeterminate, productive, fruits medium large, globe shaped, very firm, thick walls, small core, relatively free from cracking. Asgrow catalog #19, p.85.

PI 644836. *Solanum lycopersicum* L.

NSL 20076; Pearson S. 90 days, plants determinate, exceptionally heavy crops, fruits medium large, globe shaped. Asgrow Catalog #19, p87.

The following were donated by California Packing Corporation, 850 Thornton St., San Leandro, California, United States. Received 1962.

PI 644837. *Solanum lycopersicum* L.

NSL 20111; CPC 1. An interim variety not being grown anymore, Pearson type with verticillium resistance, but not to fusarium, somewhat earlier to Pearson. Letter from Dr. Virgin, Calif. Packing Corp. Oct. 9, 1962.

The following were donated by Seed Research Specialists, California, United States. Received 1962.

PI 644838. *Solanum lycopersicum* L.

NSL 20156; Mexican AAA. Seed World 89(11):8 Dec. 8, 1961.

PI 644839. *Solanum lycopersicum* L.

NSL 20159; Pearson Improved. SRS Commercial Growers Guide, Vol.6, p.33 Fruit flattened globe, med. large, smooth good red color. Free from cracks and puffiness. Plants determinate, vigorous, very productive.

The following were donated by University of Minnesota, Minnesota Agr. Exp. Sta., St. Paul, Minnesota 55108, United States. Received 1962.

PI 644840. *Solanum lycopersicum* L.

S-230-61; NSL 20526; Johnny Jumpup. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1, 1959, p.79.

The following were donated by H.G. Hastings Company, Atlanta, Georgia, United States. Received 1962.

PI 644841. *Solanum lycopersicum* L.

NSL 20615; Hendersons Winsall. Hasting Spring 1959 catalog, p.58.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 1963.

PI 644842. *Solanum lycopersicum* L.

LOT 61142/Stock PT-N; NSL 21982; Basket Pak. Round red fruited tomato, 76 days, indeterminate. Letter of Dec. 28, 1962 from K.E. Nordgren (Burpee Seed Co.).

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1963.

PI 644843. *Solanum lycopersicum* L.

F L Mass; NSL 22006; Blaze. Developed to get a Fireball type to do better farther south. no disease resistance, only fair performance, not being put on the market. Letter from Harris Seed Co. 10/19/62.

The following were donated by University of Arkansas, Arkansas Agr. Exp. Sta., Fayetteville, Arkansas 72701, United States. Received 1971.

PI 644844. *Solanum lycopersicum* L.

NSL 22401; Indark. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1, 1959, p. 79.

PI 644845. *Solanum lycopersicum* L.

NSL 22402; Bradley. Plants are fusarium wilt resistant, compact, semi-determinate, fruits are deep globe shaped, mild flavor. Arkansas Farm Research Vol.X, No.6 (Nov.-Dec. 1961), Seedmen's Digest, February 1962, p.17.

The following were donated by University of Illinois, Agricultural Exp. Stat., Urbana, Illinois 61803, United States. Received 1965.

PI 644846. *Solanum lycopersicum* L.

ILL 19K; NSL 22614; Illinois T-19. Determinate, tolerance to fusarium wilt, medium maturity, medium size fruit, deep oblate shape, smooth, red color. Description from Illinois.

PI 644847. *Solanum lycopersicum* L.

NSL 22615; ILL 73A. Determinate, fusarium wilt resistant, medium size fruit, deep oblate shape, smooth, red color. Description from Illinois.

PI 644848. *Solanum lycopersicum* L.

NSL 22616; ILL 90A. Determinate, small fruit, deep oblate shape, smooth, red color. Description from Illinois.

PI 644849. *Solanum lycopersicum* L.

NSL 22617; ILL ACC 276. Indeterminate, small fruit, globe shaped, smooth, small scar red color, flavor acidic. Description from Illinois.

- PI 644850. *Solanum lycopersicum* L.**
NSL 22618; ILL ACC 295. Indeterminate, small fruit, globe shape, smooth, small scar red color, flavor acidic. Description from Illinois.
- PI 644851. *Solanum lycopersicum* L.**
NSL 22619; ILL ACC 317. Indeterminate, small fruit, globe shaped, smooth, small scar red color, flavor acidic. Description from Illinois.
- PI 644852. *Solanum lycopersicum* L.**
NSL 22620; ILL ACC 319. Indeterminate, globe shaped, smooth, small fruit, scar small red color, flavor acidic. Description from Illinois.
- PI 644853. *Solanum lycopersicum* L.**
NSL 22621; ILL ACC 326. Determinate, globe shaped, smooth, small fruit, red color, flavor acidic. Description from Illinois.
- PI 644854. *Solanum lycopersicum* L.**
ILL 45A; NSL 22623; Urbana Forcing. Old greenhouse tomato. Description from Illinois.
- PI 644855. *Solanum lycopersicum* L.**
ILL 48B; NSL 22625; Sureset Forcing. Large size, oblate shaped, smooth, pink color, greenhouse type, setting goo to excellent. Description from Illinois.
- PI 644856. *Solanum lycopersicum* L.**
ILL 49C; NSL 22626; Long Calyx Forcing. Indeterminate, very large, globe shape, smooth, red color. Description from Illinois.

The following were donated by Farmers Seed and Nursery Company, Faribault, Minnesota, United States. Received 1963.

- PI 644857. *Solanum lycopersicum* L.**
NSL 22720; Morden. Early tomato, cross of Marglobe & Bounty, ripens with Bounty but fruits are larger, bright red, many locules, few seeds. Farmer Seed & Nursery Co. Spring 1963 catalog p.24.

The following were donated by Oregon State University, Oregon Agriculture Experiment Station, Corvallis, Oregon 97331, United States. Received 1963.

- PI 644858. *Solanum lycopersicum* L.**
NSL 22934; German Cherry. Indeterminate, fruits generally about .75 to 1 inch diameter fruit set rether good in cool climate, smooth, round, relatively sweet. Description by W.A. Frazier in letter dated 3/14/63 (files).

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1963.

- PI 644859. *Solanum lycopersicum* L.**
NSL 23006; Roma VF. Harris 1963 Catalog, p22.

The following were donated by J W Jung Seed Co, Randolph, Wisconsin 53956, United States. Received 1963.

PI 644860. *Solanum lycopersicum* L.

NSL 26495; Jungs Improved Wayahead. 63 days, good size fruits, bright scarlet, almost round, smooth, flesh is solid. J.W. Jung Seed Co. catalog.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1963.

PI 644861. *Solanum lycopersicum* L.

NSL 26544; VF 145-22. Asgrow's Tomato Folder.

The following were donated by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 1963.

PI 644862. *Solanum lycopersicum* L.

NSL 26549; G 738. Droopy tomato, Texas AES Bul. 698-slender leaflets of T738 p.22.

PI 644863. *Solanum lycopersicum* L.

NSL 26550; G 1279. M. Hardin's Miniature tomato, red & yellow beaked fruits, excellent flower pot tomato. Texas AES Bul. 698, p.42.

PI 644864. *Solanum lycopersicum* L.

NSL 26551; G 328. Sticky-peel tomato with red crystals in flesh, fruits are soft, nearly immune from fruit cracking. Texas AES Bul. 698, T328, p.38.

PI 644865. *Solanum lycopersicum* L.

NSL 26552; Lap-leaf. Some jagged leaves. Journal of Heredity 53: 266-270, 1962.

PI 644866. *Solanum lycopersicum* L.

NSL 26554; Jagged-leaf. Some banana leaves. Journal of Heredity 53: 266-270, 1962.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1963.

PI 644867. *Solanum lycopersicum* L.

NSL 26875; Abraham Lincoln. R.H. Shumway 1939 Catalog.

PI 644868. *Solanum lycopersicum* L.

NSL 26876; Abundance. Sutton & Sons (Eng) 1937 catalog.

PI 644869. *Solanum lycopersicum* L.

NSL 26880; Alpha Pink. Cheyenne Hort. Field Sta. Notes.

PI 644870. *Solanum lycopersicum* L.

NSL 26883; Amwell. Cheyenne Hort. Field Sta. Notes.

- PI 644871. *Solanum lycopersicum* L.
NSL 26884; Appollo. Cheyenne Hort. Field Sta. Notes.
- PI 644872. *Solanum lycopersicum* L.
NSL 26885; Augusta. Collected in Italy. Altdofer (Switz) 1947 catalog.
- PI 644873. *Solanum lycopersicum* L.
NSL 26888; Australian Large Red. Yates & Co., Ltd. 1935 catalog.
- PI 644874. *Solanum lycopersicum* L.
NSL 26889; Beauty of Loraine. Collected in Germany. Cheyenne Hort. Field Sta. Notes.
- PI 644875. *Solanum lycopersicum* L.
NSL 26891; Beefheart. Cheyenne Hort. Field Sta. Notes.
- PI 644876. *Solanum lycopersicum* L.
NSL 26892; Belmont Improved. Cheyenne Hort. Field Sta. Notes.
- PI 644877. *Solanum lycopersicum* L.
NSL 26893; Benares Mixed. Cheyenne Hort. Field Sta. Notes.
- PI 644878. *Solanum lycopersicum* L.
NSL 26894; Best of All. Sutton & Sons (Eng) 1937 Catalog.
- PI 644879. *Solanum lycopersicum* L.
NSL 26897; Bides Recruit. Cheyenne Hort. Field Sta. Notes.
- PI 644880. *Solanum lycopersicum* L.
NSL 26902; Bountiful. Cheyenne Hort. Field Sta. Notes E. May 1935 catalog.
- PI 644881. *Solanum lycopersicum* L.
Woods Famous; NSL 26903; Brimmer. 90 days, gigantic size, meaty, few seeds, no core. Reuter's 1961 catalog. Wood's 1959 catalog.
- PI 644882. *Solanum lycopersicum* L.
NSL 26905; Brucefield. Collected in United Kingdom. Cheyenne Hort. Field Sta. Notes.
- PI 644883. *Solanum lycopersicum* L.
NSL 26906; Buckbees New 50 Day. Cheyenne Hort. Field Sta. Notes.
- PI 644884. *Solanum lycopersicum* L.
NSL 26907; Buffalo. May Seed Co. 1946 catalog.
- PI 644885. *Solanum lycopersicum* L.
NSL 26909; Burbank. Oak Hill Nursery 1935 catalog.
- PI 644886. *Solanum lycopersicum* L.
NSL 26910; Caledonia. Collected in Scotland, United Kingdom. Cheyenne Hort. Field Sta. Notes.
- PI 644887. *Solanum lycopersicum* L.
NSL 26914; Champion Maine. Collected in Canada. Cheyenne Hort. Field Sta. Notes.

- PI 644888. *Solanum lycopersicum* L.
NSL 26916; Chemin Early Red. Cheyenne Hort. Field Sta. Notes.
- PI 644889. *Solanum lycopersicum* L.
NSL 26917; Chisholm Self-topper. Cheyenne Hort. Field Sta. Notes.
- PI 644890. *Solanum lycopersicum* L.
NSL 26920; Clairmont Beauty. Collected in United Kingdom. Cheyenne Hort. Field Sta. Notes.
- PI 644891. *Solanum lycopersicum* L.
NSL 26922; Cleveland Banner. Cheyenne Hort. Field Sta. Notes.
- PI 644892. *Solanum lycopersicum* L.
NSL 26923; Cluseed No. 99. J.L. Gluces & Blatchford (England) 1947 catalog.
- PI 644893. *Solanum lycopersicum* L.
NSL 26924; Columbia. I.N. Simon & Son 1935 catalog.
- PI 644894. *Solanum lycopersicum* L.
NSL 26926; Conqueror. Cheyenne Hort. Field Sta. Notes.
- PI 644895. *Solanum lycopersicum* L.
NSL 26928; Crackerjack. Collected in Argentina. H.F. Michell CO. 1931 catalog.
- PI 644896. *Solanum lycopersicum* L.
NSL 26936; Duke of York. Sutton & Sons (Eng) 1937 Catalog.
- PI 644897. *Solanum lycopersicum* L.
NSL 26938; Dukkers. Cheyenne Hort. Field Sta. Notes.
- PI 644898. *Solanum lycopersicum* L.
NSL 26947; Earliosa No. 6. Cheyenne Hort. Field Sta. Notes.
- PI 644899. *Solanum lycopersicum* L.
NSL 26952; Early Giant. Gurney's 1945 catalog.
- PI 644900. *Solanum lycopersicum* L.
NSL 26954; Early Jersey. Cheyenne Hort. Field Sta. Notes.
- PI 644901. *Solanum lycopersicum* L.
NSL 26956; Early Large Red. Sutton and Sons 1937 catalog.
- PI 644902. *Solanum lycopersicum* L.
NSL 26959; Early Mascot. Cheyenne Hort. Field Sta. Notes.
- PI 644903. *Solanum lycopersicum* L.
NSL 26960; Early Nieder. Collected in Switzerland. Cheyenne Hort. Field Sta. Notes.
- PI 644904. *Solanum lycopersicum* L.
NSL 26961; Early Paris Market. Cheyenne Hort. Field Sta. Notes.

- PI 644905. *Solanum lycopersicum* L.
NSL 26963; Early Red Perfecto. Cheyenne Hort. Field Sta. Notes -R. S. Griswold 1935 catalog.
- PI 644906. *Solanum lycopersicum* L.
NSL 26965; Early Ruby. Cheyenne Hort. Field Sta. Notes.
- PI 644907. *Solanum lycopersicum* L.
NSL 26966; Early Shipper. Cheyenne Hort. Field Sta. Notes.
- PI 644908. *Solanum lycopersicum* L.
NSL 26967; Early Winner. A. Yates (Australia) 1933 catalog.
- PI 644909. *Solanum lycopersicum* L.
NSL 26970; El Colono. Cheyenne Hort. Field Sta. Notes.
- PI 644910. *Solanum lycopersicum* L.
NSL 26971; Eldorado. Cheyenne Hort. Field Sta. Notes.
- PI 644911. *Solanum lycopersicum* L.
NSL 26972; Enormous. Cheyenne Hort. Field Sta. Notes.
- PI 644912. *Solanum lycopersicum* L.
NSL 26973; Erfurt Market. Collected in Germany. Cheyenne Hort. Field Sta. Notes.
- PI 644913. *Solanum lycopersicum* L.
NSL 26974; E S I. Cheyenne Hort. Field Sta. Notes -Norsk Fro 1937 catalog.
- PI 644914. *Solanum lycopersicum* L.
NSL 26975; Essex Wonder. Cheyenne Hort. Field Sta. Notes.
- PI 644915. *Solanum lycopersicum* L.
NSL 26976; Export. Cheyenne Hort. Field Sta. Notes.
- PI 644916. *Solanum lycopersicum* L.
NSL 26979; E Z Peeling Salad. Burnett Seedsmen 1942 catalog.
- PI 644917. *Solanum lycopersicum* L.
NSL 26980; Earliest Dobbie. Cheyenne Hort. Field Sta. Notes.
- PI 644918. *Solanum lycopersicum* L.
NSL 26981; Early Ficarazzi. Cheyenne Hort. Field Sta. Notes.
- PI 644919. *Solanum lycopersicum* L.
NSL 26982; Fillbasket. Cheyenne Hort. Field Sta. Notes.
- PI 644920. *Solanum lycopersicum* L.
NSL 26988; First of All. Cheyenne Hort. Field Sta. Notes -Condon Bros. 1934 catalog.
- PI 644921. *Solanum lycopersicum* L.
NSL 26989; Fletchers Special. Kilgore Seed Co. 1937 Catalog.
- PI 644922. *Solanum lycopersicum* L.
NSL 26991; Florida Special. Maule's 1932 catalog.

The following were donated by Oklahoma State University, Oklahoma Agr. Exp. Sta., Department of Agronomy, Stillwater, Oklahoma 74074, United States. Received 1969.

PI 644923. *Solanum lycopersicum* L.
NSL 27001; T036A.

PI 644924. *Solanum lycopersicum* L.
NSL 27002; T073A.

PI 644925. *Solanum lycopersicum* L.
NSL 27003; T083A.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1963.

PI 644926. *Solanum lycopersicum* L.
NSL 27004; Garden King. Cheyenne Hort. Field Sta. Notes.

PI 644927. *Solanum lycopersicum* L.
NSL 27006; Geoffrey Pearson. Cheyenne Hort. Field Sta. Notes.

PI 644928. *Solanum lycopersicum* L.
NSL 27007; Gilbertiana. Collected in Italy. Cheyenne Hort. Field Sta. Notes.

PI 644929. *Solanum lycopersicum* L.
NSL 27008; Globe Landreth. Livingston Seed Co. 1943 Catalog.

PI 644930. *Solanum lycopersicum* L.
NSL 27010; Glovel. Cheyenne Hort. Field Sta. Notes.

PI 644931. *Solanum lycopersicum* L.
NSL 27014; Golden Nugget. Sutton & Sons (eng) 1937 catalog.

PI 644932. *Solanum lycopersicum* L.
NSL 27016; Golden Sunrise. Collected in United Kingdom. Barr & Sons 1943 catalog (England).

PI 644933. *Solanum lycopersicum* L.
NSL 27017; Gonsenheim RD Red. Collected in Germany. Cheyenne Hort. Field Sta. Notes.

PI 644934. *Solanum lycopersicum* L.
NSL 27021; Grape. H. Field 1941 catalog.

PI 644935. *Solanum lycopersicum* L.
NSL 27022; Green Gage. Cheyenne Hort. Field Sta. Notes.

PI 644936. *Solanum lycopersicum* L.
NSL 27030; Hastings Everbearing Scar Globe. Cheyenne Hort. Field Sta. Notes.

- PI 644937. *Solanum lycopersicum* L.
NSL 27032; Helvetia. Cheyenne Hort. Field Sta. Notes.
- PI 644938. *Solanum lycopersicum* L.
NSL 27033; Herald. Cheyenne Hort. Field Sta. Notes.
- PI 644939. *Solanum lycopersicum* L.
NSL 27035; Heterosis. Mauthner's 1931 catalog (Hungarian).
- PI 644940. *Solanum lycopersicum* L.
NSL 27037; Holger Suhrs Market. Collected in Denmark. Cheyenne Hort. Field Sta. Notes.
- PI 644941. *Solanum lycopersicum* L.
NSL 27038; Hallawells Early. Hallawell Seed Co. 1944 catalog.
- PI 644942. *Solanum lycopersicum* L.
NSL 27046; Italian. Burgess Co. 1960 catalog.
- PI 644943. *Solanum lycopersicum* L.
NSL 27048; Japanese. Cheyenne Hort. Field Sta. Notes.
- PI 644944. *Solanum lycopersicum* L.
NSL 27050; Johannesfeuer. Cheyenne Hort. Field Sta. Notes.
- PI 644945. *Solanum lycopersicum* L.
NSL 27053; Johnsons Perfect. Collected in United Kingdom. Cheyenne Hort. Field Notes.
- PI 644946. *Solanum lycopersicum* L.
NSL 27056; Jumbo Wards. Cheyenne Hort. Field Sta. Notes.
- PI 644947. *Solanum lycopersicum* L.
NSL 27057; J W Craig. Collected in United Kingdom. Cheyenne Hort. Field Sta. Notes.
- PI 644948. *Solanum lycopersicum* L.
NSL 27059; Kanas Standard. Cheyenne Hort. Field Sta. Notes.
- PI 644949. *Solanum lycopersicum* L.
NSL 27060; Keystone State. Cheyenne Hort. Field Sta. Notes.
- PI 644950. *Solanum lycopersicum* L.
NSL 27063; Kolding. Cheyenne Hort. Field Sta. Notes.
- PI 644951. *Solanum lycopersicum* L.
NSL 27065; Kinigin d Fruhen. Altdofer's (Switz) 1947 catalog.
- PI 644952. *Solanum lycopersicum* L.
NSL 27070; The Landreth. Western Seed Co. 1944 catalog.
- PI 644953. *Solanum lycopersicum* L.
NSL 27072; Liebys Export. Collected in Denmark. Cheyenne Hort. Field Sta. Notes.
- PI 644954. *Solanum lycopersicum* L.
NSL 27075; Listers Protection. Cheyenne Hort. Field Sta. Notes.

- PI 644955. *Solanum lycopersicum* L.
NSL 27083; Luisina. Cheyenne Hort. Field Sta. Notes.
- PI 644956. *Solanum lycopersicum* L.
NSL 27084; Lukullus. Mauthner's (Hung) 1931 catalog. Cheyenne Hort.
Field Sta. Notes.
- PI 644957. *Solanum lycopersicum* L.
NSL 27085; Main Crop Pink. Livingston 1943 catalog.
- PI 644958. *Solanum lycopersicum* L.
NSL 27086; Manchester Rival. Collected in United Kingdom. Cheyenne
Hort. Field Sta. Notes.
- PI 644959. *Solanum lycopersicum* L.
NSL 27089; Marche d Malines Hative. Collected in Belgium. Cheyenne
Hort. Field Sta. Notes.
- PI 644960. *Solanum lycopersicum* L.
NSL 27091; Market Champion. Cheyenne Hort. Field Sta. Notes.
- PI 644961. *Solanum lycopersicum* L.
NSL 27095; Rouge de Marmande. Collected in France. Belot, Etienner &
Co. (Bel) 1947 catalog.
- PI 644962. *Solanum lycopersicum* L.
NSL 27096; Marshalls National. Cheyenne Hort. Field Sta. Notes.
- PI 644963. *Solanum lycopersicum* L.
NSL 27097; Marvanna. Cheyenne Hort. Field Sta. Notes.
- PI 644964. *Solanum lycopersicum* L.
NSL 27100; McGee. Cheyenne Hort. Field Sta. Notes.
- PI 644965. *Solanum lycopersicum* L.
NSL 27101; Mehrlichi. Cheyenne Hort. Field Sta. Notes.
- PI 644966. *Solanum lycopersicum* L.
NSL 27102; Michigan Red Wonder. Cheyenne Hort. Field Sta. Notes-
ISBELL'S & CO. 1934 CATALOG.
- PI 644967. *Solanum lycopersicum* L.
NSL 27105; Millets Dakota. Will's 1945 catalog. Cheyenne Hort. Field
Sta. Notes.
- PI 644968. *Solanum lycopersicum* L.
NSL 27106; inister Franqui. Cheyenne Hort. Field Sta. Notes.
- PI 644969. *Solanum lycopersicum* L.
NSL 27110; Myco I. Cheyenne Hort. Field Sta. Notes.
- PI 644970. *Solanum lycopersicum* L.
NSL 27111; My Maryland. Cheyenne Hort. Field Sta. Notes.
- PI 644971. *Solanum lycopersicum* L.
NSL 27112; Nebraska 242. Cheyenne Hort. Field Sta. Notes.

- PI 644972. *Solanum lycopersicum* L.
NSL 27113; Nebraska 1142. Cheyenne Hort. Field Sta. Notes.
- PI 644973. *Solanum lycopersicum* L.
NSL 27114; Nebraska 1242. Cheyenne Hort. Field Sta. Notes.
- PI 644974. *Solanum lycopersicum* L.
NSL 27118; New Smooth Ponderosa. Aggeler & Musser Seed Co. 1944 catalog
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- PI 644975. *Solanum lycopersicum* L.
NSL 27120; Niskie. Cheyenne Hort. Field Sta. Notes.
- PI 644976. *Solanum lycopersicum* L.
NSL 27121; Norfolk. Cheyenne Hort. Field Sta. Notes - TAIT 1934
CATALOG.
- PI 644977. *Solanum lycopersicum* L.
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- PI 645025. *Solanum lycopersicum* L.
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- PI 645026. *Solanum lycopersicum* L.
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- PI 645046. *Solanum lycopersicum* L.
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- PI 645048. *Solanum lycopersicum* L.
NSL 27262; White Queen. Earl May Seed Co. 1941 Catalog.
- PI 645049. *Solanum lycopersicum* L.
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- PI 645057. *Solanum lycopersicum* L.
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NSL 27293; Breck's Belmont. Cheyenne Hort. Field Sta. Notes.
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- PI 645065. *Solanum lycopersicum* L.
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- PI 645066. *Solanum lycopersicum* L.
NSL 27302; Clibrians Victory. Cheyenne Hort. Field Sta. Notes.
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NSL 27303; Curries Cream City. Currie Bros. Co. 1934 catalog.
- PI 645068. *Solanum lycopersicum* L.
NSL 27309; Delaware Beauty. Cheyenne Hort. Field Sta. Notes.
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- PI 645072. *Solanum lycopersicum* L.
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- PI 645073. *Solanum lycopersicum* L.
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- PI 645076. *Solanum lycopersicum* L.
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- PI 645078. *Solanum lycopersicum* L.
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- PI 645082. *Solanum lycopersicum* L.
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- PI 645083. *Solanum lycopersicum* L.
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- PI 645090. *Solanum lycopersicum* L.
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- PI 645091. *Solanum lycopersicum* L.
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- PI 645093. *Solanum lycopersicum* L.
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- PI 645095. *Solanum lycopersicum* L.**
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- PI 645096. *Solanum lycopersicum* L.**
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- PI 645097. *Solanum lycopersicum* L.**
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- PI 645129. *Solanum lycopersicum* L.
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- PI 645133. *Solanum lycopersicum* L.
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- PI 645138. *Solanum lycopersicum* L.
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- PI 645139. *Solanum lycopersicum* L.
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- PI 645140. *Solanum lycopersicum* L.
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- PI 645142. *Solanum lycopersicum* L.
NSL 27574; Wisdom. The Meyer Seed Co. 1934 Catalog.
- PI 645143. *Solanum lycopersicum* L.
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- PI 645144. *Solanum lycopersicum* L.
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- PI 645147. *Solanum lycopersicum* L.
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- PI 645149. *Solanum lycopersicum* L.
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- PI 645156. *Solanum lycopersicum* L.
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- PI 645157. *Solanum lycopersicum* L.
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- PI 645165. *Solanum lycopersicum* L.**
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- PI 645166. *Solanum lycopersicum* L.**
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- PI 645167. *Solanum lycopersicum* L.**
NSL 27644; Colonel Lindbergh. Collected in Belgium. Cheyenne Hort. Field Sta. Notes.
- PI 645168. *Solanum lycopersicum* L.**
NSL 27645; Dobbies Champion. Cheyenne Hort. Field Sta. Notes.
- PI 645169. *Solanum lycopersicum* L.**
NSL 27647; Palla d'oro. Cheyenne Hort. Field Sta. Notes.
- PI 645170. *Solanum lycopersicum* L.**
NSL 27652; Original Pomona. Cheyenne Hort. Field Sta. Notes.
- PI 645171. *Solanum lycopersicum* L.**
NSL 27653; MAULES SUCCESS. W.H. Maule's 1942 catalog.
- PI 645172. *Solanum lycopersicum* L.**
NSL 27655; AMERICAN BEAUTY. Vaughn's 1933 catalog.
- PI 645173. *Solanum lycopersicum* L.**
NSL 27657; MARVEL OF THE MARKET. Collected in France. Cheyenne Hort. Field Sta. Notes. Belot Etienne Co. (Bel) 1947 catalog.
- PI 645174. *Solanum lycopersicum* L.**
NSL 27955; FIASCHELLO. Cheyenne Hort. Field Sta. Notes.
- PI 645175. *Solanum lycopersicum* L.**
NSL 27956; Gelbfleischiger Paradeis. Cheyenne Hort. Field Sta. Notes.
- PI 645176. *Solanum lycopersicum* L.**
NSL 27959; ITALIAN LARGE RED PLUM. Henderson 1938 catalog.
- PI 645177. *Solanum lycopersicum* L.**
NSL 27962; IN MISCUGLIO. Cheyenne Hort. Field Sta. Notes.

The following were donated by Iowa Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa, United States. Received 1963.

- PI 645178. *Solanum lycopersicum* L.**
NSL 27967; ORANGE TREE. Performance rating from Iowa State University.
- PI 645179. *Solanum lycopersicum* L.**
NSL 27968; RED MINATURE. Performance rating from Iowa State University.

The following were donated by Purdue University, Purdue Univ. Agric. Exp. Station, West Lafayette, Indiana 47907, United States. Received 1963.

PI 645180. *Solanum lycopersicum* L.

NSL 28659; Bald Mountain. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1, 1959, p.74.

PI 645181. *Solanum lycopersicum* L.

NSL 28665; TEXTO NO 1. List of veg. var. "Committee on veg. breeding & var." Am'n. Soc. for Hort. Sc. August 1, 1959, p.86.

PI 645182. *Solanum lycopersicum* L.

NSL 28670; SHADY BUSH. From Purdue University, Dept. of Hort., Lafayette, Indiana.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1963.

PI 645183. *Solanum lycopersicum* L.

NSL 28701; WYOMING NO 1. Cheyenne Hort. Field Sta. Notes.

PI 645184. *Solanum lycopersicum* L.

NSL 28702; WYOMING NO 2. Cheyenne Hort. Field Sta. Notes.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1964.

PI 645185. *Solanum lycopersicum* L.

NSL 29904; VF 365. "Your Crops" Fall 1963.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1968.

PI 645186. *Solanum lycopersicum* L.

NSL 30859; SEPTEMBER DAWN. 85 days, fusarium & crack resistant late tomato, compact vines, smooth, well colored firm fruit, good size & yield. Harris Seeds Price List 1964, p.23 Harris corresp. 5/20/64.

The following were donated by Corneli Seed Company, 101 Chouteau Avenue, Saint Louis, Missouri 63102, United States. Received 1964.

PI 645187. *Solanum lycopersicum* L.

NSL 31413; NO 135. Deep, large round fruit, matures in 70-73 days, uniform color gene, crack resistant, large blossom end scar, very fibrous core, mainly adapted to canning. Corneli descr. - corresp. 4/13/64.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1964.

PI 645188. *Solanum lycopersicum* L.

NSL 31472; VFN 8. Large determinate, resistance to verticillium &

fusarium wilt and nematode, fruits are deep oblate to globe shape, medium large size, uniform ripening, firm, meaty, small blossom scar. Calif. Agricul. 18(3): 8-9, March 1964.

PI 645189. Solanum lycopersicum L.

NSL 31473; VF 13L. Mechanical harvesting type, verticillium & fusarium wilt resistant. Corresp. from Harrington 5/29/64 (See files) California Agriculture 18(3): 8-9, March 1964.

The following were donated by Reuter Seed Company, New Orleans, Louisiana, United States. Received 1964.

PI 645190. Solanum lycopersicum L.

NSL 32627; Louisiana Gulf State. 77 days, high yield, resists wilt, pink color, globe to slightly flat in shape, resistant to cracking. Reuter 1964 catalog, p.23.

The following were donated by Dessert Seed Co., Inc, P.O. Box 181, El Centro, California 92243, United States. Received 1964.

PI 645191. Solanum lycopersicum L.

NSL 32642; NILANDER. Mature in about 90 days, determinate type, set extremely heavy in both cold & hot weather, smooth globe shape. Seed World 5/22/64. Letter of 6/12/64 from Dessert Seed Company.

The following were donated by Twilley Seed Company, Otis, Maryland, United States. Received 1964.

PI 645192. Solanum lycopersicum L.

NSL 32660; STOKECROSS NO 5. F2 strain with amazing vigor, production increases up to 30% are not unusual, 10 days earlier than Rutgers, nearly crack free, 6 oz., globe shaped fruits. Twilley 1964 catalog, p.31.

PI 645193. Solanum lycopersicum L.

NSL 32661; Selected Rutgers. Cracks around the stem and shoulder have been eliminated, improvement in shape and solid, high yield. Twilley 1964 catalog, p.32.

PI 645194. Solanum lycopersicum L.

NSL 32663; FOREMOST F2. 72 days, enormous crops of large round, flavorful fruits with food interior quality, resistant to cracking and blossom end scars, indeterminate vines. Twilley 1964 catalog, p.32.

The following were donated by USDA, ARS, Clemson University, South Carolina Agr. Exp. Sta., Clemson, South Carolina, United States. Received 1964.

PI 645195. Solanum lycopersicum L.

NSL 32702; T 3585. Indeterminate, sprawling vine, medium size fruit, slightly rough, very uniform, high yielding, from Grand Rapids variety, good resistance to tip burn, attractive well frilled edges and high production. Descr. from U.S. VBL (see files).

The following were donated by Corneli Seed Company, 101 Chouteau Avenue, Saint Louis, Missouri 63102, United States. Received 1964.

PI 645196. *Solanum lycopersicum* L.

NSL 32710; Large Red Cherry. Corneli catalog, No. 15, p.114.

The following were donated by Reuter Seed Company, New Orleans, Louisiana, United States. Received 1964.

PI 645197. *Solanum lycopersicum* L.

NSL 32805; Giant Oxheart. Burgess 1960 catalog, p. 9 (as "Oxheart").

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1964.

PI 645198. *Solanum lycopersicum* L.

NSL 32838; Rutgers Select. Indeterminate, red fruits, adapted to East & Mid-west, medium maturity, medium fruit size, globe shaped, firm & smooth. "Rutgers" Peto Seed Co. 1962 catalog, p.30.

PI 645199. *Solanum lycopersicum* L.

NSL 32840; VF POLEPAK 78. Seed World December 27, 1963.

The following were donated by Corneli Seed Company, 101 Chouteau Avenue, Saint Louis, Missouri 63102, United States. Received 1964.

PI 645200. *Solanum lycopersicum* L.

NSL 33527; Rutgers 8828. Earlier than regular Rutgers, more productive, somewhat smoother and larger fruit. Letter Corneli Seed Co. 9/10/64 Corneli catalog 15, p.117.

The following were donated by West Virginia State University, West Virginia Agr. Exp. Sta., Morgantown, West Virginia 26505, United States. Received 1964.

PI 645201. *Solanum lycopersicum* L.

CENTENNIAL TOMATO; NSL 34022; West Virginia 63. Pedigree - Larry is giving information soon. Resistance to late blight, verticillium & fusarium wilt, vines are indeterminate, vigorous, fruits are medium to large, meaty, oblate to globe in shape, smooth, resist cracking. Gallegly, M.E. 1964. "West Virginia '63, A new home-garden tomato resistant to late blight." Science Serves Your Farm, West Va. Univ. AES Bul. 490, p.3,6,15-16.

The following were donated by Oklahoma State University, Oklahoma Agr. Exp. Sta., Department of Agronomy, Stillwater, Oklahoma 74074, United States. Received 1964.

PI 645202. *Solanum lycopersicum* L.

NSL 34024; Uniset. Seedsmen's Digest 6/24/64.

PI 645203. Solanum lycopersicum L.

NSL 34025; NEMARED. 70 days, root knot resistant, determinate growth, medium size fruits, deep red color, wilt resistant, sets fruits under adverse conditions. Otis S. Twilley cat. 1964 p.32.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 1964.

PI 645204. Solanum lycopersicum L.

NSL 34215; DELICIOUS. Burpee's descr. 11/19/64.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1964.

PI 645205. Solanum lycopersicum L.

NSL 34219; VF POLEPAK 64. California Pearson type carrying 100% resistance to fusarium & verticillium wilt. Large determinate plant, small fruit. Corresp. from Peto Seed Co. 11/20/64.

The following were donated by Seed Research Specialists, California, United States. Received 1964.

PI 645206. Solanum lycopersicum L.

NSL 34232; SRS 2. Correspondence from SRS 8/28/64.

PI 645207. Solanum lycopersicum L.

NSL 34244; HUNGARIAN KECSKEMETI. Dwarf determinate tree type, free setting character & quite early, fruits are small (2 oz or less) round, fairly soft tough skinned, relatively free of cracking, resistant to black mold, high in solids.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1966.

PI 645208. Solanum lycopersicum L.

NSL 34383; EarlyPak PS 9. An Earlypak type plant producing fruits larger than Earlypak No. 7 and maintaining large size throughout season. May be grown as a bush or poled.

PI 645209. Solanum lycopersicum L.

NSL 34390; Polepak VI. Fruit is large, deep oblate shape, firm. Vine is large, determinate and good cover. Deeper & smoother than A-1 imp., verticillium resistant, late maturity.

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1965.

PI 645210. Solanum lycopersicum L.

NSL 34583; Galaxy. 70 days, smooth, firm, round, bright red fruits, mild flavor resistance to verticillium wilt, fruit are somewhat larger than fireball, vines are bigger, determinate. Harris Seed Catalog 1966, p.37.

The following were donated by Farmers Seed and Nursery Company, Faribault, Minnesota, United States. Received 1965.

PI 645211. *Solanum lycopersicum* L.

NSL 34593; Early Fireball. Irradiating commercial Fireball seed. Resembles fireball ripens 4 to 5 days earlier, 20 % more early and total yield, Farmer 1965 catalog, p.24.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1965.

PI 645212. *Solanum lycopersicum* L.

NSL 34602; V EARLY PAK NO 7. Relatively early, plants are medium to large, determinate, fruit set is very heavy, similar to Early Pak 7, not quite nar: as deep, smooth, firm, small scars, highly resistant to verticillium wilt. Descr. from Research & Plant Breeding nar: Division, Ferry-Morse Release No. 2- 1/64.

The following were donated by University of Florida, Florida Agr. Exp. Sta., Department of Agronomy, Gainesville, Florida 32611, United States. Received 1965.

PI 645213. *Solanum lycopersicum* L.

NSL 34665; IMMOKALEE. Determinate, weight of fruits range from 5.9 oz (first) to 4.1 (fourth harvest), quite smooth, thick walls, firm, Field immunity to fusarium wilt, high resistance to gray leaf spot, moderate resistance to early blight. Univ. of Florida AES circular S-161, 1964.

PI 645214. *Solanum lycopersicum* L.

NSL 34666; FLORADEL. Univ. of Florida AES circular S-162, 1964.

The following were donated by H.G. Hastings Company, Atlanta, Georgia, United States. Received 1965.

PI 645215. *Solanum lycopersicum* L.

NSL 37017; Everbearing Scarlet Globe. Hastings' Spring 1964 catalog, p.24.

PI 645216. *Solanum lycopersicum* L.

NSL 37018; Extra Early Prolific. Hastings' Spring catalog 1964, p.25.

PI 645217. *Solanum lycopersicum* L.

NSL 37020; SCARLET DAWN. 75 days, Indeterminate, productive, fruits are bright scarlet, medium large, with thick walls, globe shaped, smooth. Asgrow catalog #19, 1957, p.88.

The following were donated by Rutgers University, New Jersey Agriculture Experiment Station, New Brunswick, New Jersey 08903, United States. Received 1965.

PI 645218. *Solanum lycopersicum* L.

J52-136; NSL 40232; ABBIE. Indeterminate, fruit slightly flattened, thick walled, large (6-8 oz.), smooth, crack free. See app. for more info.

The following were donated by Michigan State University, Michigan Agr. Exp. Sta., East Lansing, Michigan 48824, United States. Received 1968.

PI 645219. *Solanum lycopersicum* L.

NSL 40577; MOTO-RED. Indeterminate, few days later than Spartan Red 8, fruits are medium to large in size, deep globe shaped, 5-6 oz., resistant to tobacco mosaic virus & fusarium wilt. Reprint from Quarterly Bulletin, Mich. AES, Mich. Univ., Vol. 50, No.3, pp.285-287, February 1968.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1965.

PI 645220. *Solanum lycopersicum* L.

57136; NSL 40586; VF EARLYPAK. Resistant to verticillium and fusarium wilt, relatively early, high yielding, good size and quality. Asgrow "Your Crops" Vol. XI, No. 1, Fall 1963.

PI 645221. *Solanum lycopersicum* L.

57134; NSL 40587; SUPERMARKET. Resistant to gray leaf spot and fusarium wilt, earlier than Homestead, very smooth, uniform quality. Asgrow Farmer, Vol. 19, No. 1, March 1965, p.5.

PI 645222. *Solanum lycopersicum* L.

NSL 40588; ACE 55 (VF). The Asgrow Farmer Vol 19, No. 1, p.5.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1965.

PI 645223. *Solanum lycopersicum* L.

NSL 42769; V MARZANO P-4. Larger fruited Red Top 9 type, early medium maturity, medium large, determinate vine, small elongated shape, small fruit size, red color, resistance to verticillium. Ferry-Morse Seed Co. Vegetable Varieties, p.47, 1963.

The following were donated by Agriculture Canada, Plant Science Research Institute, Central Experiment Farm, Ottawa, Ontario, Canada. Received 1965.

PI 645224. *Solanum lycopersicum* L.

NSL 42829; OTTAWA 39. Determinate, heavy set, uniform ripening, moderately crack resistant, firm, 5 oz. to much larger, second early. Am'n. veg. Grower December 1962, p.14.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1966.

PI 645225. *Solanum lycopersicum* L.

NSL 42995; VF 145-21-4P. Matures 4 days later than VF145-F5, a week later than VF145-21-4, Similar to VF145-F5, fruit is slightly larger, uniformly small cores. Research Division, Ferry-Morse descr. (files). The American Vegetable Growers 12/65, p.22.

The following were donated by USDA, ARS Bureau of Plant Industry, Soils, and Agricultural Engineering, Div of Fruits & Veg. Crops and Diseases, Beltsville, Maryland 20705-2350, United States. Received 1966.

PI 645226. *Solanum lycopersicum* L.

NSL 43329; Enterpriser. USDA release descr. 11/4/65.

PI 645227. *Solanum lycopersicum* L.

NSL 43330; HARVESTER. Early, highly productive, crack resistant, small vined, resistant to fusarium & verticillium wilts. Determinate, mature 10 days to 2 weeks earlier than Roma. USDA release descr. 12/30/65.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1966.

PI 645228. *Solanum lycopersicum* L.

NSL 43331; HIGHLANDER. American Vegetable Grower 1/66, p.26. Burells 1971 cat., p65.

The following were donated by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 1966.

PI 645229. *Solanum lycopersicum* L.

M-73; NSL 43333; El Monte. Large determinate vine, highly resistant to fusarium wilt & gray leaf spot, semi-globe shaped, firm, dark red. Texas AES circ. L-692 10/66 "El Monte...".

PI 645230. *Solanum lycopersicum* L.

M-50; NSL 43334; La Pinta. Small determinate type plant, fruits are large, relatively crack resistant, firm, semi-globe shaped, pink color, highly resistant to fusarium wilt & gray leaf spot. Texas AES circ. L-691 10/66 "La Pinta...".

The following were donated by Utah State University, Utah Agric. Exp. Sta., Logan, Utah 84322, United States. Received 1966.

PI 645231. *Solanum lycopersicum* L.

NSL 43402; CVF 4. High resistance to curly top, verticillium & fusarium wilt, 3 oz. avg., similar to VR Moscow, good crack resistance, small core. USDA/ARS-Utah AES release descr. 1/4/66.

The following were donated by H.J. Heinz Company, Bowling Green, Ohio, United States. Received 1966.

PI 645232. *Solanum lycopersicum* L.
NSL 43508; HEINZ 1548. 80 days, medium flat to medium globe shape,
determinate, descr. from Heinz Co. (see files).

The following were donated by Utah State University, Utah Agric. Exp. Sta.,
Logan, Utah 84322, United States. Received 1966.

PI 645233. *Solanum lycopersicum* L.
DR H L BLOOD COL 487; NSL 43533; CANARY ISLAND 1. Dr. H.L. Blood
Collection No. 487. McKinney Doolittle 1931.

PI 645234. *Solanum lycopersicum* L.
DR H L BLOOD COL 490; NSL 43535; CANARY ISLAND 4. Dr. H.L. Blood
Collection No. 490. McKinney Doolittle 1931.

PI 645235. *Solanum lycopersicum* L.
DR H L BLOOD COL 279; NSL 43537; DWARF CANNER. Dr. H.L. Blood
Collection No. 279. I.W. Lesley, Citrus Expt. Sta. 1931.

PI 645236. *Solanum lycopersicum* L.
DR H L BLOOD COL 130; NSL 43541; DWARF GIANT. Dr. H.L. Blood Collection
No. 130. Haven Seed Co. 1931.

PI 645237. *Solanum lycopersicum* L.
DR H L BLOOD COL 482; NSL 43544; DANISH EXTRA EARLY. Collected in
Germany. Dr. H.L. Blood Collection No. 482. HM2 Heiner-Mette,
Quedlinburg 1931.

PI 645238. *Solanum lycopersicum* L.
445; NSL 43545; Every Day. Dr. H.L. Blood Collection No. 445. Carjeux
- le Clare & Cie 1931.

PI 645239. *Solanum lycopersicum* L.
NSL 43546; FIRST CROP. Collected in Germany. Dr. H.L. Blood Collection
No. 348. E.B. No. 7 4075 Germany 1931.

PI 645240. *Solanum lycopersicum* L.
DR H L BLOOD COL 358; NSL 43548; H AND S 6. Collected in United Kingdom.
Dr. H.L. Blood Collection No. 358. Hurst & Sons, England 1931.

PI 645241. *Solanum lycopersicum* L.
DR H L BLOOD COL 360; NSL 43549; H AND S 8. Collected in United Kingdom.
Dr. H.L. Blood Collection No. 360. Hurst & Sons, England 1931.

PI 645242. *Solanum lycopersicum* L.
NSL 43550; H AND S 9. Collected in United Kingdom. Dr. H.L. Blood
Collection No. 361. Hurst & Sons, England 1931.

PI 645243. *Solanum lycopersicum* L.
NSL 43551; J T D NO 47 3M. Dr. H.L. Blood Collection No. 202. Assco.
Seed Growers.

PI 645244. *Solanum lycopersicum* L.
DR H L BLOOD COL 691; NSL 43552; JITOMATO NO 30-87. Collected in Mexico.
Dr. H.L. Blood Collection No. 691. Oboegon-Ssanora Mexico S.M.
Winter 1934.

- PI 645245. *Solanum lycopersicum* L.**
DR H L BLOOD COL 661; NSL 43553; WILD JITOMATO SYLVESTRE. Collected in Mexico. Dr. H.L. Blood Collection No. 661. Mexico 573-Lesley 1932.
- PI 645246. *Solanum lycopersicum* L.**
DR H L BLOOD COL 385; NSL 43556; MAUTHNERS 1932. Dr. H.L. Blood Collection No. 385. EM2 Edmund Mauthner 1931.
- PI 645247. *Solanum lycopersicum* L.**
726; NSL 43560; Pick Sport 60. Dr. H.L. Blood Collection No. 726. May 1933 Alexander 1934.
- PI 645248. *Solanum lycopersicum* L.**
727; NSL 43561; Pick Sport 50. Dr. H.L. Blood Collection No. 727. May 20 Alexander 1934.
- PI 645249. *Solanum lycopersicum* L.**
422; NSL 43563; Princess of Wales. Dr. H.L. Blood Collection No. 422. S10 8026 Suttons 1931.
- PI 645250. *Solanum lycopersicum* L.**
DR H L BLOOD COL 352; NSL 43566; QUEEN OF THE PURPLES. Collected in Germany. Dr. H.L. Blood Collection No. 352. No. 13 4180 Germany 1931.
- PI 645251. *Solanum lycopersicum* L.**
DR H L BLOOD COL 447; NSL 43568; SCARLET CHAMPION. Dr. H.L. Blood Collection No. 447. CC5 caryeux - le Clare & Cie 1931.
- PI 645252. *Solanum lycopersicum* L.**
DR H L BLOOD COL 167; NSL 43569; SCARLET TOPPER. Dr. H.L. Blood Collection No. 167. No. B-31 Haven Seed Co. 1931.
- PI 645253. *Solanum lycopersicum* L.**
DR H L BLOOD COL 196; NSL 43570; CLARKS SPECIAL B. Dr. H.L. Blood Collection No. 196. L 412-1 Assoc. Seed Growers 1931.
- PI 645254. *Solanum lycopersicum* L.**
DR H L BLOOD COL 199; NSL 43571; CLARKS SPECIAL C. Dr. H.L. Blood Collection No. 199. T 585-I Assoc. Seed Growers 1931.
- PI 645255. *Solanum lycopersicum* L.**
DR H L BLOOD COL 448; NSL 43575; WHITE. Dr. H.l. Blood Collection No. 448. TFl tizeir, Freres 1931.

The following were developed by David H. Timothy, North Carolina State University, Raleigh, North Carolina, United States; Brent Godshalk, BASF Plant Science, LLC, 26 Davis Drive, Research Triangle Pk, North Carolina 27709, United States; Joe Burns, USDA-ARS, North Carolina State University, 1119 Williams Hall, Raleigh, North Carolina 27695, United States. Received 01/12/2007.

- PI 645256. *Panicum virgatum* L.**
Cultivar. Population. "BOMASTER". CV-248; REST 645256. Pedigree - BoMaster resulted from three cycles of selection. The original source population (Cycle 0) consisted of a selected group of 161 switchgrass

plants of the lowland form, representing 11 different germplasm sources. Three cycles of selection were conducted, selecting for forage yield. A total of eight Cycle 3 plants, selected on forage yield over initial growth and regrowth, were transplanted in a crossing block, with 16 replicates per plant. They were allowed to open-pollinate and the seed was harvested and bulked to constitute the cultivar BoMaster. BoMaster was selected for increased dry matter and cellulosic yields while holding nutritive value constant as measured by in vitro dry matter disappearance. BoMaster is a tall growing plant and yields from two locations averaged 15,773 lbs/Ac of dry matter and 11,854 lbs/Ac of cell wall. The cellulosic fraction averaged 34.2 % of dry matter. BoMaster is well adapted in the Southeast. It can be used as a livestock feed but also offers potential as a feed stock for the production of biofuel. No major pests have been observed on BoMaster, but limited acreage does not generally foster infestations.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1966.

PI 645257. *Solanum lycopersicum* L.

NSL 43578; VF 145-B8 SELECT. Small determinate, verticillium & fusarium wilt resistant, early maturity, fruit is uniform, small, deep globe, smooth, coreless. Peto descr. 1967 catalog.

PI 645258. *Solanum lycopersicum* L.

NSL 43580; VF 145-21-4S. Small determinate, verticillium & fusarium wilt resistant, early maturity, fruit is uniform, small, deep globe, smooth, coreless. Peto descr. 1967 catalog.

The following were donated by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 1966.

PI 645259. *Solanum lycopersicum* L.

TT135/STEP 449; NSL 43595; NEMATEX. Fruits are round, smooth, crack resistant, small blossom end scar, resistant to several species of root knot nematodes, fusarium wilt, gray leaf spot, alternaria collar rot, vines are determinate, very productive. Seed World, April 1968 "Nematex Tomato" Texas AES descr.

The following were donated by Clemson University, South Carolina Agric. Exp. Station, Clemson, South Carolina 29817, United States. Received 1966.

PI 645260. *Solanum lycopersicum* L.

NSL 43599; Early Market SC. Vigorous determinate, fruits are smooth, red, globe shaped, resistant to cracking, wilt resistance similar to Big Boy 10 days to 2 weeks earlier than Big Boy. South Carolina AES, circular 140, January 1966.

The following were donated by South Dakota State University, Dept. of Horticulture and Forestry, Brookings, South Dakota 57007, United States. Received 1966.

PI 645261. Solanum lycopersicum L.

NSL 44793; Bonanza. Semi-determinant, 65-68 days, high yields of marketable fruits, field resistance to wilt, fruits are medium to large (10 oz. avg.), solid, meaty, highly resistant to radial cracking, uniform ripening, red color. South Dakota AES Leaflet Series 1, February 1966.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1966.

PI 645262. Solanum lycopersicum L.

NSL 45074; HOMESTEAD ELITE. Adapted to South & Mexico, medium maturity, medium size, oblate to deep oblate shape, smooth, vine medium, determinate, resistant to fusarium wilt. Peto Seed cat. 1968, p.26.

PI 645263. Solanum lycopersicum L.

NSL 45075; VF 145 GUS. Western Adaptation, early maturity, small size, uniform, deep globe shape, vine small determinate, resistant to fusarium & verticillium wilt. Peto Seed Co. cat. 1967, p.26.

PI 645264. Solanum lycopersicum L.

NSL 45076; VF 145-78-79. Western adaptation, early maturity, small size, deep uniform globe shape, vine small determinate, resistant to fusarium & verticillium wilt. Peto Seed Co catalog 1967, p. 26.

PI 645265. Solanum lycopersicum L.

NSL 45078; OHIO WR 7. Adapted to greenhouses & No. East, medium maturity, deep oblate to globe shape, vine indeterminate, resistant to fusarium, race 1, blotchy ripening, fruit pox, pink fruited Peto Seed Co. catalog 1967, p.24.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1966.

PI 645266. Solanum lycopersicum L.

NSL 45611; G-17. Medium late, similar to Manapal. Asgrow Cat. No.20, p.95.

The following were donated by Auburn University, Alabama Agr. Exp. Sta., Auburn, Alabama, United States. Received 1966.

PI 645267. Solanum lycopersicum L.

NSL 52497; ATKINSON. Rootknot nematode & fusarium wilt resistant, .3 to .5 lb. avg deep oblate shape, firm meaty, small core. resistant to early blight, probably to gray leaf spot & septoria leaf spot. Leaflet 73 November 1966, Auburn AES, Alabama.

The following were donated by University of Arkansas, Arkansas Agr. Exp. Sta., Fayetteville, Arkansas 72701, United States. Received 1967.

PI 645268. Solanum lycopersicum L.

NSL 52612; Pope. High resistance to fusarium wilt, olive shaped, high resistance to cracking. "Pope...A Tomato for Pickling" Joe McFerran &

M.J. Goode, reprint from Vol. XV, No.5 (September-October 1966) of Arkansas Farm Research.

The following were donated by H.J. Heinz Company, Bowling Green, Ohio, United States. Received 1967.

PI 645269. *Solanum lycopersicum* L.

NSL 52901; HEINZ 14451 V F. Resembles ROma VF, high yields. Descr. from Heinz Co.

PI 645270. *Solanum lycopersicum* L.

NSL 52902; E S 58 (FST). Resistant to stemphylium, tendency to develop a stylar sinus under certain conditions. Descr. from Heinz Co.

PI 645271. *Solanum lycopersicum* L.

NSL 52903; HEINZ 14456 V F. Crack resistance has been almost perfect to perfect, fruits are firm, moderate in size, intermediate in shape. Descr. from Heinz Co.

PI 645272. *Solanum lycopersicum* L.

NSL 52904; HEINZ 15489. Sister line to H. 1548 (F), mature one week later, better crack resistance & firmness. Descr. from Heinz Co.

PI 645273. *Solanum lycopersicum* L.

NSL 52905; HEINZ 1630. Similar to 1350(VF) , earlier, better cracking resistance, fruit is generally, smaller, resistant to fusarium and verticillium wilt, & stemphylium. Descr. from Heinz Co.

The following were donated by Twilley Seed Company, Otis, Maryland, United States. Received 1967.

PI 645274. *Solanum lycopersicum* L.

NSL 53076; MECHANICAL HARVESTER. 80-85 days, heavy yielder, resistant to verticillium and fusarium wilt, fruit is deep red, round, medium size, very little sunscald or cracking. Twilley's 1967 catalog, p.35.

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1967.

PI 645275. *Solanum lycopersicum* L.

NSL 53101; 850 BOUNCER. Eastern mechanical harvest, heavy yields of firm, fairly large, round to plum shaped fruit. Harris Descr. (on package) 1967.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1967.

PI 645276. *Solanum lycopersicum* L.

NSL 53697; ES-58. Adapted to the North & East, medium late maturity, medium size, deep oblate, firm, smooth, meaty, vine is medium size, resistant to fusarium wilt & stemphylium, and to cracking Peto Seed Co. catalog, p.22, 1968.

- PI 645277. *Solanum lycopersicum* L.**
NSL 53699; MARZANO P-4. Western adaptation, medium maturity, pear shaped, long, straight, smooth, vine is large, determinate, resistant to verticillium wilt. Peto Seed Co. catalog, p.24, 1968.
- PI 645278. *Solanum lycopersicum* L.**
NSL 53700; OHIO WR 25. Greenhouse adapted, medium maturity, deep oblate to globe shape, smooth, indeterminate, resistance to fusarium, race 1 blotchy ripening, fruit pox, cracking, pink fruited. Peto Seed Co. catalog, p.24, 1968.
- PI 645279. *Solanum lycopersicum* L.**
NSL 53701; OHIO WR 29. Greenhouse adapted, medium maturity, deep oblate to globe shape, smooth, indeterminate, resistance to fusarium, race 1 blotchy ripening, fruit pox, cracking, pink fruited.
- PI 645280. *Solanum lycopersicum* L.**
NSL 53703; Paste 56. Peto 1967 catalog.
- PI 645281. *Solanum lycopersicum* L.**
NSL 53704; Pearson A-1 Improved. Western adaptation, late maturity, fruit is medium large, deep oblate, firm, vine is medium large, determinate, resistant to verticillium wilt. Peto Seed Co. cat. p.24,1967.
- PI 645282. *Solanum lycopersicum* L.**
NSL 53705; Pearson A-1 Select. Western adaptation, late maturity, fruit is medium size, deep oblate, firm, vine is medium large, determinate, resistant to verticillium wilt. Peto Seed Co. cat. p.24,1967.
- PI 645283. *Solanum lycopersicum* L.**
NSL 53706; Pioneer. Resistant to leaf mold, medium large, globe shape, red fruit indeterminate, resistant to fusarium, forcing type. Peto Seed Co. catalog, p.24, 1967.
- PI 645284. *Solanum lycopersicum* L.**
NSL 53708; Y-52. Western adaptation, medium early maturity, fruit is medium small, elongated, smooth sides, vine is small, determinate. Peto Seed Company Catalog, p.26,1968.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1967.

- PI 645285. *Solanum lycopersicum* L.**
NSL 53728; M H V F 145-F5. American Vegetable Grower, Dec. 1966. description from Ferry-Morse Seed Co.

The following were donated by Seed Research Specialists, California, United States. Received 1967.

- PI 645286. *Solanum lycopersicum* L.**
NSL 54007; VF 145-B-1. Determinate, four days earlier than other 145B types, deep globe shape. Descr. in corr. from SRS 2/15/67.

PI 645287. *Solanum lycopersicum* L.

NSL 54025; VF EARLY PAK 909. SRS Vegetable Variety Guide 1967, p.101.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1968.

PI 645288. *Solanum lycopersicum* L.

NSL 65821; Early VF 39. Small determinate, resistant to verticillium & fusarium wilt fruit is small, deep globe shaped, smooth, coreless, ripens uniformly & one week to 10 days earlier than VF145-21-4. Amer. Veg. Grower, 12/67. Peto Seed Co. descr.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1968.

PI 645289. *Solanum lycopersicum* L.

NSL 65839; EarlyPak 707. More uniform, deeper fruited Earlypak, high yields. Amer. Veg. Grower, 12/67.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1968.

PI 645290. *Solanum lycopersicum* L.

NSL 65840; MECH 9. Adapted to the West, medium early, small size, deep round shape, smooth, plants are small & determinate, fusarium & verticillium wilt resistant. Peto Seed Co 1968 cat. suppl.

PI 645291. *Solanum lycopersicum* L.

NSL 65841; HEINZ 6201. Adapted to the North & East, early maturity, medium size, deep oblate shape, firm, plant is compact & determinate, fusarium resistant. Peto Seed Co. 1968 catalog supplement.

PI 645292. *Solanum lycopersicum* L.

NSL 65848; VF 145-B 7879. Peto Seed Co. 1967 catalog.

PI 645293. *Solanum lycopersicum* L.

NSL 65849; VF 198-68. Elongated fruit, compact, determinate vine. Adapted to west, medium maturity, medium size, round shape, smooth, firm, verticillium & fusarium wilt resistant. Peto 1967 cat.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1968.

PI 645294. *Solanum lycopersicum* L.

NSL 67030; VF 428-F2. Ferry-Morse 1968 catalog.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 05/21/1968.

PI 645295. *Solanum lycopersicum* L.

NSL 67348; MECHEAST 13. Peto Seed Co. descr.

- PI 645296. *Solanum lycopersicum* L.**
NSL 67349; MECHEAST 22. Adapted to Midwest & East, medium maturity, medium half-long firm, vine is compact determinate, verticillium & fusarium wilt resistant. Peto 1968 Hybrid & Standard Intro. suppl.
- PI 645297. *Solanum lycopersicum* L.**
NSL 67351; MECHEAST 55. Adapted to Midwest & East, medium maturity, medium half-long firm, vine is determinate, verticillium & fusarium wilt resistant. Peto 1968 Hybrid & Standard Intro. suppl.
- PI 645298. *Solanum lycopersicum* L.**
NSL 67352; MECHEAST 61. Adapted to the Midwest & East, medium maturity, medium small size, deep globe shaped, firm, vine is determinate, slightly larger than cherry size. Peto 1968 Hybrid & Standard Intro supplement.
- PI 645299. *Solanum lycopersicum* L.**
NSL 67353; MECHEAST 1324. Peto Seed Co. Desc.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1968.

- PI 645300. *Solanum lycopersicum* L.**
NSL 67807; JENKINS LINE NO 170. Strain 170 - 19th generation d,r,y,c,a,l.
- PI 645301. *Solanum lycopersicum* L.**
NSL 67808; JENKINS LINE NO 171. Strain 171 - I dld1; Vff jj ef ef; VII HH; VIII a2a2; IX d2d2; X wt wt (a,f,g,l,f,w,t,H,l,m) 23rd generation.
- PI 645302. *Solanum lycopersicum* L.**
NSL 67809; JENKINS LINE NO 234. Strain 234-20 generation d,c,l,u,H,dm. I d,d; IV cc; VI ll; CII uu.HH; IX d2d2 "Dwarf-Dwarf modifier" line.
- PI 645303. *Solanum lycopersicum* L.**
NSL 67810; JENKINS LINE NO 284. Strain 284 - 23rd generation.
- PI 645304. *Solanum lycopersicum* L.**
NSL 67811; JENKINS LINE NO 378. Strain 378 "Dwarf" (d,p,o,s,bk,r.) I. d-p-o-s.-; II.r; VF.
- PI 645305. *Solanum lycopersicum* L.**
NSL 67812; JENKINS LINE NO 837. Strain 837-8th generation "Potato".
- PI 645306. *Solanum lycopersicum* L.**
NSL 67813; JENKINS LINE NO 523. Strain 523-20 generation.
- PI 645307. *Solanum lycopersicum* L.**
NSL 67814; JENKINS LINE NO 1130. Strain 1130, 4th generation "cerasiform", 2 locules, st. obl.
- PI 645308. *Solanum lycopersicum* L.**
NSL 67816; JENKINS LINE NO 1596. 1596-"Curl" - Cu reference strain.

- PI 645309. *Solanum lycopersicum* var. *cerasiforme*** (Alef.) Fosberg
NSL 67817; JENKINS LINE NO 1134. strain 1134--2 locules, sl. obl.
'cerasiforme'.
- PI 645310. *Solanum lycopersicum* var. *cerasiforme*** (Alef.) Fosberg
NSL 67818; JENKINS LINE NO 1142. Strain 1134 -- 2 locules; sl. obl.;
'cerasiforme'; 4 generation.
- PI 645311. *Solanum lycopersicum* var. *cerasiforme*** (Alef.) Fosberg
NSL 67819; JENKINS LINE NO 1174. strain 1174 -- 4 generation; 'large
cerasiforme'; oblate; 3 locules.
- PI 645312. *Solanum lycopersicum* var. *cerasiforme*** (Alef.) Fosberg
NSL 67820; JENKINS LINE NO 1324. strain 1324-2 locues, cerasiforme
JENKINS GENETIC COLLECTION.
- PI 645313. *Solanum lycopersicum* var. *cerasiforme*** (Alef.) Fosberg
NSL 67821; JENKINS LINE NO 1325. Strain 1325--2 loculed cerasiforme.
- PI 645314. *Solanum lycopersicum* var. *cerasiforme*** (Alef.) Fosberg
NSL 67822; JENKINS LINE NO 1478. Strain 1478- cerasiforme -- rr.

The following were donated by University of Florida, Florida Agr. Exp. Sta.,
Department of Agronomy, Gainesville, Florida 32611, United States. Received
1968.

- PI 645315. *Solanum lycopersicum* L.**
NSL 67866; TROPI-GRO. High yielder, fruit is larger than Homestead 24 &
Tropi-Red, smooth, deep globe shaped, firm, resistant verticillium and
fusarium wilt and gray leafspot. Univ. of Fla. AES circ. S-183, Oct.
1967.

The following were donated by South Dakota State University, Dept. of
Horticulture and Forestry, Brookings, South Dakota 57007, United States.
Received 1968.

- PI 645316. *Solanum lycopersicum* L.**
ID NO 64-Y-241-3; NSL 67868; Bellarina. Determinate, high yielder, pear
shaped fruits, thick flesh, little or no juice, very mild flavor.
Descr. from Paul Prasher, South Dakota St. Univ. (see application &
files).

The following were donated by University of Hawaii, Hawaiian Agricultural
Experiment Station, Honolulu, Hawaii, United States. Received 1968.

- PI 645317. *Solanum lycopersicum* L.**
NSL 67869; MAUI. Corres. from J.C. Gilbert 7/10/68 (see files).
- PI 645318. *Solanum lycopersicum* L.**
NSL 67870; Kauai. Determinate, uniform ripening, resistant to radial
cracking, moderately suseptible to concetric cracking under some
conditions, heavy yielding, resistant to *Stemphylium solani*, spotted
wilt virus, fuarium wilt, Corres. from J.C. Gilber, Dept. of Hort.,
Univ. of Hawaii 7/10/68 (see files).

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1968.

PI 645319. *Solanum lycopersicum* L.

NSL 67874; NEW YORKER. Slightly earlier than Fireball, resistant to verticillium & late blight (race 0), small determinate vine, medium sized fruit, moderately firm. New York Farm Res. Jan.-Mar. 1967 corresp. form Harris 7/8/68 (see files).

The following were donated by New York State Agricultural Experiment Station, Geneva, New York 14456-0462, United States. Received 1968.

PI 645320. *Solanum lycopersicum* L.

NSL 67876; MARITIMER. Similar to New Yorker, fruit is larger, more susceptible to cracking, resistant to verticillium wilt & late blight (race 0). Veg. Improvement Newsletter, No. 10, 1968 "Release of Maritimer Tomato", R.W. Robinson, N.Y. State AES, Geneva.

PI 645321. *Solanum lycopersicum* L.

NSL 67877; Geneva 790. New York Farm Research, Jan.-March 1967. (see files- under syn. of New Yorker.).

The following were donated by H.G. Hastings Company, Atlanta, Georgia, United States. Received 1968.

PI 645322. *Solanum lycopersicum* L.

NSL 67886; DIXIE GOLDEN GIANT. 81-85 days, small fruits, greenhouse type, oblate shape, yellow color, indeterminate, low acid, sets at high & low temps. Hastings Seed Co., Okla. 8/68 Resist. to: fusarium, cracking, blossom end rot, grey leaf necrosis: rot, vertic. wilt, late blt, lf mold, nail hd rust, stem. wilt, col. rot, alternaria, curly top, spotted wilt, ea. blt, root knot, spot. wilt vir., etc. Adapted to Mechan. harvesting.

The following were donated by Seed Research Specialists, California, United States. Received 1968.

PI 645323. *Solanum lycopersicum* L.

NSL 67889; VF 145-B-1-2. List of New Veg. Var. XV, Amer. Soc. Hort. Sci. Proc.

The following were donated by Colorado State University, Colorado Agric. Exp. Station, Fort Collins, Colorado 80523, United States. Received 1968.

PI 645324. *Solanum lycopersicum* L.

NSL 67938; RED CUSHION. New Veg. Var. List XV, Proc. of the Amer. Soc. for Hort. Sci.

The following were donated by University of Hawaii, Hawaiian Agricultural Experiment Station, Honolulu, Hawaii, United States. Received 1968.

PI 645325. *Solanum lycopersicum* L.

NSL 67942; HEALANI. Adapted to tropical & subtropical areas, prolific, fruit is smooth, medium size, uniform ripening, good flavor, resistant to root knot nematodes, fusarium wilt, *Stemphylium solani*, spotted wilt virus, field tolerant to tobacco mosaic determinate vine type. Corres. from J.C Gilbert, Hort. Dept, Univ. of Hawaii, Honolulu 9/4/68 (see files).

PI 645326. *Solanum lycopersicum* L.

NSL 67943; Puuniu. Adapted to tropical & sub-tropical areas, prolific, fruit is smooth, medium size, uniform ripening, good flavor. resistant to root knot nematodes, fusarium wilt, *Stemphylium solani*, spotted wilt virus, field tolerant to tobacco mosaic determinate vine type. Corres. from J.C. Gilbert, Hort. Dept., Univ. of Hawaii, Honolulu 9/4/68 (see files).

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1968.

PI 645327. *Solanum lycopersicum* L.

NSL 67996; VF 99. Resistant to *Verticillium* & *Fusarium* wilts, slightly earlier than VF 145, fruits are deep globe shaped, have uniform color gene, slightly smaller than VF 145. Release from Dept. of Veg. Crops, Univ. of Calif. (see files) Seed World 1/12/68.

PI 645328. *Solanum lycopersicum* L.

NSL 67997; VF 100. Resistant to *verticillium* & *fusarium*, slightly earlier than VF 145, fruits are deep globe shaped, have uniform color gene, slightly smaller than VF 145. Release from Dept. of Veg. Crops, Univ. of Calif. (see files). Seed World 1/12/68.

The following were donated by Farmers Seed and Nursery Company, Faribault, Minnesota, United States. Received 1969.

PI 645329. *Solanum lycopersicum* L.

NSL 68272; Giant Beauty. Big tomatoes of uniform color, ripen early, vines are compact & determinate, very productive. Farmer's 1968 catalog p.24.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1969.

PI 645330. *Solanum lycopersicum* L.

NSL 68276; VF NAPOLI. Medium to medium early, medium to compact plant, fruits are small pear, slightly smaller than VF Roma, *verticillium* & *fusarium* wilt resistance. Ferry-Morse Res & Plant Breeding Div. 7/12/68 (See Files).

PI 645331. *Solanum lycopersicum* L.

NSL 68279; VF 145-513. Uniform ripening, similar to VF 145-F5, very high yielder, resistant to *verticillium* & *fusarium* wilts. descr. from Ferry-Morse Res. & Plant Breeding Div. 7/12/68 (see files).

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1969.

PI 645332. *Solanum lycopersicum* L.

NSL 68305; CR 1324. Determinate, resistant to verticillium & fusarium wilts, fruits are elongated, very firm, uniform ripening, good crack resistance. Descr. from Peto (see files).

PI 645333. *Solanum lycopersicum* L.

NSL 68306; VF 198-69. Compact, resistant to verticillium & fusarium wilts, fruits are medium sized, slightly elongated, very firm & meaty, uniform ripening, slightly later than VF-145. Descr. from Peto (see files).

The following were donated by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 1969.

PI 645334. *Solanum lycopersicum* L.

NSL 68313; TAMU CHICO III. Small determinate, fruit is pear shaped, highly resistant to fusarium wilt and gray leaf spot, sets fruit at higher temps. Tamu Chico III descr. sheet (see files).

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1969.

PI 645335. *Solanum lycopersicum* L.

NSL 69726; VFN BUSH. Good resistance to verticillium & fusarium wilts and root knot nematodes, fruit is deep globe shaped, smooth shoulders excellent uniformity of size. Seed World 1/24/69.

The following were donated by USDA, ARS, Plant Science Research Division, Beltsville, Maryland 20705, United States. Received 1969.

PI 645336. *Solanum lycopersicum* L.

NSL 69939; Parker. Early, highly productive, crack resistant, resistant to fusarium & verticillium wilts, small compact determinate vine, fruits are very smooth, uniform in size. USDA ARS release 6/17/68 (see files). Seed World Oct. 25, 1968, p.19.

The following were donated by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 1969.

PI 645337. *Solanum lycopersicum* L.

NSL 70356; TAMU MONTE GRANDE. Determinate, deep semi-globe shape, firm, smooth, highly resistant to fusarium wilt & gray leaf spot. Report of Seed Policy & Release Comm. (see files) Texas A&M Univ. AES leaflet L-829, May 1969 "TAMU Monte Grande".

The following were donated by R. Portor, Campbell Soup Company, Camden, New Jersey, United States. Received 1969.

PI 645338. Solanum lycopersicum L.

NSL 70357; CAMPBELL 17. Determinate, fruit is deep oblate, large to medium size, u g uniform gene ripening type, resistant to cracking, fusarium & verticillium wilt resistant, tolerant of stemphylium leafspot. Campbell Soup Co. descr. (see files).

The following were donated by A.L. Castle Inc, P.O. Box 877, Morgan Hill, California 95037, United States. Received 1969.

PI 645339. Solanum lycopersicum L.

NSL 70358; CASTLEMECH 9. Number one is acreage and production in calif., early maturity, fruit are 2.25-2.5 in. diameter, verticillium & fusarium resistant. Letter from Castle 4/18/69 (see files) Seed World 1/24/69.

The following were donated by USDA, ARS, Florida Agric. Exp. Station, Gainesville, Florida, United States. Received 1969.

PI 645340. Solanum lycopersicum L.

NSL 71005; WALTER. Fruit size are similar to Homestead, crack resistance, smooth, deep globe shape, plants are determinate, resistant to gray leafspot, fusarium wilt (race 1 & 2). Univ. of Fla., circ. S-202, Nov. 1969, "Walter A Determinate Tomato Resistant to Races 1 & 2 of the Fusarium Wilt Pathogen".

The following were donated by University of New Hampshire, Agricultural Experiment Station, Durham, New Hampshire, United States. Received 1969.

PI 645341. Solanum lycopersicum L.

NSL 72174; SUNSET. Moderately early, determinate, somewhat later than Fireball, moderately crack resistant, should not be grown in verticillium infested areas. Notice of Release, Tomato Cultivar "Sunset" (see files).

The following were donated by Delaware Agric. Exp. Station, Newark, Delaware, United States. Received 1969.

PI 645342. Solanum lycopersicum L.

NSL 72175; DIAMOND STATE. Univ. of Delaware AES Bul. 378, April 1969 "The Diamond State Tomato".

The following were donated by New York State Agricultural Experiment Station, Geneva, New York 14456-0462, United States. Received 1969.

PI 645343. Solanum lycopersicum L.

NSL 73124; Early Cherry. Veg. Imprv. Newsletter 2/1/69.

The following were donated by South Carolina Crop Imp, South Carolina, United States. Received 1970.

PI 645344. *Solanum lycopersicum* L.

NSL 73135; SUNBURST. Determinate, fruits are larger than Homestead, matures as early as Homestead, resistance to cracking, gray leafspot, fusarium wilt (race 1), early blight, tolerance to root-knot nematode. HortSci. veg. list XVI. Seed World 3/14/67,p.24.

The following were donated by Washington State University, Agricultural Exp. Stat., Pullman, Washington, United States. Received 1969.

PI 645345. *Solanum lycopersicum* L.

NSL 73217; C-5 BREEDING LINE. Curly top resistance, demonstrated earliness, fruit set, concentration of ripening that is superior to any commonly available commercial varieties, fruits are about 2 oz., good crack resistance, orange external color, susceptible to fruit rot. USDA, Utah AES, & Washington St. Univ. release descr. (see files).

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1969.

PI 645346. *Solanum lycopersicum* L.

NSL 73221; FIREBIRD V F. Plants are large & semi-determinate, high resistance to fusarium & verticillium wilts, fruits are large, firm, deep globe shape, very thick walls, about 10 days later than Ace Descr. from Ferry-Morse Res. & Plt. Breeding Div.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1969.

PI 645347. *Solanum lycopersicum* L.

NSL 73241; HOMESTEAD 240. Vine is medium large determinate, fruit is medium large, deep oblate shape, firm, selected for slightly larger fruit size than Homestead 24. Descr. from Peto Seed Co.

PI 645348. *Solanum lycopersicum* L.

NSL 73243; VF 145-560. Vine is compact and determinate, resistant to verticillium & fusarium wilts, fruit is medium small, deep globe shape, smooth, uniform ripening, firm. Descr. from Peto Seed Co.

PI 645349. *Solanum lycopersicum* L.

NSL 73244; Early Rede Cherry. Vine is compact determinate, fruit is medium small oval. Descr. from Peto Seed Co.

PI 645350. *Solanum lycopersicum* L.

NSL 73245; VF 10. Vine is compact determinate, resistant to verticillium & fusarium wilts, fruit is medium small, deep globe shape, smooth, firm, extremely productive. Descr. from Peto Seed Co.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1970.

PI 645351. *Solanum lycopersicum* L.

NSL 73986; Pickmaster VF. Seed World 1/9/70, p.20 Plants are compact, fruits are medium sized, uniform, deep red color, deep globe shaped,

resistant to verticillium & fusarium wilt. Descr. from Ferry-Morse Res. & Plt. Breeding Div. 7/12/68.

The following were donated by FMC Corporation, Agricultural Chemical Division, P.O. Box 3091, Modesto, California 95353, United States. Received 1970.

PI 645352. *Solanum lycopersicum* L.

NSL 74005; NC 317. Letter from Stedjee, 2/6/70 (see files).

The following were donated by South Dakota State University, Dept. of Horticulture and Forestry, Brookings, South Dakota 57007, United States. Received 1970.

PI 645353. *Solanum lycopersicum* L.

NSL 74175; RUSHMORE 61-Y-233-1. Plant is semi determinate, matures in about 65-67 days, fruit is medium to large, flattened, red, uniform ripening, solid, meaty, good resistance to cracking, moderate resistance to several foliage diseases, field immune to fusarium (race 1) & verticillium wilt. Descr. from S.D. St. Univ.

PI 645354. *Solanum lycopersicum* L.

NSL 74176; RUSHMORE 67-Y-S-V-R. Descr. from S.D. St. Univ. (see files).

The following were donated by A.L. Castle Inc, P.O. Box 877, Morgan Hill, California 95037, United States. Received 1970.

PI 645355. *Solanum lycopersicum* L.

NSL 74323; CALMART. Midseason, determinate type, matures a few day later than Earlypak 7 in spring, few day earlier in fall, fruits are globular, very firm, smooth, resistant to fusarium & verticillium wilt and the root-knot nematode. Seed World.

PI 645356. *Solanum lycopersicum* L.

NSL 74324; M-10-10-35. Elongated slicer variety, determinate vine, good color, verticillium & nematode resistant. Seed World.

PI 645357. *Solanum lycopersicum* L.

NSL 74325; Pakmor. Early maturing, medium small determinate vine, fruits are large, deep flat shape, resistant to fusarium & verticillium wilts. Seed World.

The following were donated by Michigan State University, Michigan Agr. Exp. Sta., East Lansing, Michigan 48824, United States. Received 1970.

PI 645358. *Solanum lycopersicum* L.

NSL 74340; RAPIDS. Vine is indeterminate, maturity is 7-10 days earlier than "Michigan-Ohio", fruits are medium to large in size, deep globe shape, 4-5 oz., uniform ripening, firm, resistant to tobacco mosaic virus, fusarium wilt race 1. Release from Michigan AES 1/14/70 (see files), Research Report 126, January 1971, Michigan St. Univ, AES.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1970.

PI 645359. *Solanum lycopersicum* L.

NSL 74345; VF 65. Vine is medium large compact determinate, resistant to verticillium & fusarium wilts. fruits are elongated sausage type, 3.5 -4.5 in. long, 1.5 -2 in. in diameter, smooth, uniform ripening, very firm thick walls. Descr. from Peto.

The following were donated by Agriculture Canada, Vineland Horticultural Experiment Station, Vineland, Ontario, Canada. Received 1970.

PI 645360. *Solanum lycopersicum* L.

NSL 75750; VEECROP. Good fruit size, ability to set fruits in cool conditions, resistant to verticillium, matures between Fireball & Heinz 1350, superior in smoothness & crack resistance. Reprint from Hort. Res. Inst. of Ontario, "Veecrop - New Early Tomato" 1967, E.A. Kerr.

PI 645361. *Solanum lycopersicum* L.

NSL 75752; VENDOR. Fruits are red, resistant to cracking, smooth, medium large, narr: tolerant to blotch, resistant to tobacco mosaic virus. Reprint from Hort. research Institute of Ontario, 1967 report, "Vendor, A Greenhouse...", J.K. Meuhmer & E.A. Kerr.

PI 645362. *Solanum lycopersicum* L.

NSL 75754; VIVID. Reprint descr. from Kerr (see files).

The following were donated by Ohio State University, Ohio Agric. Exp. Station, Columbus, Ohio, United States. Received 1971.

PI 645363. *Solanum lycopersicum* L.

NSL 78370; OHIO MR-9. Resistance to all five Ohio strains of tobacco mosaic virus, fruit is globose, thick walled, medium firm, 4 to 7 oz, resistant to fusarium wilt, fruit cracking, fruit pox, tolerant to high manganese in the soil. Reprint from Ohio Report 55, (2):32-35, March-April 1970.

PI 645364. *Solanum lycopersicum* L.

NSL 78371; OHIO MR-12. Resistance to all five Ohio strains of the tobacco mosaic virus, fruit is globose, thick walled, medium firm, 4 to 7 oz., resistant to fusarium wilt, fruit cracking, fruit pox, tolerant to high manganese in the soil. Reprint from Ohio Report 55, (2):32-35, March-April 1970.

The following were donated by University of California, California Agr. Exp. Sta., Davis, California 95616, United States. Received 1968.

PI 645365. *Solanum lycopersicum* L.

NSL 78603; JENKINS LINE NO 1528. Background information unavailable.

The following were donated by Michigan State University, Michigan Agr. Exp. Sta., East Lansing, Michigan 48824, United States. Received 1971.

PI 645366. *Solanum lycopersicum* L.

NSL 78636; DROPLET. Determinate, fruit size is about 1 by 1.5 in., second early to mid-season maturity, solid, crack resistant, shaped like a drop of water, verticillium resistant. Michigan AES Notice of release (see files).

The following were donated by Agway Seed Co., P.O. Box 1333, Syracuse, New York 13201, United States. Received 1971.

PI 645367. *Solanum lycopersicum* L.

B547; NSL 80286; Gardener 67. 63 days, verticillium resistant, indeterminate, fruit is round, firm, resistant to cracking. Agway 1971 Vegetable & Flower Seed catalog.

The following were donated by University of Arkansas, Arkansas Agr. Exp. Sta., Fayetteville, Arkansas 72701, United States. Received 1971.

PI 645368. *Solanum lycopersicum* L.

NSL 80287; TRAVELER. Arkansas Farm Research XIX (6).

The following were donated by North Carolina State University, North Carolina Agr. Exp. Sta., Raleigh, North Carolina, United States. Received 1971.

PI 645369. *Solanum lycopersicum* L.

NSL 80327; SATURN.

PI 645370. *Solanum lycopersicum* L.

NSL 80328; VENUS. Fruits are smooth, moderately resistant to radial cracking, midseason to late maturity, slightly oblate, plants are indeterminate, resistant to southern bacterial wilt, fusarium wilt. N.C. St. Univ. AES Bul. 444, July 1972 Seedsmen's Digest July 1971. Reprint of Winter/Spring 1971 issue of Research & Farming 29(3-4):10 (see files).

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1971.

PI 645371. *Solanum lycopersicum* L.

NSL 80341; CAMPBELL 28. Adapted to humid areas, medium early maturity, medium size, oblate shape, smooth, firm, plant is compact & determinate, fusarium resistant, some crack resistance. Peto Seed Co 1971 catalog, p.32.

PI 645372. *Solanum lycopersicum* L.

NSL 80342; CAL-ACE. (Cal-Ace TM) medium maturity, large size, deep oblate shape, smooth, firm, plant is strong & determinate, verticillium & fusarium wilt resistant. Peto Seed Co. 1971 catalog, p.32.

PI 645373. *Solanum lycopersicum* L.

NSL 80343; HOMESTEAD 500. Adapted to Humid areas, medium maturity, medium size, deep oblate shape, firm, plant is medium large, and determinate. Peto Seed Co. 1971 catalog p.32.

The following were donated by New York State Agricultural Experiment Station, Geneva, New York 14456-0462, United States. Received 1972.

PI 645374. *Solanum lycopersicum* L.

NSL 81082; Nova. Resistance to verticillium & fusarium wilt and late blight (race 0). relatively early. New York's Food & Life Sciences Quarterly, Vol.4, No. 283, April-Sept. 1971, p.12.

The following were donated by Delaware Agric. Exp. Station, Newark, Delaware, United States. Received 1973.

PI 645375. *Solanum lycopersicum* L.

NSL 83162; STAKELESS. Potato type leaves, resistant to fusarium wilt, tolerant to early blight, fruits are large (5 to 8 oz.), firm, crack resistant. Release Notice Univ. of Delaware, Feb. 8, 1972 Univ. of Delaware AES Bul. 389, May 1972.

The following were donated by Utah State University, Utah Agric. Exp. Sta., Logan, Utah 84322, United States. Received 1966.

PI 645376. *Solanum lycopersicum* L.

101; NSL 84614; Burmese. Collected in Myanmar. Dr. H.L. Blood Collection No. 101, Burma 1930.

The following were donated by University of Missouri, Missouri Agr. Exp Sta., Columbia, Missouri 65201, United States. Received 1974.

PI 645377. *Solanum lycopersicum* L.

NSL 84932; Line 76-1-60-8. Indeterminate, uniform ripening, 7-8 oz., deep oblate shape, thick-walled, high resistance to radial cracking, somewhat less tolerance to concentric cracking. Univ. of Missouri-Columbia AES Res. Bul. 979, Feb. 1971, "Origin and Release of Crack Resistant Tomato Line 76-1-60-8" V.N. Lambeth.

PI 645378. *Solanum lycopersicum* L.

NSL 84933; Pink Savor. Fruits are pink-skinned, plum shaped, vine is vigorous and indeterminate, field immune to fusarium, tolerance to common leaf blights. Univ. of Missouri-Columbia AES Res. Bul. 1003 Dec. 1973, "Origin & Release of Pink Savor Salad Tomato", Victor N. Lambeth.

The following were donated by FMC Corporation, Agricultural Chemical Division, P.O. Box 3091, Modesto, California 95353, United States. Received 1974.

PI 645379. *Solanum lycopersicum* L.

NSL 84938; NIAGARA VF-315. Letter from W.H. Weinheimer 1/74.

PI 645380. *Solanum lycopersicum* L.

NSL 84939; NIAGARA VF-317. Letter from W.H. Weinheimer 1/74.

PI 645381. *Solanum lycopersicum* L.

NSL 84940; VISTA PAK. Letter from H.W. Weinher 1/74.

PI 645382. *Solanum lycopersicum* L.

NSL 84941; Pearpack. Letter from W.H. Weinheimer 1/74.

PI 645383. *Solanum lycopersicum* L.

NSL 84942; NIAGARA VF-316. Letter from W.H. Weinheimer 1/74.

The following were donated by North Dakota State University, North Dakota Agricultural Exp. Sta., Fargo, North Dakota 58105, United States. Received 1975.

PI 645384. *Solanum lycopersicum* L.

NSL 90758; Lark. Further background information unavailable.

PI 645385. *Solanum lycopersicum* L.

NSL 90759; CANNONBALL. Further background information unavailable.

The following were donated by Agway Seed Co., P.O. Box 1333, Syracuse, New York 13201, United States. Received 1976.

PI 645386. *Solanum lycopersicum* L.

NSL 92012; Little Dandy. 65 days, fruit averages 1.24 - 1.5 in. diameter, vines are indeterminate, extremely productive, high degree of wilt resistance.. Agway 1971 Vegetable & Flower Seed catalog,p.29.

The following were donated by Agric. Alumni Seed Improvement Assoc., Inc., P.O. Box 158, Romney, Indiana 47981, United States. Received 1976.

PI 645387. *Solanum lycopersicum* L.

Lot 3AC9D; NSL 92322; Redbush. HortScience 6(2) April 1971 No further background information available.

PI 645388. *Solanum lycopersicum* L.

Lot 4AD9D; NSL 92324; Dwarf Italian. HortScience 6(2) April 1971 No further background information available.

The following were donated by USDA, ARS, University of Nevada, Reno, Nevada 89557, United States. Received 1977.

PI 645389. *Solanum lycopersicum* L.

NSL 92634; H 2990. Determinate, medium large size, fruit matures in mid-season fruits are smooth, deep round to oblate. USDA ARS & Heinz U.S.A. release. Resistance to *Corynebacterium michiganense* (bacterial canker), *Verticillium albo-atrum* and *Fusarium oxysporum* f. *lycopersici* Race 1. V. Vigorous growth usually taller than other var. of same age. Med. hvy fol. w/similar habit of Earliana. Gd clr flesh, many cells, walls med thick.

PI 645390. *Solanum lycopersicum* L.

NSL 92635; CMVF 232. Moderately resistant to bacterial canker, highly resistant to *verticillium* & *fusarium* (race 1) wilts, vines are determinant, small to medium in size, fruits are smooth, deep oblate to round. Derived from F(subscript 4) selections made in the field (C

heyenne). Fruit has med-grn shoulders and ripens to an orange-red external color. Should not be considered for comm'l prod. but only as a source of germplasm.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1977.

PI 645391. *Solanum lycopersicum* L.

PC735156-Stock No.; NSL 95240; Florida MH-1. Adapted for mechanical harvest, resistant or tolerant to fusarium (race 1 & 2) & verticillium wilt, gray leaf spot, leaf mold, early blight, gray wall, tobacco mosaic virus, blossom end rot, cat face, and cracking, plants medium sized fruits medium sized, full to deep globe, thick walls, medium maturity. Asgrow 1977 catalog #22.

PI 645392. *Solanum lycopersicum* L.

STOCK NO-PC76297; NSL 95241; VF 270. Determinate, compact, resistant to fusarium (race 1) and verticillium wilts, fruits medium small in size, nearly oblong, medium maturity. Asgrow 1977 catalog # 22 No further background information available.

The following were donated by University of Hawaii, Hawaiian Agricultural Experiment Station, Honolulu, Hawaii, United States. Received 1978.

PI 645393. *Solanum lycopersicum* L.

NSL 98686; Lanai. Background information unavailable.

The following were donated by Oregon State University, Oregon Agriculture Experiment Station, Corvallis, Oregon 97331, United States. Received 1979.

PI 645394. *Solanum lycopersicum* L.

NSL 101197; WILLAMETTE. Vine is determinate, medium small, fruit is medium large, unusually smooth, has uniform color gene, globe to deep globe shape, medium to good firmness, resistance to cracking (concent.) fairly good. Good resist. to radial cracking. Med. sprawling; foliage cover med. to good under high fert. Fruit are med. large. Unusually smooth; uniform color gene; solidity, flavor, interior color good. Some tend. to nipplg.

PI 645395. *Solanum lycopersicum* L.

NSL 101198; MEDFORD. Vine is determinate, fruits is medium to large size, has uniform color gene, globe to slight flattened shape, medium firm, med. mat. Med. vigor. More upright than Williamette. nar: Fol. cvr good under hi fert.; frt med. to lg, maint. size well thru-out seas. Variable for smoothness; uniform color gene; globe to slight flat; med. lg size; med. lg stem end & and blos. end scars; med firm; intnl clr, flvr, good taste.

The following were donated by K. Kmiecik, J. W. Jung Seed Company, Randolph, Wisconsin 53956, United States. Received 1979.

PI 645396. *Solanum lycopersicum* L.

NSL 103815; 456 EPOCH. Background information unavailable.

- PI 645397. *Solanum lycopersicum* L.**
NSL 103816; G 463 Jungs Sugar Lump. Background information unavailable.
- PI 645398. *Solanum lycopersicum* L.**
NSL 103817; 466 JUNGS IMPROVED WAYAHEAD. Background information unavailable.
- PI 645399. *Solanum lycopersicum* L.**
NSL 103818; Earliest Tree Tomato. Background information unavailable.
- PI 645400. *Solanum lycopersicum* L.**
NSL 103820; 454 URBANA. Background information unavailable. GIANT EVERBEARING.

The following were donated by Arvid A. Boe, Dept of Plant & Soil Sciences, University of Idaho, Moscow, Idaho 83843, United States. Received 1980.

- PI 645401. *Solanum lycopersicum* L.**
NSL 106701; Gem State. Further background information unavailable.
- PI 645402. *Solanum lycopersicum* L.**
NSL 106702; SANTA. Further background information unavailable.
- PI 645403. *Solanum lycopersicum* L.**
NSL 106703; Latah. Ultra-early, semi-determinate, fruits are dark red, 4 -6 cm in diam. reprinted from HortScience, Vol.13(2), April 1978 p. 198-199. Has sparse foliage. Ea. frt cluster contains 10- 15 fruit which ripen over a period of 20-30 days. The fruit have good flavor for fresh use or for home processing. Adapted to cool, short growing seasons. They may be of value as very early or wntr cultivars in warm areas.
- PI 645404. *Solanum lycopersicum* L.**
NSL 106705; SANDPOINT. Ultra-early, compact, determinate, smooth fruit, resistant or tolerant to curly top virus. HortScience 13(2):200, 1978 Has concen. fruit set. The plant has a dwarf growth habit and coarse dark green foliage. The plant averages 25 cm tall with a dk red, smooth and 4-6 cm in diam. Ea. plant yields many which ripen over a 20-30 days period. Suited for use in salads and home processing. Resist/tol. to curly top virus.
- PI 645405. *Solanum lycopersicum* L.**
NSL 106706; Kootenai. Ultra-early, semi-compact, determinate. HortScience 13(2): 200, 1978. Developed w/Sandpoint as ultra-early cultivars for use in areas with short or cool growing seasons. Of val. also as very early cult. in wm smr areas. Has good foliage & concentrated fruit set. The plant has coarse stems and large thick leaves. The internodes are short. Plant averages 30 cm tall with a spread of 40 cm. Gd for home proc. and salads.
- PI 645406. *Solanum lycopersicum* L.**
NSL 106707; SHOSHONE. Background information unavailable.

The following were donated by S. Z. Berry, Ohio State University, Department of Horticulture, Ohio Agric. Research & Development, Wooster, Ohio 44691, United States. Received 1980.

PI 645407. *Solanum lycopersicum* L.

NSL 110257; OHIO 736. Vines are small to medium size & determinate, fruits are about 3 oz., globe shaped, uniform ripening, resistant to fusarium(race 1), high field tolerance to verticillium, good resistance to cracking. HortScience 12(2):169, 1977 "Ohio 736 Tomato", S.Z. Berry & W.A. Gould Good resist. to radial and concentric fruit cracking combined w/firmness & good holding abil. permit long field stor.

PI 645408. *Solanum lycopersicum* L.

NSL 110258; OHIO 7663. Vines are medium size, compact & determinate, resistant to fusarium (race 1), tolerance to verticillium, resistance to cracking. Reprint from Ohio Report, 64(2):22-23 March-April 1979, S.Z. Berry & W.A. Gould. HortScience 14(4):550-551 1979, "Ohio 7663 Tomato" S.Z. Berry & W.A. Gould Is an early-main season tom. w/canning qlty espec. suitable for coreless whole-pack. Suitable acid, vit. C, & other char.

The following were donated by Shigemi Honma, Michigan State Univ., Dept. of Horticulture, Plant and Soil Sciences Building, East Lansing, Michigan 48824-1325, United States. Received 1980.

PI 645409. *Solanum lycopersicum* L.

NSL 112935; MINI-SPARTAN. Determinate, fruits are .75 to 1.25 in. diameter, crack resistant. Research Report 399, Michigan St. Univ. AES July 1980 (26.56) Cult. is jointless, highly productive, tolerant to Verticillium and Fusarium wilts. Suited for fresh market, home garden, and for hanging baskets. The firm tough skin, concentrated set, unif. of ripen. & sm. vine permit mach. harv.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1985.

PI 645410. *Solanum lycopersicum* L.

NSL 193979; ACME, DE GIORGI BROTHERS. Background information unavailable.

PI 645411. *Solanum lycopersicum* L.

NSL 193981; SCARLET GLOBE 1 1-7. Background information unavailable.

PI 645412. *Solanum lycopersicum* L.

NSL 193982; A 5619 V.R. MOSCOW TOMATO. Background information unavailable.

PI 645413. *Solanum lycopersicum* L.

NSL 193984; SUMMERSET STOCK H, TS NO 23732. Background information unavailable.

PI 645414. *Solanum lycopersicum* L.

NSL 193985; HUNDRED PERCENT. Background information unavailable.

- PI 645415. *Solanum lycopersicum* L.**
NSL 193986; Peerless. Background information unavailable.
- PI 645416. *Solanum lycopersicum* L.**
NSL 193987; A124 THE GRUNEY. Background information unavailable.
- PI 645417. *Solanum lycopersicum* L.**
NSL 193988; A4315 IMPROVED PINK HEART. Background information unavailable.
- PI 645418. *Solanum lycopersicum* L.**
NSL 193989; HL BLOOD'S #156, RED REACH. Background information unavailable.
- PI 645419. *Solanum lycopersicum* L.**
NSL 193991; Livingston's Main Crop Pink. Background information unavailable.
- PI 645420. *Solanum lycopersicum* L.**
NSL 193993; Livingston's Oxheart 2816. Background information unavailable.
- PI 645421. *Solanum lycopersicum* L.**
NSL 193994; MAULS EARLIEST OF ALL FIELD 43. Background information unavailable.
- PI 645422. *Solanum lycopersicum* L.**
NSL 193995; 033 TOMATO-ANTIBES 58. Background information unavailable.
- PI 645423. *Solanum lycopersicum* L.**
P.A. Young T161-3; NSL 193996; Yellow Flower Marglobe T161-3.
Background information unavailable.
- PI 645424. *Solanum lycopersicum* L.**
NSL 193997; Livingston's Marvelous (Marhio). Background information unavailable.
- PI 645425. *Solanum lycopersicum* L.**
NSL 193998; 3-13-50/A5043/BEN REIMERS 52. Background information unavailable.
- PI 645426. *Solanum lycopersicum* L.**
NSL 193999; HL BLOODS #662, OJO DE VENADO. Background information unavailable.
- PI 645427. *Solanum lycopersicum* L.**
NSL 194002; Grand Rapids Forcing. Background information unavailable.
- PI 645428. *Solanum lycopersicum* L.**
NSL 194003; CHINAMAN. Background information unavailable.

The following were donated by James R. Baggett, Oregon State University, Department of Horticulture, Cordley Hall 2042, Corvallis, Oregon 97331-2911, United States. Received 1987.

PI 645429. *Solanum lycopersicum* L.
NSL 209695; Gold Nugget. Plant is highly determinate, 12 to 14 days earlier than 'Small Fry', spherical to ovate, smooth, 2.5 to 3.5 cm diam. HortScience 13(5):598, 1978. HortScience 17(6):984-985, 1982 HortScience 20(5):957-958, 1985 Ea. plant may bear 600-1,000 frt. Flavor is sweet but slight acidic flavor. Frt is soft w/ med. tender skin. Susceptible narr: to late blight, *Phytophthora infestans* (Mont.) DeBy.

PI 645430. *Solanum lycopersicum* L.
NSL 209696; Oregon Cherry. Plant is highly determinate, about 12 to 14 days earlier than 'Small Fry', fruit is spherical to slightly ovate, smooth, 2.5 to 3.5 cm diam. and weigh 11 to 15 g. Immature fruit have grn shoulders and ripe fruit are bright red. Parthenocarpic fruit are solid. Cracking tendency is average. Flavor is medium acid and slightly sweet. Very fruitful, mod. low and spreading, & typ. 1 m across. Has two locules.

PI 645431. *Solanum lycopersicum* L.
NSL 209697; Oregon II. Plant is determinate, about 60 days, early maturity, fruits are globose, 3.5 - 4 cm in diam. weigh about 31 grams, and have 3-4 locules. Flavor good w/slight sweetness & moderate acidity. Color is bright red with little tendency to fade, even though they are exposed by the open plant habit. Skins are tough, and the fruits sometimes crack. The plant is spreading (1 m across), prostrate, and quite open.

The following were donated by USDA, ARS, Colorado Agric. Exp. Station, Fort Collins, Colorado, United States. Received 1987.

PI 645432. *Solanum lycopersicum* L.
NSL 219057; ALBINO. Background information unavailable.

PI 645433. *Solanum lycopersicum* L.
NSL 219059; DENMARK-54. Background information unavailable.

PI 645434. *Solanum lycopersicum* L.
NSL 219060; DONS 9-37. Background information unavailable.

PI 645435. *Solanum lycopersicum* L.
NSL 219063; Landreth. Background information unavailable.

PI 645436. *Solanum lycopersicum* L.
NSL 219064; Landreth 1. Background information unavailable.

PI 645437. *Solanum lycopersicum* L.
NSL 219065; Landreth 2. Background information unavailable.

PI 645438. *Solanum lycopersicum* L.
NSL 219066; Landreth 3. Background information unavailable.

PI 645439. *Solanum lycopersicum* L.
NSL 219067; Landreth 4. Background information unavailable.

PI 645440. *Solanum lycopersicum* L.
NSL 219068; Le Floralou. Background information unavailable.

- PI 645441. *Solanum lycopersicum* L.**
NSL 219070; Lloyd 1 1-14. Background information unavailable.
- PI 645442. *Solanum lycopersicum* L.**
NSL 219071; Lloyd 2 2-4. Background information unavailable.
- PI 645443. *Solanum lycopersicum* L.**
NSL 219072; STICKY FRUIT P.A. YOUNG T158-3. Background information unavailable.
- PI 645444. *Solanum lycopersicum* L.**
NSL 219074; TOMATO CHINAMAN FIELD. Background information unavailable.
- PI 645445. *Solanum lycopersicum* L.**
NSL 219075; WHITE FLOWER MARGE. Background information unavailable.
- PI 645446. *Solanum lycopersicum* L.**
NSL 219076; WOOLY MCARTHUR 6A181-53. Background information unavailable.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States. Received 1988.

- PI 645447. *Solanum lycopersicum* L.**
NSL 230622; Bounty 4N #2. No further background information available.
- PI 645448. *Solanum lycopersicum* L.**
NSL 230624; P2 Shortstyle #2. Further background information unavailable.
- PI 645449. *Solanum lycopersicum* L.**
NSL 230627; SCOTTS 10-36. Further background information unavailable.
- PI 645450. *Solanum lycopersicum* L.**
NSL 230628; SCOTTS 14-9. Further background information unavailable.
- PI 645451. *Solanum lycopersicum* L.**
NSL 230629; SCOTTS 43 462 3. Further background information unavailable.
- PI 645452. *Solanum lycopersicum* L.**
NSL 246105; SCOTTS 1420.
- PI 645453. *Solanum lycopersicum* L.**
NSL 247225; ROYAL PURPLE. No further background information available.

The following were donated by Plant Variety Protection Office, NAL BUILDING, ROOM 500, Beltsville, Maryland 20705-2351, United States. Received 03/1999.

- PI 645454. *Solanum lycopersicum* L.**
P-46-2 MSA; NSL 400127.

The following were developed by R.S. Malhotra, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; M. El Bouhssini, International Center for Agricultural Res. in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Joubi, International Center for Agricultural Res. in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 01/22/2007.

PI 645455. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-1C. GP-264. Pedigree - ILC 3805/ILC 3397. The selected leaf miner resistant progenies in F5 with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction, while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were made among these parents to develop improved genetic stocks resistant to leaf miner. The F2 populations were grown in leaf miner nursery in the field at ICARDA's main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-1C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 3, with seed yield of 1407 kg/ha, and 100-seed weight of 34 g. Has compound leaves, FLIP 2005-1C possesses medium size leaflets (Normal).

PI 645456. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-2C. GP-265. Pedigree - ILC 3805/ILC 5309. The selected leaf miner resistant progenies in F5 with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction, while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were made among these parents to develop improved genetic stocks resistant to leaf miner. The F2 populations were grown in leaf miner nursery in the field at ICARDA's main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-3C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 3, with seed yield of 2045 kg/ha, and 100-seed weight of 21 g. Has compound leaves. FLIP 2005-2C has small leaflets (Intermediate). FLIP 2005-2C is highest yielding of 7 lines selected..

PI 645457. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-3C. GP-266. Pedigree - ILC 5901/ILC 3397. The selected leaf miner resistant progenies in F5 with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction, while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were

made among these parents to develop improved genetic stocks resistant to leaf miner. The F₂ populations were grown in leaf miner nursery in the field at ICARDA s main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-3C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 2, with seed yield of 1446 kg/ha, and 100-seed weight of 33.8 g. Has compound leaves. FLIP 2005-3C has very narrow leaflets (very small).

PI 645458. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-4C. GP-267. Pedigree - ILC 5901/ILC 3397. The selected leaf miner resistant progenies in F₅ with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction, while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were made among these parents to develop improved genetic stocks resistant to leaf miner. The F₂ populations were grown in leaf miner nursery in the field at ICARDA s main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-4C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 2, with seed yield of 1076 kg/ha, and 100-seed weight of 33.2 g. Has compound leaves. F LIP 2005-4C has small leaflets (Intermediate).

PI 645459. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-5C. GP-268. Pedigree - ILC 5901/ILC 3397. The selected leaf miner resistant progenies in F₅ with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction, while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were made among these parents to develop improved genetic stocks resistant to leaf miner. The F₂ populations were grown in leaf miner nursery in the field at ICARDA s main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-5C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 3, with seed yield of 1406 kg/ha, and 100-seed weight of 32.2 g. Has compound leaves. FLIP 2005-5C has very narrow leaflets (very small).

PI 645460. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-6C. GP-269. Pedigree - ILC 5901/ILC 5301. The selected leaf miner resistant progenies in F₅ with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction,

while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were made among these parents to develop improved genetic stocks resistant to leaf miner. The F₂ populations were grown in leaf miner nursery in the field at ICARDA's main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-6C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 3, with seed yield of 1939 kg/ha, and 100-seed weight of 25.4 g. Has compound leaves. FLIP 2005-6C has small leaflets (Intermediate). FLIP 2005-6C is highest yielding of 7 lines selected..

PI 645461. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-7C. GP-270. Pedigree - ILC 3397/ILC 5309. The selected leaf miner resistant progenies in F₅ with superior agronomic traits and kabuli type were selected and bulked. Four parental lines, ILC 5901, ILC 3805, ILC 5309, and ILC 3397 were used to develop genetic stocks resistant to leaf miner (*Liriomyza cicerina*). Two parents, ILC 5901 and ILC 3805 were resistant to leaf miner reaction, while the parent ILC 5309 exhibited moderately susceptible reaction and ILC 3397 was susceptible. Five crosses ILC 3805/ILC 3397, ILC 3805/ILC 5309, ILC 5901/ILC 3397, ILC 5901/ILC 5301 and ILC 3397/ILC 5309 were made among these parents to develop improved genetic stocks resistant to leaf miner. The F₂ populations were grown in leaf miner nursery in the field at ICARDA's main research site at Tel Hadya. The pedigree method was followed for selection of superior plants and progenies. FLIP 2005-7C with leaf miner resistance was selected and bulked for its good agronomic traits. Exhibited leaf miner reaction (on 1 to 9 scale, where 1=no damage, 9 = highly infested with leaf miner of 4 with seed yield of 1353 kg/ha, and 100-seed weight of 45 g. Has compound leaves. FLIP 2005-7C possesses medium size leaflets (Normal).

The following were developed by K. B. Singh, Int. Center For Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; M. C. Saxena, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; M. Di Vito, Istituto di Nematologia Agraria, C.N.R., Bari, Apulia 70126, Italy; N. Greco, Istituto di Nematologia Agraria, C.N.R., Bari, Apulia 70126, Italy; R.S. Malhotra, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; S. Hajjar, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria.
Received 01/27/2007.

PI 645462. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-8C. GP-273. Pedigree - FLIP 2005-8C and FLIP 2005-9C, were developed from a backcross of ILWC 292/ILC 482 with ILC 482 made at ICARDA, Aleppo, Syria following a pedigree method of selection. The parent, ILWC 292, belongs to the annual wild species, *C. reticulatum* and is resistant to Cyst nematode while the other parent, ILC 482 is widely adaptable Kabuli type and is highly susceptible. Selection continued till F₉ when two lines with resistance to Cyst nematode and uniform in agronomic behavior were selected and were accessed as FLIP 2005-8C and FLIP 2005-9C. Cyst nematode resistant lines, of Kabuli seed type (white flower and beige seed color). FLIP 2005-8C gave on an average 944 kg/ha seed yield under normal conditions

and 1037 kg/ha under sick plot, with 24 g 100-seed weight, and it took 66 days to flower and 98 days to mature with plant height of 32 cm.

PI 645463. *Cicer arietinum* L.

Breeding. Pureline. FLIP 2005-9C. GP-274. Pedigree - FLIP 2005-8C and FLIP 2005-9C, were developed from a backcross of ILWC 292/ILC 482 with ILC 482 made at ICARDA, Aleppo, Syria following a pedigree method of selection. The parent, ILWC 292, belongs to the annual wild species, *C. reticulatum* and is resistant to Cyst nematode while the other parent, ILC 482 is widely adaptable Kabuli type and is highly susceptible. Selection continued till F9 when two lines with resistance to Cyst nematode and uniform in agronomic behavior were selected and were accessed as FLIP 2005-8C and FLIP 2005-9C. Cyst nematode resistant lines, are of Kabuli seed type (white flower and beige seed color). FLIP 2005-9C gave on an average 773 kg/ha seed yield under normal conditions and 445 kg/ha under sick plot, with 28 g 100-seed weight, and it took 71 days to flower and 103 days to mature with plant height of 23 cm.

The following were developed by North Dakota State University Research Foundation, North Dakota, United States. Received 01/18/2007.

PI 645464 PVPO. *Glycine max* (L.) Merr.
Cultivar. "RG600RR". PVP 200700054.

PI 645465 PVPO. *Glycine max* (L.) Merr.
Cultivar. "RG607RR". PVP 200700055.

PI 645466 PVPO. *Glycine max* (L.) Merr.
Cultivar. "RG604RR". PVP 200700056.

PI 645467 PVPO. *Glycine max* (L.) Merr.
Cultivar. "RG603RR". PVP 200700057.

PI 645468 PVPO. *Glycine max* (L.) Merr.
Cultivar. "RG601NRR". PVP 200700058.

PI 645469. *Glycine max* (L.) Merr.
Cultivar. "RG6008RR". PVP 200700059.

The following were developed by Texas Agricultural Experiment Station, Texas, United States. Received 01/18/2007.

PI 645470 PVPO. *Avena sativa* L.
Cultivar. Pureline. "TAMO 405"; TX01CSRH Sel 1. PVP 200700060.

The following were developed by California Cooperative Rice Research Foundation, Biggs, California, United States. Received 01/18/2007.

PI 645471 PVPO. *Oryza sativa* L.
Cultivar. Pureline. "CALMATI-202"; 03-Y-152; 04-Y-153. PVP 200700080.
Pedigree - A-201/9543483 (Calmati-201 sib).

PI 645472 PVPO. *Oryza sativa* L.

Cultivar. Pureline. "L-206"; 99-Y-469. PVP 200700081. Pedigree - L-203/9039614 (Lemont/3/R1588/L201//R1588/Labelle).

PI 645473 PVPO. *Oryza sativa* L.

Cultivar. Pureline. "M-208"; 02-Y-816. PVP 200700082. Pedigree - M-401/3/Mercury//Mercury/Koshihikari/4/M-204.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 01/18/2007.

PI 645474 PVPO. *Lactuca sativa* L.

Cultivar. "HEADWAY". PVP 200700084.

The following were developed by Archer Daniels Midland Company, Illinois, United States. Received 01/18/2007.

PI 645475 PVPO. *Phaseolus vulgaris* L.

Cultivar. "BANDIT". PVP 200700089.

The following were developed by Nunhems BV, Netherlands. Received 01/18/2007.

PI 645476 PVPO. *Lactuca sativa* L.

Cultivar. "SX 9359 LT MI"; SX 9359; SOLRED. PVP 200500129.

The following were developed by Lynn W. Gallagher, University of California, Department of Plant Sciences, One Shields Ave., Davis, California 95616, United States. Received 01/29/2007.

PI 645477. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "TAMALPAIS"; UC 1134; NSGC 18022. Pedigree - CMB91A-1192-AL/UC960 = Ataco/Achira//Higo/4/Gus/Kombyne//Smal/3/Smal/SB401. Six-rowed spring hullless barley. Adapted to the Sacramento and San Joaquin Valleys of California. High in beta-glucan (>6%).

The following were developed by J. Neil Rutger, 1989 Witham Drive, Woodland, California 95776, United States. Received 01/25/2007.

PI 645478. *Oryza sativa* L.

Breeding. Pureline. Indica-14. Pedigree - Induced early flowering mutant selected from gamma radiation of IRRI germplasm line IR65629-67-3-3-1-1-2. Indica-14, derived from 300 GY treatment of IR65629-67-3-3-1-1-2, flowered in 103 days, 23 days earlier than its parent, and 9 days later than a prominent japonica check cultivar. Indica-14 yielded 98% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. This mutant is valuable as improved indica germplasm for US breeders.

PI 645479. *Oryza sativa* L.

Breeding. Pureline. Indica-15. Pedigree - Induced early flowering mutant selected from gamma radiation of IRRI germplasm line IR60864-88-1-1-1-2. Indica-15, derived from 250 Gy treatment of IR60864-88-1-1-1-2, flowered in 120 days, 11 days earlier than its parent, and 26 days later than a prominent japonica check cultivar. Indica-15 yielded 102% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. This mutant is valuable as improved indica germplasm for US breeders.

PI 645480. *Oryza sativa* L.

Breeding. Pureline. Indica-16. Pedigree - Induced early flowering mutant selected from gamma radiation of Colombian rice cultivar *Oryzica llanos* 5 (OL5). Indica-16, derived from 320 Gy treatment of OL5, flowered in 98 days, 36 days earlier than its parent, and 6 days later than a prominent japonica check cultivar. Indica-16 yielded 99% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. Indica-16 retains the blast resistance of the OL5 parent. Its maturity and blast resistance make it a useful source of indica diversity for US rice improvement programs.

PI 645481. *Oryza sativa* L.

Breeding. Pureline. Indica-17. Pedigree - Induced early flowering mutant selected from gamma radiation of Colombian rice cultivar *Oryzica llanos* 5 (OL5). Indica-17, derived from 320 Gy treatment of OL5, flowered in 100 days, 34 days earlier than its parent, and 8 days later than a prominent japonica check cultivar. Indica-17 yielded 101% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. Indica-17 retains the blast resistance of the OL5 parent. Its maturity and blast resistance make it a useful source of indica diversity for US rice improvement programs.

PI 645482. *Oryza sativa* L.

Breeding. Pureline. Indica-18. Pedigree - Induced early flowering mutant selected from gamma radiation of Colombian rice cultivar *Oryzica llanos* 5 (OL5). Indica-18, derived from 300 Gy treatment of OL5, flowered in 110 days, 24 days earlier than its parent, and 18 days later than a prominent japonica check cultivar. Indica-18 yielded 95% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. Indica-18 retains the blast resistance of the OL5 parent. Its maturity and blast resistance make it a useful source of indica diversity for US rice improvement programs.

The following were developed by Prem P. Juahar, USDA-ARS, Northern Crop Science Lab, 1307 18th Street North, Fargo, North Dakota 58105-5677, United States; Terrance S. Peterson, USDA-ARS, Cereals Crops Research Unit, Northern Crop Science Laboratory, Fargo, North Dakota 58105-5677, United States.
Received 01/25/2007.

PI 645483. *Triticum turgidum* L.

Genetic. DGE-1. GS-156. Pedigree -
[Langdon/L.elongatum//Langdon)*1/Langdon]*8. Released 2006. The disomic addition was derived from the durum cultivar Langdon Lophopyrum

elongatum crosses. The (Langdon L. elongatum) F1 hybrid ($2n = 2x = 21$; ABE genomes) was backcrossed with the recurrent Langdon parent, then selfed for one generation, and backcrossed again before selfing for several cycles. The alien chromosome added is 1E of L. elongatum, that confers Fusarium head blight resistance. The disomic addition line has a plant type somewhat different from the Langdon parent: plant 76.5 cm tall; narrow leaf; small spike with medium length awns, light green to yellow green color; normal tillering, and 1 to 2 weeks later maturing than Langdon. Under greenhouse conditions this genetic stock has 70-75% fertility. Fertility under field conditions was 80-85%. Seed size of the disomic addition line (100-kernel weight = 2.5 g) is smaller than that of the Langdon parent (100-kernel weight = 3.2 g). The disomic addition has shown 100% seed germination. The disomic addition has, on the average, 21% infection compared to 80% infection of the Langdon parent.

The following were developed by Nunhems BV, Netherlands. Received 01/23/2007.

PI 645484 PVPO. Lactuca sativa L.

Cultivar. "SX 9056LT MI". PVP 200500130.

The following were donated by Paul W. Bosland, New Mexico State University, Department of Plant, & Environmental Sciences, Las Cruces, New Mexico 88003-0003, United States. Received 12/18/1992.

PI 645485. Capsicum annuum L.

07; Grif 9181. Collected in Colombia.

PI 645486. Capsicum annuum L.

196; Grif 9192. Collected in Colombia.

The following were collected by Eduardo Trujillo, University of Hawaii at Manoa, St. John, Rm. 313, Honolulu, Hawaii 96822, United States. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 02/10/1997.

PI 645487. Capsicum annuum L.

Cultivated. W6 19115; Grif 14044. Collected 03/1997 in Panama. Pepper is called Habanero. Fruits are red in color and shaped like bell peppers, but smaller. This pepper is very, very hot when eaten.

The following were collected by Argimero Morales, Oaxaca, Oaxaca, Mexico. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 02/10/1997.

PI 645488. Capsicum annuum L.

Cultivated. Grif 14048; W6 20101. Collected 01/1997 in Oaxaca, Mexico. Seed was purchased in a market in a city near Acapulco in the northwestern Oaxaca state of Mexico. Fruits are red in color and 1.5-4 cm long.

The following were donated by Native Seeds/SEARCH, 526 N. 4th Avenue, Tucson, Arizona 85705, United States. Received 07/01/2003.

PI 645489. *Capsicum annuum* L.

Cultivated. Del Arbol; Grif 15229. "Tree chile" a long, thin, red, pungent chile used for salsa. Usually hot. 2.5-4".

PI 645490. *Capsicum annuum* L.

Cultivated. Sinahuisa; Grif 15232. This serrano chile originally collected from a Yoeme weaver in Sonora, grew prolifically at our CF in 2001. The fleshy fruit are excellent en escabeche (pickled). Medium heat. 2".

PI 645491. *Capsicum annuum* L.

Cultivated. San Felipe; Grif 15233. Planted in mid-May by many farmers at San Felipe Pueblo (5,200') in New Mexico. Medium to medium-hot. 3-4".

PI 645492. *Capsicum annuum* L.

Cultivated. Santo Domingo; Grif 15236. Originally from Santo Domingo Pueblo in northern NM (5,200'). This chile matured early at our CF in 2001. Mild to medium. 3.5-5".

PI 645493. *Capsicum annuum* L.

Cultivated. Chimayo; Grif 15237. From the farming town in northern NM at 5,900' famous for its local chile. This native NM chile matured earlier than most chiles grown at the CF in 2001. Mild. 3.5-5".

PI 645494. *Capsicum annuum* L.

Cultivated. Jemez; Grif 15238. From Jemez Pueblo in northern New Mexico at 6,000'. Among the earlier maturing chiles grown at CF in 2001. Mild to medium-hot. 4-4.5".

PI 645495. *Capsicum annuum* L.

Cultivated. Vallero; Grif 15239. Originally from Buenaventura, Chihuahua, it was first collected in 1990. Used by Barney and Mahina's favorite chile Colorado restaurant. Fleshy when green. Rich brownish-black to reddish-brown when mature. Medium heat, but can vary. 6".

PI 645496. *Capsicum annuum* L.

Cultivated. Cochiti; Grif 15240. From Cochiti Pueblo at 5200', where loss of farmland has threatened this and other Cochiti crop varieties. This NM native chile is sweet when green, and flavorful when red. Mild to medium. 3.5-4".

PI 645497. *Capsicum annuum* L.

Cultivated. Kori Sitakame; Grif 15245. "Red Chile". From Norogachi, A Tarahumara pueblo in highland Chihuahua. Relatively thin-walled and smooth-skinned triangular fruit. Looks almost translucent when dry. Medium to hot, increasing after a few seconds. 3.5".

PI 645498. *Capsicum annuum* L.

Cultivated. Zia Pueblo; Grif 15247. One of our few collections from Zia Pueblo, 5,500'. This native New Mexico chile matured earlier than others at the CF in 2001. Mild, and when red becomes sweet. 3".

PI 645499. *Capsicum annuum* L.
Cultivated. Pico de Pajaro; Grif 15248. "Bird's beak". From Yecora, Sonora. The knobby fruit are often curved. Mild in heat. Almost 1" wide and 5-5.5" long.

The following were donated by Asian Vegetable Research and Development Center, P.O. Box 42, Shanhua, Tainan, Taiwan. Received 01/25/1999.

PI 645500. *Capsicum annuum* L.
Cultivar. "MC4-(6)"; PBC 6; Grif 15260. Collected in Malaysia. Cayenne type.

PI 645501. *Capsicum annuum* L.
Cultivar. "MC4-(8)"; PBC 8; Grif 15262. Collected in Malaysia. Cayenne type.

PI 645502. *Capsicum annuum* L.
Cultivar. "HDA 295"; PBC 284; Grif 15365. Collected in France. Cayenne type.

PI 645503. *Capsicum annuum* L.
Cultivar. PBC 365; Grif 15398. Collected in Italy. Conical type.

PI 645504. *Capsicum annuum* L.
Cultivar. PBC 371; Grif 15403. Collected in Thailand. Cayenne type.

PI 645505. *Capsicum annuum* L.
Cultivar. PBC 372; Grif 15404. Collected in Thailand. Cayenne type.

PI 645506. *Capsicum annuum* L.
Cultivar. PBC 384; Grif 15413. Collected in Malaysia. Cayenne type.

PI 645507. *Capsicum annuum* L.
Cultivar. PBC 388; Grif 15417. Collected in Malaysia. Cayenne type.

PI 645508. *Capsicum annuum* L.
Cultivar. "Bolivian Rainbow"; PBC 391; Grif 15420. Collected in Bolivia. Ornamental type.

PI 645509. *Capsicum annuum* L.
Cultivar. "P. Sakaraho"; PBC 402; Grif 15424. Collected in Nigeria. Piquin type.

PI 645510. *Capsicum annuum* L.
Cultivar. "PL-38475"; PBC 404; Grif 15426. Collected in Nigeria. Cayenne type.

PI 645511. *Capsicum annuum* L.
Cultivar. "U-Kashinburgu"; PBC 407; Grif 15428. Collected in Nigeria. Cayenne type.

PI 645512. *Capsicum annuum* L.
Cultivar. "Arunalu (BL-39)"; PBC 483; Grif 15480. Collected in Sri Lanka. Cayenne type.

- PI 645513. *Capsicum annuum* L.**
Cultivar. "Perennial HDV"; PBC 495; Grif 15484. Collected in France.
Cayenne type.
- PI 645514. *Capsicum annuum* L.**
Cultivar. "Serrano 1534"; PBC 497; Grif 15486. Collected in Unknown.
Serrano type.
- PI 645515. *Capsicum annuum* L.**
Cultivar. "HDA 210 bis"; PBC 502; Grif 15488. Collected in France.
Cayenne type.
- PI 645516. *Capsicum annuum* L.**
Cultivar. "HDA 268"; PBC 505; Grif 15491. Collected in France. Minibell
type.
- PI 645517. *Capsicum annuum* L.**
Cultivar. "Tiwari II"; PBC 521; Grif 15504. Collected in India. Cayenne
type.
- PI 645518. *Capsicum annuum* L.**
Cultivar. "387-Ong"; PBC 525; Grif 15507. Collected in Malaysia.
Cayenne type.
- PI 645519. *Capsicum annuum* L.**
Cultivar. "84C6"; PBC 526; Grif 15508. Collected in United States. Bell
type.
- PI 645520. *Capsicum annuum* L.**
Cultivar. "AG"; PBC 528; Grif 15510. Collected in Italy. Bell type.
- PI 645521. *Capsicum annuum* L.**
Cultivar. "S-20-1(4272)88GH 256-1"; PBC 569; Grif 15531. Collected in
United States. Cayenne type.
- PI 645522. *Capsicum annuum* L.**
Cultivar. PBC 570; Grif 15532. Collected in Hungary. Cayenne type.
- PI 645523. *Capsicum annuum* L.**
Cultivar. PBC 571; Grif 15533. Collected in Bulgaria. Fresno type.
- PI 645524. *Capsicum annuum* L.**
Cultivar. PBC 582; Grif 15539. Collected in Malaysia. Cayenne type.
- PI 645525. *Capsicum annuum* L.**
Cultivar. PBC 584; Grif 15541. Collected in Thailand. Cayenne type.
- PI 645526. *Capsicum annuum* L.**
Cultivar. PBC 585; Grif 15542. Collected in Thailand. Cayenne type.
- PI 645527. *Capsicum annuum* L.**
Cultivar. PBC 586; Grif 15543. Collected in Thailand. Cayenne type.
- PI 645528. *Capsicum annuum* L.**
Cultivar. PBC 588; Grif 15545. Collected in Thailand. Cayenne type.

- PI 645529. *Capsicum annuum* L.**
Cultivar. PBC 589; Grif 15546. Collected in Thailand. Cayenne type.
- PI 645530. *Capsicum annuum* L.**
Cultivar. PBC 591; Grif 15548. Collected in Thailand. Cayenne type.
- PI 645531. *Capsicum annuum* L.**
Cultivar. "LC-Serdang"; PBC 600; Grif 15557. Collected in Malaysia. Cayenne type.
- PI 645532. *Capsicum annuum* L.**
Cultivar. "Wanni Miris 00076"; PBC 633; Grif 15572. Collected in Sri Lanka. Cayenne type.
- PI 645533. *Capsicum annuum* L.**
Cultivar. "Sheetal-51"; PBC 717; Grif 15606. Collected in India. Cayenne type.
- PI 645534. *Capsicum annuum* L.**
Cultivar. PBC 726; Grif 15610. Collected in Papua New Guinea. Bell type.
- PI 645535. *Capsicum annuum* L.**
Cultivar. "U 270/795"; PBC 756; Grif 15623. Collected in Hungary. Large wax type.
- PI 645536. *Capsicum annuum* L.**
Cultivar. PBC 766; Grif 15630. Collected in Hungary. Small wax type.
- PI 645537. *Capsicum annuum* L.**
Cultivar. "Wu Han 921009"; PBC 772; Grif 15633. Collected in China. Cayenne type.
- PI 645538. *Capsicum annuum* L.**
Cultivar. "Bird's eye"; PBC 776; Grif 15636. Collected in Italy. Piquin type.
- PI 645539. *Capsicum annuum* L.**
Cultivar. "Ishii-Midori"; PBC 799; Grif 15648. Collected in Japan. Campanulate type.
- PI 645540. *Capsicum annuum* L.**
Cultivar. "Pangalengan-2"; PBC 824; Grif 15657. Collected in Indonesia. Cayenne type.
- PI 645541. *Capsicum annuum* L.**
Cultivar. "B 27"; PBC 844; Grif 15669. Collected in United States. Bell type.
- PI 645542. *Capsicum annuum* L.**
Cultivar. "B 58"; PBC 846; Grif 15671. Collected in United States. Bell type.
- PI 645543. *Capsicum annuum* L.**
Cultivar. "Tachi Yatsubusa"; PBC 871; Grif 15680. Collected in Japan. Cayenne type.

- PI 645544. *Capsicum annuum* L.**
Cultivar. "Buyango 1"; PBC 898; Grif 15697. Collected in Tanzania. Cayenne type.
- PI 645545. *Capsicum annuum* L.**
Cultivar. "149m"; PBC 940; Grif 15714. Collected in Tanzania. Bell type.
- PI 645546. *Capsicum annuum* L.**
Cultivar. PBC 976; Grif 15727. Collected in Egypt. Lamuyo type.
- PI 645547. *Capsicum annuum* L.**
Cultivar. "Kenny's Umbrella Paren"; PBC1118; Grif 15740. Collected in United States. Wax type.
- PI 645548. *Capsicum annuum* L.**
Cultivar. PBC1331; Grif 15745. Collected in Malaysia. Cayenne type.
- PI 645549. *Capsicum annuum* L.**
Cultivar. "Long Brilliant Dwarf"; PBC1378; Grif 15756. Collected in United States. Small wax type.
- PI 645550. *Capsicum annuum* L.**
Cultivar. "P126/79"; PBC1383; Grif 15760. Collected in China. Piquin type.
- PI 645551. *Capsicum annuum* L.**
Cultivar. "Holiday Cheer"; PBC1429; Grif 15771. Collected in United States. Cherry type.
- PI 645552. *Capsicum annuum* L.**
Cultivar. "Rooster Spur"; PBC1490; Grif 15812. Collected in United States. Cayenne type.
- PI 645553. *Capsicum annuum* L.**
Cultivar. "Slim Jim"; PBC1495; Grif 15816. New Mexican type.

The following were donated by Robert L. Jarret, USDA, ARS, Plant Genetic Resources Conservation Unit, University of Georgia, Griffin, Georgia 30223-1797, United States. Received 10/28/2004.

- PI 645554. *Capsicum annuum* L.**
Uncertain. Grif 15980. Pedigree - Selected off-type plant from PI 246123 in 2004 that exhibited male sterility.

The following were donated by Asian Vegetable Research and Development Center, P.O. Box 42, Shanhua, Tainan, Taiwan. Received 01/25/1999.

- PI 645555. *Capsicum chinense* Jacq.**
Cultivar. "Atarodo"; PBC 171; Grif 15854. Collected in Niger. Campanulate type.
- PI 645556. *Capsicum frutescens* L.**
Cultivar. "Tabasco-AVRDC"; PBC 434; Grif 15876. Collected in Mexico. Tabasco type.

PI 645557. *Capsicum frutescens* L.

Cultivar. "Malagueta"; PBC 459; Grif 15877. Collected in Brazil. Mombassa type.

PI 645558. *Capsicum frutescens* L.

Cultivar. "MC-003"; PBC 556; Grif 15879. Collected in United States. Tabasco type.

PI 645559. *Capsicum frutescens* L.

Cultivar. "LSU Select A"; PBC 558; Grif 15880. Collected in United States. Tabasco type.

PI 645560. *Capsicum frutescens* L.

Cultivar. PBC1376; Grif 15885. Collected in El Salvador. Tabasco type.

PI 645561. *Capsicum frutescens* L.

Cultivar. "Chiang Mai #1"; PBC1413; Grif 15886. Collected in Thailand. Mombassa type.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Mohamed Chakroun, INRAT, Forage Improvement Laboratory, Rue Hadi Karray, Ariana, Tunisia; Walter Graves, University of California, Cooperative Extension Service, 777 E. Rialto Avenue, San Bernadino, California 92415-0730, United States. Received 08/19/1994.

PI 645562. *Trifolium stellatum* L.

Wild. T050.CPG94; Grif 14214; W6 16024. Collected 06/24/1994 in Tunisia. Latitude 36° 57' 51" N. Longitude 8° 45' 34" E. Elevation 56 m. Near Tabarka, north of Tabarka at the Turkish fort (Borj Massaoud). Grazed. Slope 11-40%, aspect E. Area open. Soil loam, pH 6.5. Rainfall 1000 mm. Seasonally dry, ridgetop, lower-upper slope. Vegetation closed, seasonal tall grass. Dominant tree species pine. Dom. herb/grass sp. *Hyperrenia hirta*. Population abundance occasional, distribution patchy. Growth habit erect.

The following were collected by L.E. Lopez. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 645563. *Solanum tuberosum* L.

Landrace. LOP 861; "Casa Blanca"; CIP 702845; Q 44482. Collected 07/15/1975 in Puno, Peru. Latitude 15° 18' 36" S. Longitude 69° 47' 24" W. Elevation 3850 m. P. Huancane. Taraco. Farmers field. Primitive cultivar. Cool tropical and short day adaptation; yellow tuber skin and cream tuber flesh; and white or unpigmented anthers.

The following were collected by USDA, NRCS, Plant Materials Center, 3415 NE Granger Avenue, Corvallis, Oregon 97330, United States. Developed by USDA, NRCS, Plant Materials Center, 3415 NE Granger Avenue, Corvallis, Oregon 97330, United States. Donated by Dale C. Darris, USDA-NRCS-PMC, 3415 NE Granger Avenue, Corvallis, Oregon 97330, United States. Received 01/29/2007.

PI 645564. *Hordeum brachyantherum* Nevski subsp. *brachyantherum*

Cultivar. Population. "Jackson-Frazier Germplasm Meadow Barley"; 9056373; HOBR2; NSGC 18023. Collected 1997 in Oregon, United States. Latitude 44° 36' N. Longitude 123° 12' W. Elevation 68 m. Jackson-Frazier Wetland (Benton County Natural Area). T 11 South, R 5 West, Section 24, 13. Benton County, OR. Slope **PI 645565. *Allium cepa* L. var. *cepa***
Breeding. B8667 A&B.

The following were developed by Dick L. Auld, Texas Tech University, Department of Plant and Soil Sciences, P.O. Box 42122, Lubbock, Texas 79409-2122, United States; E. Bechere, Texas Tech University, Dept. of Plant and Soil Science, Lubbock, Texas 79409-2122, United States; E. Hequet, Texas Tech University, International Textile Center, Lubbock, Texas 79409-5888, United States; Mourad Krifa, Texas Tech University, International Textile Center, Lubbock, Texas 79409-5888, United States; Sukant Misra, Texas Tech University, Dept. of Agricultural and Applied Economics, Lubbock, Texas 79409-2132, United States; H. Kebede, Texas Tech University, Dept. of Plant and Soil Sciences, Lubbock, Texas 79409-2122, United States; R. Wright, Texas Tech University, Dept. of Plant and Soil Sciences, Lubbock, Texas 79409-2122, United States. Received 02/07/2007.

PI 645568. *Gossypium hirsutum* L.

Cultivar. Pureline. "RAIDER 276". CV-123. Pedigree - Originated from a population of Holland 338 (SOUTHLAND007X[(1919XHX2410)XDPL90]) treated with a 2.45% (v/v) solution of ethylmethane sulfonate. Raider 276 originated as M6:7 line in 2001 from M5:6 progeny rows derived from single M5 plants selected in 2000 for fiber quality and lint yield exceeding that of Holland 338, FM 958 and FM 989. Under irrigated conditions, Raider 276 flowered 2-5 d earlier than the 3 comparative commercial cultivars. Averaged 73 cm in height compared with 68 cm for Holland 338, 83 cm for FM 958 and 85 cm for FM 989. Has cream colored petals and pollen. Raider 276 and Holland 338 have intermediate stem pubescence while FM 958 and FM 989 have both hairy stems. Raider 276 and all 3 check cultivars have 5 locules per boll. Raider 276 and FM 989 bolls are broadest at the base whereas the bolls for Holland 338 and FM 958 re broadest at the middle. Across seven field tests, Raider 276 on average yielded 17% higher than Holland 338 and 5% higher than FM 958. Fiber length (UHML) for Raider 276 averaged 30 mm (staple 38) as compared to FM 958 and FM 989 which were both 29 mm (staple 37). Holland 338 had fibers that were only 28 mm (staple 35) long. Length uniformity value for Raider 276 was 83%, similar to the 2 FiberMax cultivars. For fiber bundle strength, Raider 276 averaged 31-33 g/tex. The micronaire value of Raider 276 (4.1) falls within the premium range which is 3.7-4.2. AFIS analyses indicated that Raider 276 had lower immature fiber content, higher fineness and maturity ratio than FM 958. for yarn tenacity, Raider 276 exceeded the Uster (R) Statistics 50th percentile. It ranked among the 50% best. Uster (R) statistics represents quality benchmarks compiled through the testing by Uster (R) Technologies, AG of more than 6100 samples procured from their global clientele. DNA was isolated from field grown leaf samples of Holland 338 and its mutant Raider 276. Sixty-two micro satellite markers which were polymorphic in upland cotton germplasm were used to fingerprint Raider 276 and Holland 338. Nine of the 62 markers revealed polymorphism between the two entries showing that the mutant Raider 276 is genetically distinct from its non-mutated parent Holland 338.

The following were donated by Sandi Aarestad, Valley Tissue Culture, 2427 110th Street, Halstad, Minnesota 56548, United States. Received 04/20/1999.

PI 645569 PVPO. Solanum sp.

Cultivar. "Baltica"; Q 39721. PVP 9900261.

The following were developed by Syngenta Seeds, Inc., Idaho 83711-4188, United States. Received 02/06/2007.

PI 645570 PVPO. Lactuca sativa L.

Cultivar. "BANDITA". PVP 200700050.

The following were developed by Monsanto Technology, LLC, St. Louis, Missouri, United States. Received 02/02/2007.

PI 645571 PVPO. Gossypium hirsutum L.

Cultivar. "780001G". PVP 200700073.

PI 645572 PVPO. Gossypium hirsutum L.

Cultivar. "370001G". PVP 200700074.

PI 645573 PVPO. Gossypium hirsutum L.

Cultivar. "450001G". PVP 200700075.

PI 645574 PVPO. Gossypium hirsutum L.

Cultivar. "530001G". PVP 200700076.

PI 645575 PVPO. Gossypium hirsutum L.

Cultivar. "170001G". PVP 200700077.

PI 645576 PVPO. Gossypium hirsutum L.

Cultivar. "010001G". PVP 200700078.

The following were developed by Stoneville Pedigree Seed Company, Austin, Texas 78701, United States. Received 02/02/2007.

PI 645577 PVPO. Gossypium hirsutum L.

Cultivar. "460001G"; ST 0502RF. PVP 200700079.

The following were developed by Thaddeus Hillery Busbice, Cary, North Carolina 27518, United States. Received 02/01/2007.

PI 645578 PVPO. Vigna unguiculata (L.) Walp.

Cultivar. "CAROLINA CLASSIC". PVP 200700083.

The following were developed by Crites Moscow Growers, Inc., United States. Received 02/09/2007.

PI 645579 PVPO. Pisum sativum L.

Cultivar. "PORTAGE"; CMG-374AF. PVP 200700092.

PI 645580 PVPO. *Pisum sativum* L.

Cultivar. "NACHES"; CMG-394AF. PVP 200700117.

The following were donated by Chris Clark, Louisiana State University, Department of Plant Pathology, & Crop Physiology, Baton Rouge, Louisiana 70803-1720, United States. Received 01/25/2007.

PI 645581. *Ipomoea batatas* (L.) Lam. var. *batatas*

Breeding. Bunch Porto Rico. Pedigree - Sport of cultivar Porto Rico.

PI 645582. *Ipomoea batatas* (L.) Lam. var. *batatas*

Cultivar. "Okinawa Purple". Collected in Japan.

The following were donated by E.A. Hynek, Route 3, Box 379, Wisconsin Dells, Wisconsin 53965, United States. Received 01/18/1978.

PI 645583. *Zea mays* L. subsp. *mays*

Landrace. Population. Ames 1836; Bronze Beauty. Collected 01/18/1978 in Wisconsin, United States. Latitude 43° 37' 39" N. Longitude 89° 46' 15" W. Elevation 277 m. Donor obtained from Winnebago Tribe who lived in the vicinity of Wisconsin Dells, Wisconsin. Selection from corn grown by the Winnebago Tribe, Wisconsin Dells, Wisconsin. Selected for 3 years by E. A. Hynek for productivity by eliminating only poor yielding individuals. The Winnebago Native American from whom the seed was obtained stated that the early white settlers nicknamed it "Bronze Beauty" upon seeing it. It is a flint corn with a high frequency of bronze or tan kernels. Red kernels also segregate. It differs from many U.S. Northern Flints by having narrower kernels on tapered ears with a higher kernel row number.

The following were donated by Charley Dean, 927 East Portland Avenue, Dewey, Oklahoma 74029, United States. Received 02/25/1985.

PI 645584. *Zea mays* L. subsp. *mays*

Landrace. Population. Sehsapsing (Delaware Indian); Lenape Blue Flour Corn; Ames 3507. Collected 02/25/1985 in Oklahoma, United States. Delaware Reserve. A blue flour corn. Originally brought to Indian Territory by the family of Sarah Wilson Thompson, a full-blooded Lenape who lived on the Delaware Reserve. Her family migrated from their original homeland along the east coast in what is now New Jersey, eastern Pennsylvania, and northern Delaware. This accession can therefore be associated with the Lenape (Delaware Indian) tribe.

PI 645585. *Zea mays* L. subsp. *mays*

Landrace. Population. Puhwem (Delaware Indian); Lenape White Flour Corn; Ames 3508. Collected 02/25/1985 in Oklahoma, United States. Delaware Reserve. A white flour corn. Originally brought to Indian Territory by the family of James Thompson, a full-blooded Lenape who lived on the Delaware Reserve. His family migrated from their original homeland along the east coast in what is now New Jersey, eastern Pennsylvania, and northern Delaware. This accession can therefore be associated with the Lenape (Delaware Indian) tribe.

Unknown source. Received 10/07/2004.

PI 645586. *Pycnanthemum tenuifolium* Schrad.

ALP 5; *P. tenuifolium* ALP 5; OPGC 1915. Collected 10/07/2004 in Ohio, United States. Latitude 38° 48' 39" N. Longitude 83° 31' 48" W. Elevation 0 m. Adams Lake Prairie State Nature Preserve, within Adams Lake State Park, Adams County. Associated species: Prairie plants including *Allium cernuum*, *Eryngium yuccifolium*, 4 *Liatris* species, *Ratibida pinnata*, *Rudbeckia fulgida*, *Silphium trifoliatum*. Pedigree - Collected from the wild in Ohio.

Unknown source. Received 10/07/2004.

PI 645587. *Pycnanthemum tenuifolium* Schrad.

CP 8; *P. tenuifolium* CP 8; OPGC 1943. Collected 10/07/2004 in Ohio, United States. Latitude 38° 50' 8" N. Longitude 83° 34' 25" W. Elevation 0 m. Chaparral Prairie State Nature Preserve, Adams County, three miles northwest of West Union. Associated species: *Baptisia australis*, *Coreopsis tripteris*, *Eryngium yuccifolium*, *Liatris spicata*, *Physostegia virginiana*, *Ratibida pinnata*, *Rudbeckia hirta*. Pedigree - Collected from the wild in Ohio.

Unknown source. Received 10/07/2004.

PI 645588. *Ceanothus americanus* L.

CP 22; *C. americanus* CP 22; OPGC 1957. Collected 10/07/2004 in Ohio, United States. Latitude 38° 50' 8" N. Longitude 83° 34' 25" W. Elevation 0 m. Chaparral Prairie State Nature Preserve, Adams County, three miles northwest of West Union. Wooded area in cedar barrens prairie. Associated species: *Baptisia australis*, *Coreopsis tripteris*, *Liatris spicata*, *Eryngium yuccifolium*, *Physostegia virginiana*, *Pycnanthemum tenuifolium*, *Ratibida pinnata*, *Rudbeckia hirta*. Pedigree - Collected from the wild in Ohio.

Unknown source. Received 10/19/2004.

PI 645589. *Pycnanthemum tenuifolium* Schrad.

LC 6; *P. tenuifolium* LC 6; OPGC 1986. Collected 10/19/2004 in Ohio, United States. Latitude 41° 35' 27" N. Longitude 83° 45' 42" W. Elevation 0 m. Louis Campbell State Nature Preserve, Lucas County. Pedigree - Collected from the wild in Ohio.

Unknown source. Received 10/19/2004.

PI 645590. *Mentha arvensis* L.

LC 16; OPGC 1996; *Mentha arvensis* LC 16. Collected 10/19/2004 in Ohio, United States. Latitude 41° 35' 27" N. Longitude 83° 45' 42" W. Elevation 0 m. Louis Campbell State Nature Preserve, Lucas County. Pedigree - Collected from the wild in Ohio.

Unknown source. Received 08/22/2004.

PI 645591. *Pycnanthemum incanum* Michx.

Stucker Meadow 11; *P. incanum* Stucker Meadow 11; OPGC 2089. Collected 08/22/2004 in Ohio, United States.

Unknown source. Received 08/22/2004.

PI 645592. *Ceanothus americanus* L.

Stucker Meadow 36; *C. americanus* Stucker Meadow 36; OPGC 2114. Collected 08/22/2004 in Ohio, United States. Latitude 40° 40' 23" N. Longitude 81° 55' 46" W. Elevation 0 m. Munson Knob, Wayne County. Pedigree - Collected from the wild in Ohio.

Unknown source. Received 11/01/2004.

PI 645593. *Pycnanthemum virginianum* (L.) T. Durand & B. D. Jacks. ex B. L. Rob. & Fernald

Wild. Population. Darby Plains 13; OPGC 2160; *P. virginianum* Darby Plains 13. Collected 11/01/2004 in Ohio, United States. Latitude 39° 54' 0" N. Longitude 83° 12' 44" W. Elevation 270 m. Battelle-Darby Creek Metro Park, Franklin County. From I-270, take the West Broad Street (U.S. 40) exit west. Go about 5 miles on Broad Street and turn left on Darby Creek Drive. Main entrance is about 3 miles on the right. Pedigree - Collected from the wild in Ohio. Original (parent) seed source along railroad tracks west from London, Madison County, Ohio. (Sites:) 1. Tracks South of 42 (39.8673 N, 83.4933 W) from London to South Charleston, Clark County, Ohio, and 2. Tracks North of 42 (39.8878 N, 83.4998 W) From London to Plattsburg, Clark County, Ohio.

Unknown source. Received 11/01/2005.

PI 645594. *Gaultheria procumbens* L.

KT 33; *G. procumbens* KT 33; OPGC 2489. Collected 10/04/2005 in Ohio, United States. Latitude 41° 37' 5" N. Longitude 83° 47' 29" W. Elevation 60 m. Kitty Todd Nature Preserve, Oak Openings Region, Lucas County, southwest of Toledo. Managed by the Nature Conservancy. Black oak savanna. Pedigree - Collected from the wild in Ohio.

The following were collected by USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Donated by Shannon Majerus, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 02/16/2007.

PI 645595. *Leymus cinereus* (Scribn. & Merr.) A. Love

Wild. 9081624; LECI4; W6 30362. Collected 2007 in Montana, United States. Latitude 46° 6' 0" N. Longitude 112° 53' 15" W. Elevation 1599 m. Location is 1 mile SE from Junction to Wisdom on Anaconda Ralston Road. Site is on the northwest side of Anaconda Ralston Road., approx. 1 mile from junction directly after crossing RR tracks in Deer Lodge county. Sandy soil with exposed cobbles, 14 inches rainfall. The legal description is: T4N R10W S18.

PI 645596. *Agrostis gigantea* Roth

Wild. 9081619; AGGI2; W6 30361. Collected 2007 in Montana, United States. Latitude 46° 7' 59" N. Longitude 112° 56' 30" W. Elevation 1592 m. Collected location is a dry site above Old Works Golf Course along west side of the "Historic" trail about 1 mile from the trailhead. The legal description is: T5N R11W S35.

The following were developed by Kansas State University, Kansas Agric. Exp. Station, Manhattan, Kansas 66506, United States; USDA, NRCS, Manhattan Plant Materials Center, 3800 South 20th Street, Manhattan, Kansas 66502-9535, United States. Received 04/2005.

PI 645597. *Phragmites australis* (Cav.) Trin. ex Steud.

Cultivar. "Southwind"; 9050017. Pedigree - Vegetative collections were made at Pottawatomie Co., Kansas and Woodward Co., Oklahoma and planted adjacent to each other at the Plant Materials Center, Manhattan, Kansas. Over the past 18 years the two accessions have commingled to become what is now one accession. 'Southwind' has been extensively evaluated in replicated and nonreplicated plantings. Advantages over existing cultivars are improved adaptation, plant vigor, and rate of spread. Present common reed cultivars are adapted only as far north as Oklahoma. The full range of adaptability of 'Southwind' outside of Kansas is inconclusive. Plantings indicated survival and adaptation to the southern half of Nebraska. Released 1998.

The following were developed by USDA-National Resource Conservation Service, Golden Meadow Plant Materials Center, Galliano, Louisiana, United States. Received 02/10/2005.

PI 645598. *Paspalum vaginatum* Sw.

Cultivar. "Brazoria"; 9067665. Collected 1990 in Texas, United States. Five miles north of the intersection of the San Bernard River and the Intracoastal Waterway located between Hwy. 2918 and the San Bernard National Wildlife Refuge in Brazoria County, Texas. Brackish marsh. Soil is mapped Surfside Clay, and described as being a nearly level saline soils with an average slope of 0.2%. The surface layer is mildly alkaline, saline, dark gray clay to about 14 inches. Pedigree - Selected from twenty-seven ecotypes collected from Louisiana, Texas, Florida, and Hawaii in 1990. Vegetative materials were maintained and tested between 1991 and 1995 both under control experimental design and as outfield plots. Brazoria seashore paspalum is an effective pioneering species that can be established on shorelines, dunes, canal banks, mudflats, dredge materials, and other bare and ephemeral soil deposits. It spreads rapidly and can form dense stands within two growing seasons from planting. It can be successfully established on fresh to brackish soils in areas up to approximately 10 ppt of salts. Adapted to low-elevations at or slightly above normal water levels. Preferred sites are bare, saturated-to-moist soils, with little-or-no other vegetative competition. Brazoria will grow out into water. Culms and stolons will float or persist slightly submerged. However, Brazoria is not considered an emergent aquatic and will not persist under prolonged flooded conditions. It is a perennial, semi-aquatic, rapid-growing decumbent grass.

PI 645599. *Panicum amarum* Elliott

Cultivar. "Fourchon"; 9068225. Collected 08/1994 in Louisiana, United States. Latitude 29° 10' N. Longitude 90° 10' W. Native stand of bitter panicum on Fourchon Beach Lafourche Parish, Louisiana. Low-profile beach ridge and slightly elevated sandy backridge. Site exposed to salt spray, overwash, and blowing sand. Soils low in fertility, dry during summer months, and subject to heavy pedestrian and vehicular traffic. Pedigree - Selected as a locally adapted ecotype. Vegetative materials were maintained and tested between 1994 and 1998 under both controlled experimental design and as outfield plots. The Fourchon selection demonstrated superior transplant survival, rate of growth, plot density, and persistence. Fourchon bitter panicum is intended for use on coastal beaches and barrier islands of the north central Gulf coast, primarily Louisiana, Mississippi, and Texas. It is an early colonizing species that grows best on the crest and windward slope of the foredune where few other species compete with it. It is a warmseason native perennial grass that spreads primarily by rhizomes or by tillering from lower nodes on the culm (stem).

PI 645600. *Uniola paniculata* L.

Cultivar. "Caminada"; 9068262. Collected 1995 in Louisiana, United States. Latitude 29° 10' N. Longitude 90° 10' W. Fourchon Beach Lafourche Parish, Louisiana. Low-profile beach dune. Gently sloping, poorly drained, saline, sandy soil on low ridges along the coast of the Gulf of Mexico. Elevation ranges from 1 to 3 feet above sea level. Associated vegetation: bitter panicum and marshhay cordgrass. Pedigree - A selected ecotype from a native colony of seaoats. Vegetatively propagated and increased for performance testing between 1997 and 1999. Demonstrated exceptional survival, growth, and persistence. Caminada seaoats is intended for use on coastal beaches and barrier islands of the north central Gulf coast, primarily Louisiana west of the Mississippi River. Caminada seaoats perform best when planted on the crest and Gulf side of the primary dune. Caminada has been observed to be more tolerant to salt spray, storm surges, and rapid sand accretion in comparison to other plants found growing in association with this site.

The following were developed by William R. Ocumpaugh, Texas A&M University, Texas Agricultural Exp. Station, 3507 Highway 59 E, Beeville, Texas 78102-9410, United States. Received 01/25/2007.

PI 645601. *Chloris subdolichostachya* Mull. Berol.

Cultivar. "Welder Germplasm"; 9085260; Kika260 Shortspike Windmillgrass. Collected 1999 in Texas, United States. Latitude 26° 6' N. Longitude 97° 25' W. Elevation 21 m. Near the Welder Wildlife Refuge, Sinton, Texas. Growing on an Orelia sandy clay loam soil type with a 1% slope. Annual precipitation is 76 centimeters (30 inches). Pedigree - Selected plant material of shortspike windmillgrass from native plants. Welder Germplasm was initially evaluated at the USDA-NRCS E. "Kika" de la Garza Plant Materials Center, Kingsville, Texas, from 2000 through 2001. A total of 43 accessions of windmillgrass were collected from throughout the state of Texas and were included in the study. From these initial evaluations, accessions 9085260 and 9085283 were determined to be the best accessions of shortspike windmillgrass for vigor, growth form and development. Welder Germplasm is recommended for roadside plantings, critical site revegetation and in range seedling mixes. It can be used

in many types of conservation plantings, such as grassed waterways, streamside buffers, and pond embankments. It will provide a new native species for rangeland planting, erosion control, wildlife habitat, and water quality improvement. It has quick germination, typically within the first 3 days, while still retaining some dormant seed to deal with unpredictable weather conditions. Average annual seed yields at Kingsville have been 245 pounds per acre. Unlike hooded windmillgrass, shortspike produces seed only one time a year in late September or early October. Its growth habit and strongly stoloniferous nature make it particularly suitable for competing with non-native species such as King Ranch bluestem (*Bothriochloa ischaemum*) and bermudagrass (*Cynodon dactylon*). It is well adapted for use in the southern portions of Texas, coinciding with MLRA 83 (Rio Grande Plain) and MLRA 150 (Gulf Coast Prairies).

PI 645602. *Chloris cucullata* Bisch.

Cultivar. "Mariah Germplasm"; 9085313; Kika313 Hooded Windmillgrass. Collected 1999 in Texas, United States. Latitude 27° 15' N. Longitude 97° 54' W. Elevation 16 m. Near the headquarters of the La Paloma Ranch in Kenedy county. Growing on a Delfina loamy fine sand soil type with a 1% slope. Average annual precipitation 63.5 centimeters (25 inches). Pedigree - A selected ecotype of hooded windmillgrass from native plants. Initially evaluated at the USDA-NRCS E. "Kika" de la Garza Plant Materials Center, Kingsville, Texas, from 2000 through 2001. A total of 43 accessions of windmillgrass were collected from throughout the state of Texas and were included in the study. From these initial evaluations, accessions 9085301 and 9085313 were determined to be the best accessions of hooded windmillgrass for vigor, growth form and development, and disease resistance. Mariah Germplasm is recommended for roadside plantings, critical site revegetation and in range seedling mixes. It can be used in many types of conservation plantings, such as grassed waterways, streamside buffers, filter strips, and pond embankments. It will provide a new native species for rangeland planting, erosion control, wildlife habitat, and water quality improvement. It has high active germination (>90%), a high 2-day germination, good seedling vigor, is moderately stoloniferous, and produces multiple seed crops. Average annual seed yields at Kingsville have been 225 pounds per acre. These species characteristics, along with its preferred adaptation to central and western portions of Texas, make it a good complimentary species with Kika260 shortspike windmillgrass. It is well adapted for use in the southern and central portions of Texas, coinciding with MLRA 83 (Rio Grande Plain), MLRA 78 (Central Rolling Red Plains), MLRA 80 (Central Prairies), MLRA 81 (Edwards Plateau), MLRA 82 (Texas Central Basin) and MLRA 150 (Gulf Coast Prairies).

The following were donated by Ron Cordsiemon, USDA, NRCS, Elsberry Plant Materials Center, 2803 North Highway 79, Elsberry, Missouri 63343, United States. Received 02/09/2007.

PI 645603. *Andropogon gerardii* Vitman

Cultivar. Inbred. "REFUGE"; 9078832. Pedigree - Three hundred and seventy collections were vegetatively collected from 190 counties throughout the Ozark region of Missouri, Arkansas, Oklahoma, and Illinois. Each collection was increased vegetatively in the greenhouse and planted into an evaluation nursery with two replications and six plants per collection in each replication. Each plant was evaluated

independently and ten collections. Selected plants were vegetatively removed, increased vegetatively in the greenhouse, and isolated in an evaluation nursery containing approximately one hundred plants. Three individual plants representing three collections, accession numbers 9056902, 9056906 and 9056906, were selected for their short, columnar shape. These three plants were again vegetatively removed, vegetatively increased in the greenhouse, and planted into a crossing block. Seed from this block was used to establish the increase (G1) field. Selection Criteria: The Refuge germplasm was selected and isolated because of its shorter than average height and its stiff stem that prevented lodging while being evaluated in an assembly of 370 collections of big bluestem. Comparison of Refuge Germplasm big bluestem to 'Rountree' big bluestem was Refuge was approximately two and a half feet shorter and exhibited considerable resistance to lodging from maturity throughout the dormant season with standability to spring. The Refuge Germplasm selection has characteristics of being very good for wildlife habitat and also works well in buffers and filters. Big bluestem is a tall, warm-season, perennial, native grass with stiff, erect culms; flattened and keeled sheaths; membranous ligules; and flat or folded leaf blades. Refuge big bluestem is relatively shorter than other varieties of big bluestem. Average total height is 4.5 to 5.5 feet tall. Big bluestem has developed a very efficient spreading root system which may reach depths of 5-8 feet (150-200 cm) in northern latitudes, and 6-8 feet (180-240 cm) or more in the southern part of its natural range. Although short rhizomes may be present, it usually makes a bunch type growth. This growth is columnar and dense with very little lodging. Refuge big bluestem has the ability to withstand wind, snow and ice in extreme conditions. These characteristics make it a good selection for buffer and wildlife plantings. Big bluestem is one of the most widespread and important forage grasses of the North American tallgrass prairie region. Big bluestem occurs on sub-irrigated lowlands, nearly level to gently undulating glacial till plains, overflow sites, level swales and depressions, residual and glacial uplands, and stream terraces and bottomlands along rivers and tributaries.

PI 645604. *Schizachyrium scoparium* (Michx.) Nash

Cultivar. Inbred. "Southern Missouri Germplasm"; 9079006. Pedigree - Southern Missouri Germplasm little bluestem is a collection of naturally occurring germplasm and has been unaltered. It does not differ in rate or spread, seed production, and vigor from naturally occurring little bluestem. Southern Missouri Germplasm little bluestem did not meet the assessment of a plant that could become invasive based on guidelines adopted by the NRCS Plant Materials Program. It is not expected to behave any differently in the environment than other native plant material. Little bluestem is a medium tall, warm season, bunch type grass with coarse stems at basal leaves. As a perennial it begins growth in late spring and continues through the hot summer period until the first killing frost. It is easily mistaken for common broomsedge, *Andropogon virginicus*. Plants are slender to robust, compressed, 50 to 150 cm tall, erect, the upper half freely branching; sheaths and blades commonly glabrous or nearly so, frequently sparsely pilose at their junction, rarely pubescent to villous throughout, the blades 3 to 6 mm wide, flat; raceme 3 to 6 mm long, mostly curved, the filiform peduncles mostly wholly or partly included in the sheaths, commonly spreading, the rachis slender, flexuous, pilose, sometimes copiously so; sessile spikelet mostly 6 to 8 mm long, scabrous, the awn 8 to 15 mm long; pedicellate spikelet usually reduced, short-awned, spreading, the

pedicel pilose. It develops full stands where moisture is sufficient, but gets clumpy on drier sites. It has value as a persistent low maintenance cover plant and as summer forage. Collections of little bluestem from east to west across Missouri guarantees the adaptation of releases to the entire zone. Plants are cross-pollinated. For isolation requirement, little bluestem should be spaced a minimum of 1000 feet from any other different little bluestem selection.

The following were developed by Stephen S. Jones, Washington State University, Dept. of Crop & Soil Sciences, 383 Johnson Hall, Pullman, Washington 99164-6420, United States; Steven R. Lyon, Washington State University, Winter Wheat Breeding & Genetics Program, PO Box 646420, Pullman, Washington 99164-6420, United States. Received 02/22/2007.

PI 645605. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "XERPHA"; WA007973; SSD01061; NSGC 18024. Pedigree - Eltan/Estica. Soft white common semi-dwarf winter wheat. White glumes and white straw. Broadly adapted to all precipitation zones of the Pacific Northwest. Xerpha has excellent grain yield potential and test weight. It exhibits good emergence, straw strength, adult plant stripe rust resistance, and tolerance to *Cephalosporium* stripe and eyespot foot rot. It is similar to Eltan for plant height and maturity. Xerpha displays acceptable grain, milling and end-use quality.

PI 645606. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. WA007970; J00C0014; NSGC 18025. Pedigree - Chinese Spring/*Thinopyrum ponticum* (PI1206624)//Madsen/3/Madsen. Soft white common semi-dwarf winter wheat. Awned, white glumes, white straw. Resistance to *Cephalosporium* stripe. It has excellent yield potential and test weight. WA007970 has adult plant stripe rust resistance and is moderately resistant to leaf rust and eyespot foot rot. It is similar to Madsen for plant height and maturity. It displays acceptable grain, milling and end-use quality.

PI 645607. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. WA007971; J00C0029; NSGC 18026. Pedigree - Madsen/WA7437. Soft white common semi-dwarf winter wheat. Awned, white glumes, white straw. Resistance to *Cephalosporium* stripe. It has excellent yield potential and test weight. WA007971 has adult plant stripe rust resistance and is moderately resistant to leaf rust and eyespot foot rot. It is similar to Madsen for plant height and maturity. It displays acceptable grain, milling and end-use quality.

The following were donated by Al Jones, USDA/ARS, U.S. Vegetable Laboratory, 2700 Savannah Highway, Charleston, South Carolina 29414, United States. Received 1991.

PI 645608. *Ipomoea* sp.

76.35; Grif 11841.

PI 645609. *Ipomoea* sp.

85.23; Grif 11869.

The following were donated by International Potato Center, Apartado 5969, Lima, Lima, Peru. Received 12/21/1993.

PI 645610. Ipomoea sp.

Mex-64; DLP 4393; Grif 11878. Collected in Mexico.

The following were donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645611. Ipomoea sp.

Wild. 12; Grif 15903. Collected in Arkansas, United States.

PI 645612. Ipomoea sp.

Wild. 13; Grif 15904. Collected in Arkansas, United States.

PI 645613. Ipomoea sp.

Wild. 46; Grif 15908. Collected in Texas, United States.

The following were collected by F. Martin, USDA-ARS, Tropical Research Station, P.O. Box 70, Mayaguez, Puerto Rico. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645614. Ipomoea sp.

Wild. 47; Grif 15909. Collected in Texas, United States.

The following were donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645615. Ipomoea sp.

Wild. 58; Grif 15911.

The following were collected by F. Martin, USDA-ARS, Tropical Research Station, P.O. Box 70, Mayaguez, Puerto Rico. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645616. Ipomoea sp.

Wild. 64; Grif 15914. Collected in Puerto Rico.

The following were donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645617. Ipomoea sp.

Wild. 69; Grif 15915. Collected in Texas, United States. Texas Herbarium

PI 645618. Ipomoea sp.

Wild. 87; Grif 15918. Collected in Argentina.

PI 645619. Ipomoea sp.

Wild. 88; 70.2; Grif 15919. Collected in Argentina.

PI 645620. Ipomoea sp.

Wild. 89; Grif 15920. Collected in Texas, United States. Texas Herbarium.

The following were collected by Al Jones, USDA/ARS, U.S. Vegetable Laboratory, 2700 Savannah Highway, Charleston, South Carolina 29414, United States. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645621. Ipomoea sp.

Wild. 67.58; 103; Grif 15923. Collected in Georgia, United States. Tift Co.

PI 645622. Ipomoea sp.

Wild. 73.3; 105; Grif 15924. Collected in North Carolina, United States.

The following were collected by D. Rogers. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645623. Ipomoea sp.

Wild. 67.7; 106; Grif 15925. Collected in Texas, United States.

The following were collected by W.J. Martin, Unknown. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645624. Ipomoea sp.

Wild. 113; Grif 15927. Collected in Louisiana, United States. Louisiana State University.

PI 645625. Ipomoea sp.

Wild. 118; Grif 15929. Collected in Louisiana, United States. Louisiana State University.

The following were collected by Dan Austin, Florida Atlantic University, Department of Biological Services, Boca Raton, Florida 33431, United States. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645626. Ipomoea sp.

Wild. 119; Grif 15930. Collected in Florida, United States.

The following were collected by S.A. Harmon. Donated by David Bridges, University of Georgia, CAES Griffin Campus, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 01/12/2004.

PI 645627. *Ipomoea* sp.

Wild. 32.126; 132; Grif 15933. Collected in Georgia, United States. Tift Co.

The following were donated by Waller Flowerseed Company, P.O. Box 935, 4th and Obispo Streets, Guadalupe, California 93434, United States. Received 1962.

PI 645628. *Ipomoea* sp.

Grif 15951; GIANT FLOWERING SCARLETT OHARA.

The following were donated by USDA, ARS, Plant Science Research Division, Beltsville, Maryland 20705, United States. Received 1967.

PI 645629. *Ipomoea* sp.

Grif 15952; DARLING.

The following were donated by B and T World Seeds, Pagnignan, Aigues-Vives, France. Received 08/05/2004.

PI 645630. *Ipomoea* sp.

Uncertain. 431684; Grif 15977.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Developed by Gayle Volk, USDA, ARS, National Center for, Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States; Chris Richards, USDA, ARS, National Center for, Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States. Received 02/26/2007.

PI 645631. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-Populus, Pyrus, Acer. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-Populus, Pyrus, Acer. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D=

GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the years 2004-2006. Contains 2 lots with 32 envelopes x 16 seed batches for 512 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 32 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, 3762.h, 3620.e, 3781.c, 3620.m, 3764.l, 3627.l, 3762.g, 4024.i, 3629.d, 3610.l and PI 645658 and 645659.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Developed by Gayle Volk, USDA, ARS, National Center for, Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States; Chris Richards, USDA, ARS, National Center for, Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States. Received 02/26/2007.

PI 645632. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the years 2004-2006. Contains 2 lots with 31 envelopes x 16 seed batches for 496 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 31 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, 3762.h, 3620.e, 3781.c, 3620.m, 3764.l, 3627.l, 3762.g, 4024.i, 3629.d, and PI 645658 and 645659.

PI 645633. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the

years 2004-2006. Contains 2 lots with 30 envelopes x 16 seed batches for 480 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 30 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, 3762.h, 3620.e, 3781.c, 3620.m, 3764.l, 3627.l, 3762.g, 4024.i, and PI 645658 and 645659.

PI 645634. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the years 2004-2006. Contains 1 lot with 27 envelopes x 16 seed batches for 432 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 27 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, 3762.h, 3620.e, 3781.c, 3620.m, 3764.l and PI 645658 and 645659.

PI 645635. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the years 2004-2006. Contains 1 lot with 25 envelopes x 16 seed batches for 400 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 25 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, 3762.h, 3620.e, 3781.c, and PI 645658 and 645659.

PI 645636. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region

(Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the years 2004-2006. Contains 1 lot with 23 envelopes x 16 seed batches for 368 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 23 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, 3762.h, and PI 645658 and 645659.

PI 645637. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, or D. Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Pollination process covers the years 2004-2006. Contains 3 lots with 22 envelopes x 16 seed batches for 352 seeds. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 22 envelopes are labeled by the mother trees. GMALS 3608.a, 3610.b, 3614.a, 3614.d, 3614.g, 3616.d, 3619.j, 3619.m, 3623.f, 3627.a, 3629.n, 3638.b, 3762.n, 3764.e, 3775.h, 3781.b, 3781.n, 3785.b, 4020.i, 4024.n, and PI 645658 and 645659.

PI 645638. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659 Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the

years 2004-2006. The mother is GMAL 3608.a There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (77), Pool B (82), Pool C (45), Pool D (54), and Bulk (includes mixed pools A-D) has 79 for total of 337 seed.

PI 645639. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3610.b. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (30), Pool B (33), Pool C (85), Pool D (38), and Bulk (includes mixed pools A-D) has 114 for total of 300 seed.

PI 645640. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3614.a. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (152), Pool B (32), Pool C (44), Pool D (162), and Bulk (includes mixed pools A-D) has 15 for total of 405 seed.

PI 645641. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c,

3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3614.d. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (293), Pool B (6), Pool C (21), Pool D (14), and Bulk (includes mixed pools A-D) has 272 for total of 606 seed.

PI 645642. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3614.g. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (65), Pool B (60), Pool C (299), Pool D (326), and Bulk (includes mixed pools A-D) has 21 for total of 771 seed.

PI 645643. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3616.d. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (75), Pool B (75), Pool C (62), Pool D (105), and Bulk (includes mixed pools A-D) has 33 for total 350 seed.

PI 645644. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of

Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3619.j. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (188), Pool B (372), Pool C (462), Pool D (246), and Bulk (includes mixed pools A-D) has 96 for total 1,364 seed.

PI 645645. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3619.m. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (321), Pool B (75), Pool C (2), Pool D (88) for total of 486 seeds.

PI 645646. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3623.f. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (198), Pool B (97), Pool C (17), Pool D (118), and Bulk (includes mixed pools A-D) has 76 for total of 506 seed.

PI 645647. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3627.a. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (33), Pool B (87), Pool C (33), Pool D (66), and Bulk (includes mixed pools A-D) has 10 for total of 229 seed.

PI 645648. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3629.n. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (148), Pool B (175), Pool C (82), Pool D (200), and Bulk (includes mixed pools A-D) has 175 for total of 780 seed.

PI 645649. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g,

3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3638.b There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (6), Pool B (28), Pool C (35), Pool D (6), and Bulk (includes mixed pools A-D) has 117 for total of 192 seed.

PI 645650. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3762.n. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (79), Pool B (331), Pool C 66), for total of 476 seed.

PI 645651. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3764.e. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (109), Pool B (175), Pool C 33), Pool D (329), for total of 646 seed.

PI 645652. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a,

3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3775.h. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (41), Pool B (49), Pool C (109), Pool D (8), and Bulk (includes mixed pools A-D) has 36 for total of 243 seed.

PI 645653. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3781.b. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (169), Pool B (342), Pool C (241), Pool D (238), for total of 990 seed.

PI 645654. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3781.n. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (46), Pool B (97), Pool C (81), Pool D (64), and Bulk (includes mixed pools A-D) has 50 for total of 338 seed.

PI 645655. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region

(Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3785.b. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (62), Pool B (102), Pool C 186), Pool D (249), for total of 599 seed.

PI 645656. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4020.a. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (55), Pool B (73), Pool C (75), Pool D (78), and Bulk (includes mixed pools A-D) has 23 for total of 304 seed.

PI 645657. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4024.n. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A

(174), Pool B (42), Pool C (99), Pool D (91), and Bulk (includes mixed pools A-D) has 43 for total of 449 seed.

PI 645658. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4331. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (203), Pool B (282), Pool C 181), Pool D (208), for total of 874 seed.

PI 645659. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4446. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (82), Pool B (100), Pool C 46), Pool D (81), for total of 309 seed.

PI 645660. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI

645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3610.l. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (1), Pool B (12), Pool C (13), Pool D (13), for total of 39 seed.

PI 645661. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3620.e. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (70), Pool B (13), Pool C (13), Pool D (2), for total of 98 seed.

PI 645662. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3620.m. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (55), Pool B (39), Pool C (8), Pool D (1), and Bulk (includes mixed pools A-D) has 64 for total 167 seed.

PI 645663. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a,

3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3627.l. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (118), Pool B (13), Pool C (91), Pool D (1), and Bulk (includes mixed pools A-D) has 436 for total 659 seed.

PI 645664. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3629.d. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (64), Pool B (2), Pool C (22), Pool D (16), and Bulk (includes mixed pools A-D) has 40 for total 144 seed.

PI 645665. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3762.g. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (55), Pool B (2), Pool C (16), Pool D (52), and Bulk (includes mixed pools A-D) has 19 for total 144 seed.

PI 645666. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region

(Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3762.5. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (356), Pool B (79), Pool D (45), and Bulk (includes mixed pools A-D) has 138 for total 618 seed.

PI 645667. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3764.l. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (31), Pool B (250), Pool C (186), Pool D (3), and Bulk (includes mixed pools A-D) has 256 for total 726 seed.

PI 645668. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3781.c. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool

A (100), Pool B (1), Pool C (55), Pool D (156), and Bulk (includes mixed pools A-D) has 72 for total 384 seed.

PI 645669. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4024.i. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (218), Pool B (149), Pool C (148), Pool D (3), and Bulk (includes mixed pools A-D) has 24 for total 542 seed.

PI 645670. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3608.b. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (71), Pool B (37), Pool C (48), Pool D (2), and Bulk (includes mixed pools A-D) has 14 for total 172 seed.

PI 645671. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h,

3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3622.m. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (44), Pool B (6), Pool C (11), and Bulk (includes mixed pools A-D) has 11 for total 72 seed.

PI 645672. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3623.e. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (4), Pool B (10), Pool C (7), for total of 21 seeds.

PI 645673. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3625.a. There are 2 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (12), Pool C (4), for total 16 seed.

PI 645674. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree -

Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3636.n. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (87), Pool C (33), Pool D (22), and Bulk (includes mixed pools A-D) has 8 for total of 150 seed.

PI 645675. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3781.h. There are 2 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (6), Pool C (7) for total of 13 seed.

PI 645676. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3784.d. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (99), Pool B (22), Pool D (9), and Bulk (includes mixed pools A-D) has 4 for total of 134 seed.

PI 645677. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region

(Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 3785.k. There are 2 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (9), Pool B (12), for total of 21 seed.

PI 645678. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4103.c. There are 2 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (8), Pool D (3), for total of 11 seed.

PI 645679. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/12/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Pedigree - Pollen sources from pools A, B, C, D, or Bulk: Pool A= GMAL 3614.a, 3614.d, 3614.g, 3620.e, 3620.g, 3620.m, 3622.m, 3636.e, 3629.n, 3781.c, 3785.b . Pool B= GMAL 3608.a, 3616.d, 3619.j, 3619.n, 3623.f, 3627.a, 3627.l, 3762.n, 3781.n. Pool C= GMAL 3629.d, 3635.m, 3762.h, 3775.h, 3781.b, 3781.h, 3785.k, 4020.i, 4024.i, 4024.n, 4103.a, PI 645658 and PI 645659. Pool D= GMAL 3610.b, 3610.l, 3625.a, 3636.h, 3638.b, 3762.g, 3764.e, 3764.l, 3784.d, PI 645658 and PI 645659. Bulk= Includes seed from all pollen pools A, B, C, and D. Pollination process covers the years 2004-2006. The mother is GMAL 4328. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (49), Pool C (38), Pool D (38), and Bulk (includes mixed pools A-D) has 8 for total of 133 seed.

The following were donated by Allen Boatman, School Districts of Hillsborough County, Falkenburg Road Jail, C/O Adult Education Office (Horticulture), Tampa, Florida 33619, United States. Received 09/23/2005.

PI 645680. *Capsicum rhomboideum* (Dunal) Kuntze
Uncertain. Grif 16136.

The following were donated by Natalia Nagy, Plant Breeding Institute, 107 Cobbitty Rd., Cobbitty, New South Wales 2570, Australia. Received 03/11/2004.

PI 645681. *Capsicum eximium* Hunz.
Wild. Grif 15939.

The following were donated by Raymond G. Mock, USDA, ARS, Fruit Laboratory, Plant Germplasm Quarantine Office, Beltsville, Maryland 20705-2350, United States. Received 1990.

PI 645682. *Ipomoea setosa* Ker Gawl.
Grif 6149.

The following were donated by Robert L. Jarret, USDA, ARS, Plant Genetic Resources Conservation Unit, University of Georgia, Griffin, Georgia 30223-1797, United States. Received 03/03/2006.

PI 645683. *Solanum douglasii* Dunal
Wild. B and T World Seeds No. 86463; Grif 16401.

PI 645684. *Solanum dulcamara* L.
Wild. B and T World Seeds No. 5036; Grif 16389.

PI 645685. *Solanum lichtensteinii* Willd.
Wild. B and T World Seeds No. 442206; Grif 16396.

PI 645686. *Solanum macrocarpon* L.
Wild. B and T World Seeds No. 441168; Grif 16394.

PI 645687. *Solanum pyracanthos* Lam.
Wild. B and T World Seeds No. 406703; Grif 16397.

PI 645688. *Solanum viride* Spreng.
Wild. B and T World Seeds No. 401725; Grif 16404.

The following were donated by INIFAP, CIFAP, Experimental Valle De Mexico, Apartado Postal No. 10, KM 38.5 CARR. Mex-VER/VIA Texcoco, Chapingo, Mexico, Mexico. Received 02/05/1992.

PI 645689. *Zea mays* L. subsp. *mays*
Landrace. Population. Aguascalientes 9; MEX 9 (INIFAP ACC NO); NRC 1180; Temporal; AGS 9; Ames 19384. Collected 01/01/1944 in Aguascalientes, Mexico. Latitude 22° 13' N. Longitude 102° 11' W. Elevation 2164

m. El Chayote, Tepezala.

PI 645690. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 13; MEX 13 (INIFAP ACC NO); NRC 1184; Pepitilla; AGS 13; Ames 19385. Collected 01/01/1944 in Aguascalientes, Mexico. Latitude 22° 14' N. Longitude 102° 20' W. Elevation 2164 m. Campo Experimental Pabellon, Rincon De Romos.

PI 645691. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 52; MEX 52 (INIFAP ACC NO); AGS 52; Ames 19386. Collected 01/01/1961 in Aguascalientes, Mexico. Santa Rosa.

PI 645692. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 53; MEX 53 (INIFAP ACC NO); AGS 53; Ames 19387. Collected 01/01/1961 in Aguascalientes, Mexico. Latitude 22° 8' N. Longitude 102° 25' W. Elevation 1900 m. Rancho Viejo, San Jose De Gracia.

PI 645693. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 54; MEX 54 (INIFAP ACC NO); AGS 54; Ames 19388. Collected 01/01/1961 in Aguascalientes, Mexico.

PI 645694. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 59; MEX 59 (INIFAP ACC NO); Temporal 80 Dias; AGS 59; Ames 19389. Collected in Aguascalientes, Mexico. Latitude 21° 53' N. Longitude 102° 20' W. Elevation 1900 m. La Escondida, Aguascalientes.

PI 645695. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 67; Ames 19390. Collected in Aguascalientes, Mexico.

PI 645696. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 70; Ames 19391. Collected in Aguascalientes, Mexico.

PI 645697. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 81; Ames 19392. Collected in Aguascalientes, Mexico.

PI 645698. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 82; Ames 19393. Collected in Aguascalientes, Mexico.

PI 645699. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 83; Ames 19394. Collected in Aguascalientes, Mexico.

PI 645700. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 84; Ames 19395. Collected in Aguascalientes, Mexico.

PI 645701. Zea mays L. subsp. mays

Landrace. Population. Aguascalientes 85; Ames 19396. Collected in Aguascalientes, Mexico.

- PI 645702. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-023676; Aguascalientes 86; Ames 19397.
Collected in Aguascalientes, Mexico.
- PI 645703. *Zea mays* L. subsp. *mays***
Landrace. Population. Aguascalientes 87; Ames 19398. Collected in
Aguascalientes, Mexico.
- PI 645704. *Zea mays* L. subsp. *mays***
Landrace. Population. Aguascalientes 89; Ames 19399. Collected in
Aguascalientes, Mexico.
- PI 645705. *Zea mays* L. subsp. *mays***
Landrace. Population. Aguascalientes 90; Ames 19400. Collected in
Aguascalientes, Mexico.
- PI 645706. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-002529; Campeche 13; MEX 88 (INIFAP ACC
NO); NRC 1232; Xmehenal; CAMP 13; Ames 19401. Collected 01/01/1948 in
Campeche, Mexico. Latitude 19° 45' N. Longitude 89° 51' W.
Elevation 30 m. Finca Chon Cruz Camino Hopelchen.
- PI 645707. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-002116; Campeche 80; MEX 177 (INIFAP ACC
NO); NRC 1299; Xtan Bacal; CAMP 80; Ames 19402. Collected 01/01/1948 in
Campeche, Mexico. Latitude 20° 11' N. Longitude 90° 9' W.
Elevation 30 m. Hecelchakan.
- PI 645708. *Zea mays* L. subsp. *mays***
Landrace. Population. Campeche 95; MEX 192 (INIFAP ACC NO); NRC 1314;
CAMP 95; Ames 19403. Collected 01/01/1948 in Campeche, Mexico. Latitude
18° 37' N. Longitude 90° 43' W. Elevation 30 m. Escarcega,
Ciudad Del Carmen.
- PI 645709. *Zea mays* L. subsp. *mays***
Landrace. Population. Campeche 164; MEX 208 (INIFAP ACC NO); Ishcampol;
CAMP 164; IG-85AR 16#; Ames 19404. Collected in Campeche, Mexico.
Latitude 19° 21' N. Longitude 90° 43' W. Elevation 2 m.
Champton.
- PI 645710. *Zea mays* L. subsp. *mays***
Landrace. Population. Campeche 169; MEX 213 (INIFAP ACC NO); Dzit Bacal;
CAMP 169; IG-85AR 20#; Ames 19405. Collected in Campeche, Mexico.
Elevation 30 m.
- PI 645711. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-013693; Chihuahua 3; MEX 938 (INIFAP ACC
NO); NRC 1554; Chapo Blanco; IG-88/89 33#; CHIH 3; Ames 19406.
Collected 01/01/1943 in Chihuahua, Mexico. Latitude 28° 17' N.
Longitude 105° 29' W. Elevation 1150 m. Region Meoqui.
- PI 645712. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 37; MEX 972 (INIFAP ACC NO); NRC 1588;
Chato; CHIH 37; Ames 19407. Collected 01/01/1944 in Chihuahua, Mexico.
Latitude 27° 48' N. Longitude 107° 29' W. Elevation 1800 m.
Sisoguichic.

- PI 645713. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 44; NRC 1595; MEX 979 (INIFAP ACC NO); Amarillo; CHIH 44; Ames 19408. Collected 02/10/1943 in Chihuahua, Mexico. Latitude 26° 56' N. Longitude 105° 25' W. Elevation 1480 m. Rancho Jerusalem, Valle de Allende.
- PI 645714. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 52; MEX 987 (INIFAP ACC NO); NRC 1603; Temprano; CHIH 52; Ames 19409. Collected 02/09/1943 in Chihuahua, Mexico. Latitude 27° 1' N. Longitude 105° 17' W. Elevation 1480 m. San Juan De Allende, Valle de Allende.
- PI 645715. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 53; MEX 988 (INIFAP ACC NO); NRC 1604; Comercial; CHIH 53; Ames 19410. Collected 02/09/1943 in Chihuahua, Mexico. Latitude 27° 8' N. Longitude 104° 55' W. Elevation 1400 m. Los Zacatales, Jimenez.
- PI 645716. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 58; MEX 993 (INIFAP ACC NO); NRC 1609; De Temporal; CHIH 58; Ames 19411. Collected 02/09/1943 in Chihuahua, Mexico. Latitude 26° 56' N. Longitude 105° 25' W. Elevation 1400 m. Corralejo, Valle de Allende.
- PI 645717. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 60; MEX 995 (INIFAP ACC NO); NRC 1611; Catarineno; CHIH 60; Ames 19412. Collected 02/10/1943 in Chihuahua, Mexico. Latitude 26° 56' N. Longitude 105° 25' W. Elevation 1400 m. Corralejo, Valle de Allende.
- PI 645718. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 61; MEX 996 (INIFAP ACC NO); NRC 1612; Blanco; CHIH 61; Ames 19413. Collected 02/10/1943 in Chihuahua, Mexico. Latitude 26° 56' N. Longitude 105° 25' W. Elevation 1400 m. Santo El Alto Corralejo, Valle de Allende.
- PI 645719. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 64; MEX 999 (INIFAP ACC NO); NRC 1615; Jaraleno; CHIH 64; Ames 19414. Collected 02/10/1943 in Chihuahua, Mexico. Latitude 27° 7' N. Longitude 105° 21' W. Elevation 1400 m. El Dorado, Valle de Allende.
- PI 645720. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 65; MEX 1000 (INIFAP ACC NO); NRC 1616; Jaraleno; CHIH 65; Ames 19415. Collected 02/10/1943 in Chihuahua, Mexico. Latitude 27° 7' N. Longitude 105° 21' W. Elevation 1400 m. El Dorado, Valle de Allende.
- PI 645721. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 78; MEX 1013 (INIFAP ACC NO); NRC 1629; Socorro; CHIH 78; Ames 19416. Collected 02/08/1943 in Chihuahua, Mexico. Latitude 26° 45' N. Longitude 105° 10' W. Elevation 1480 m. Villa Coronado.
- PI 645722. *Zea mays* L. subsp. *mays***
Landrace. Population. Chihuahua 95; MEX 1030 (INIFAP ACC NO); Hembra; CHIH 95; Ames 19417. Collected 01/01/1954 in Chihuahua, Mexico.

Latitude 28° 38' N. Longitude 106° 5' W. Elevation 2100 m. San Jose Babicora, Chihuahua.

PI 645723. Zea mays L. subsp. mays

Landrace. Population. Chihuahua 103; MEX 1038 (INIFAP ACC NO); Tulancingo; CHIH 103; Ames 19418. Collected 01/01/1954 in Chihuahua, Mexico. Latitude 28° 38' N. Longitude 106° 5' W. Elevation 1800 m. Santa Ana Babicora, Chihuahua.

PI 645724. Zea mays L. subsp. mays

Landrace. Population. Chihuahua 114; MEX 1048 (INIFAP ACC NO); CHIH 114; Ames 19419. Collected in Chihuahua, Mexico. Latitude 29° 45' N. Longitude 107° 44' W. Elevation 2000 m. Zaragoza.

PI 645725. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-006748; Chihuahua 126; MEX 1061 (INIFAP ACC NO); Rosero; CHIH 126; Ames 19420. Collected 01/01/1968 in Chihuahua, Mexico. Latitude 30° 35' N. Longitude 107° 55' W. Elevation 1470 m. Ejido Guadalupe Victoria, Janos.

PI 645726. Zea mays L. subsp. mays

Landrace. Population. Chihuahua 263; MEX 1198 (INIFAP ACC NO); Chapo; CHIH 263; Ames 19421. Collected 01/01/1969 in Chihuahua, Mexico. Latitude 27° 42' N. Longitude 105° 10' W. Elevation 1227 m. Camargo.

PI 645727. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-000797; CHIS 3; NRC 1321; MEX 229 (INIFAP ACC NO); Chiapas 3; FN83016130; Ames 19422. Collected 01/01/1943 in Chiapas, Mexico. Latitude 16° 15' N. Longitude 93° 16' W. Elevation 600 m. Villa Flores.

PI 645728. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-000756; Chiapas 11; MEX 237 (INIFAP ACC NO); NRC 1329; Dentado; CHIS 11; Ames 19423. Collected 01/01/1943 in Chiapas, Mexico. Latitude 15° 22' N. Longitude 92° 15' W. Elevation 1100 m. Motozintla.

PI 645729. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-000782; Chiapas 13; MEX 239 (INIFAP ACC NO); NRC 1331; Barreno; CHIS 13; Ames 19424. Collected 01/01/1943 in Chiapas, Mexico. Latitude 15° 28' N. Longitude 92° 9' W. Elevation 2240 m. Bejucal De Ocampo.

PI 645730. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-001772; Chiapas 23; MEX 249 (INIFAP ACC NO); NRC 1341; Comiteco; CHIS 23; Ames 19425. Collected 01/01/1944 in Chiapas, Mexico. Latitude 15° 35' N. Longitude 92° 13' W. Elevation 1800 m. Bella Vista.

PI 645731. Zea mays L. subsp. mays

Landrace. Population. Chiapas 36; MEX 264 (INIFAP ACC NO); NRC 1354; CHIS 36; Ames 19426. Collected 01/01/1944 in Chiapas, Mexico. Elevation 2043 m. Rancho Santa Rosa.

- PI 645732. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-002147; CHIS 50; NRC 1368; MEX 280 (INIFAP ACC NO); Chiapas 50; FN83015121; IG-85AR 25#; Ames 19427. Collected 01/01/1944 in Chiapas, Mexico. Latitude 16° 45' N. Longitude 93° 7' W. Elevation 540 m. Tuxtla Gutierrez.
- PI 645733. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 55; MEX 285 (INIFAP ACC NO); NRC 1373; Olotillo; CHIS 55; Ames 19428. Collected 01/01/1944 in Chiapas, Mexico. Latitude 16° 45' N. Longitude 93° 10' W. Elevation 600 m. Teran.
- PI 645734. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-000752; CHIS 57; NRC 1375; MEX 287 (INIFAP ACC NO); Tempranizo; FN83018170; Chiapas 57; Ames 19429. Collected 01/01/1944 in Chiapas, Mexico. Latitude 16° 45' N. Longitude 93° 10' W. Elevation 560 m. Teran.
- PI 645735. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 89; MEX 320 (INIFAP ACC NO); NRC 1407; Pinto; CHIS 89; Ames 19430. Collected 01/01/1944 in Chiapas, Mexico. Latitude 16° 15' N. Longitude 92° 8' W. Elevation 1555 m. Comitán De Dominguez.
- PI 645736. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 125; MEX 357 (INIFAP ACC NO); NRC 1443; Cristalino; CHIS 125; Ames 19431. Collected 01/01/1946 in Chiapas, Mexico. Latitude 16° 20' N. Longitude 91° 59' W. Elevation 1400 m. Finca San Mateo, Las Margaritas.
- PI 645737. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 149; MEX 381 (INIFAP ACC NO); NRC 1467; CHIS 149; Ames 19432. Collected 01/01/1946 in Chiapas, Mexico. Latitude 16° 8' N. Longitude 91° 56' W. Elevation 1418 m. Juncana, La Trinitaria.
- PI 645738. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 154; MEX 386 (INIFAP ACC NO); NRC 1472; CHIS 154; Ames 19433. Collected 01/01/1946 in Chiapas, Mexico. Latitude 16° 8' N. Longitude 91° 56' W. Elevation 1418 m. Juncana, La Trinitaria.
- PI 645739. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-002159; Chiapas 157; MEX 389 (INIFAP ACC NO); NRC 1475; Tehua; CHIS 157; Ames 19434. Collected 01/01/1946 in Chiapas, Mexico. Elevation 820 m. Potrerillo Sur de Sapaluta, La Trinitaria.
- PI 645740. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-000792; Chiapas 176; MEX 408 (INIFAP ACC NO); NRC 1494; Chiapaneco; CHIS 176; Ames 19435. Collected 01/01/1946 in Chiapas, Mexico. Latitude 15° 22' N. Longitude 92° 13' W. Elevation 1840 m. Juarez Chimale.

- PI 645741. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 227; MEX 461 (INIFAP ACC NO); NRC 1545;
 Chiquihua; CHIS 227; Ames 19436. Collected 01/01/1946 in Chiapas, Mexico.
 Latitude 15° 24' N. Longitude 91° 10' W. Elevation 1000 m.
 Mazapa De Madero.
- PI 645742. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 254; MEX 488 (INIFAP ACC NO); CHIS 254;
 IG-87/88 89#; Ames 19437. Collected 01/01/1944 in Chiapas, Mexico.
 Latitude 16° 7' N. Longitude 92° 3' W. Santa Rita, La
 Trinitaria.
- PI 645743. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 288; MEX 522 (INIFAP ACC NO); Chiapaneco;
 CHIS 288; Ames 19438. Collected in Chiapas, Mexico. Latitude 15° 22'
 N. Longitude 92° 15' W. Elevation 1240 m. Motozintla.
- PI 645744. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 290; MEX 524 (INIFAP ACC NO); Amarillo;
 CHIS 290; Ames 19439. Collected in Chiapas, Mexico. Latitude 15° 22'
 N. Longitude 92° 15' W. Elevation 1240 m. Motozintla.
- PI 645745. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 324; MEX 558 (INIFAP ACC NO); Amarillo;
 CHIS 324; Ames 19440. Collected 01/01/1972 in Chiapas, Mexico. Elevation
 1870 m. Ejido Colonia Hidalgo, Comitán De Domínguez.
- PI 645746. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 387; MEX 621 (INIFAP ACC NO); Blanco
 Olotillo; CHIS 387; Ames 19441. Collected 01/01/1972 in Chiapas, Mexico.
 Latitude 15° 42' N. Longitude 92° 6' W. Elevation 700 m.
 Frontera Comalapa.
- PI 645747. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 554; MEX 789 (INIFAP ACC NO); Olotillo
 Amarillo; CHIS 554; Ames 19442. Collected 01/01/1972 in Chiapas, Mexico.
 Latitude 16° 48' N. Longitude 93° 16' W. Elevation 980 m.
 Berriozabal.
- PI 645748. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 638; MEX 873 (INIFAP ACC NO); Jarocho;
 CHIS 638; Ames 19443. Collected 01/01/1972 in Chiapas, Mexico. Latitude
 15° 17' N. Longitude 92° 42' W. Elevation 30 m. Acapetagua.
- PI 645749. *Zea mays* L. subsp. *mays***
 Landrace. Population. Chiapas 708; MEX 9282 (INIFAP ACC NO); Jarocho
 Blanco; CHIS 708; Ames 19444. Collected 01/01/1978 in Chiapas, Mexico.
 Latitude 16° 14' N. Longitude 93° 16' W. Elevation 610 m. Nuevo
 Mexico, Villa Flores.
- PI 645750. *Zea mays* L. subsp. *mays***
 Landrace. Population. Coahuila 22; MEX 1306 (INIFAP ACC NO); NRC 1664;
 De Cuateo; B-90R 121#; COAH 22; Ames 19445. Collected 01/01/1952 in
 Coahuila, Mexico. Latitude 25° 40' N. Longitude 102° 6' W.
 Elevation 1400 m. Veintiocho De Agosto, Parras.

- PI 645751. *Zea mays* L. subsp. *mays***
 Landrace. Population. Coahuila 27; MEX 1311 (INIFAP ACC NO); NRC 1669; De Tres Meses; COAH 27; Ames 19446. Collected 01/30/1952 in Coahuila, Mexico. Latitude 25° 45' N. Longitude 102° 59' W. Elevation 1600 m. El Triangulo, San Pedro. Resistente a sequia. (MEX_ALL/LAMP CD 1995).
- PI 645752. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-016315; Coahuila 42; MEX 1326 (INIFAP ACC NO); NRC 1684; Tampiqueno; COAH 42; Ames 19447. Collected 01/01/1952 in Coahuila, Mexico. Latitude 25° 20' N. Longitude 102° 45' W. Elevation 1600 m. Viuda De Trevino, Viesca.
- PI 645753. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-002129; Coahuila 49; NRC 1691; MEX 1333 (INIFAP ACC NO); Longoria; IG-85AR 104#; COAH 49; Ames 19448. Collected 02/04/1952 in Coahuila, Mexico. Latitude 27° 53' N. Longitude 101° 33' W. Elevation 700 m. El Nosal, Muzquiz.
- PI 645754. *Zea mays* L. subsp. *mays***
 Landrace. Population. Coahuila 73; MEX 1357 (INIFAP ACC NO); NRC 1715; Pepitilla; COAH 73; Ames 19449. Collected 02/01/1952 in Coahuila, Mexico. Latitude 25° 25' N. Longitude 101° 0' W. Elevation 1800 m. Ejido La Encantada, Saltillo.
- PI 645755. *Zea mays* L. subsp. *mays***
 Landrace. Population. Coahuila 103; MEX 1386 (INIFAP ACC NO); Lagunero; COAH 103; Ames 19450. Collected in Coahuila, Mexico. Francisco Madero.
- PI 645756. *Zea mays* L. subsp. *mays***
 Landrace. Population. Colima 81; Ames 19451. Collected in Colima, Mexico.
- PI 645757. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-001490; Durango 2; MEX 1461 (INIFAP ACC NO); NRC 1750; DGO 2; Ames 19452. Collected 01/01/1946 in Durango, Mexico. Latitude 23° 44' N. Longitude 103° 59' W. Elevation 1829 m. Vicente Guerrero. Chalqueno, Tuxpen, Pepitilla (CH-61) (Note on MEX_ALL DB, 1995 LAMP CD).
- PI 645758. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-002183; Durango 14; MEX 1473 (INIFAP ACC NO); NRC 1762; Colorado; DGO 14; Ames 19453. Collected 01/23/1952 in Durango, Mexico. Elevation 2200 m. Chinacates. Tortillas, alimento para animales. (Comment on MEX_ALL DB, 1995 LAMP CD.).
- PI 645759. *Zea mays* L. subsp. *mays***
 Landrace. Population. Durango 37; MEX 1497 (INIFAP ACC NO); Blanco; DGO 37; Ames 19454. Collected 01/01/1950 in Durango, Mexico. Latitude 25° 54' N. Longitude 105° 13' W. Inde.
- PI 645760. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-016317; Durango 40; MEX 1500 (INIFAP ACC NO); DGO 40; B-90 35#; Ames 19455. Collected 01/01/1950 in Durango, Mexico. Latitude 24° 47' N. Longitude 104° 2' W. Elevation 1700 m. Luis Moya, Penon Blanco.

- PI 645761. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 44; MEX 1504 (INIFAP ACC NO); DGO 44;
Ames 19456. Collected 01/01/1950 in Durango, Mexico. Agustin Castro.
- PI 645762. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 54; MEX 1514 (INIFAP ACC NO); DGO 54;
B-86R 52#; Ames 19457. Collected 01/01/1950 in Durango, Mexico.
Elevation 1800 m. Santa Maria Del Oro.
- PI 645763. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 59; MEX 1519 (INIFAP ACC NO); DGO 59;
Ames 19458. Collected 01/01/1950 in Durango, Mexico. Villa Ocampo.
- PI 645764. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 64; MEX 1524 (INIFAP ACC NO); DGO 64;
Ames 19459. Collected 01/01/1950 in Durango, Mexico. Latitude 25°
33' N. Longitude 104° 18' W. San Pedro Del Gallo.
- PI 645765. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 70; MEX 1530 (INIFAP ACC NO); DGO 70;
Ames 19460. Collected 01/01/1950 in Durango, Mexico. Latitude 24°
46' N. Longitude 104° 28' W. Elevation 1737 m. San Juan Del Rio.
- PI 645766. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 80; MEX 1540 (INIFAP ACC NO); Amarillo;
DGO 80; Ames 19461. Collected 01/01/1951 in Durango, Mexico. Latitude
25° 54' N. Longitude 105° 13' W. Rancho La Boquilla, Inde.
- PI 645767. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-006879; Durango 144; MEX 1604 (INIFAP ACC
NO); De 8; DGO 144; Ames 19462. Collected 12/03/1968 in Durango, Mexico.
Latitude 25° 8' N. Longitude 106° 32' W. Elevation 1800 m.
Pista Avionetas San Jose de Canelas, Santiago Papasquiario. Olote blanco
flexible, 8 hileras rectas avecesreduciendose en tamanohacia el apice,
granos intercalados redondeados (Note on MEX_ALL DB, 95 LAMP CD.).
- PI 645768. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-007971; Durango 149; MEX 1609 (INIFAP ACC
NO); Dulce Rojo; DGO 149; Ames 19463. Collected 01/01/1968 in Durango,
Mexico. Latitude 25° 8' N. Longitude 106° 32' W. Elevation 1800
m. San Jose De Canelas, Santiago Papasquiario. Grano brillante arrugado
estriado olote con glumas, rosadas flexible, falto polinizacion. (Note
on MEX_ALL DB,95 LAMP CD.).
- PI 645769. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-006883; Durango 153; MEX 1613 (INIFAP ACC
NO); DGO 153; Ames 19464. Collected 01/01/1968 in Durango, Mexico.
Latitude 25° 8' N. Longitude 106° 32' W. Elevation 1800 m. San
Jose De Canelas, Santiago Papasquiario.
- PI 645770. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 226; MEX 1686 (INIFAP ACC NO); Chanbergo
90 Dia; DGO 226; Ames 19465. Collected 01/11/1974 in Durango, Mexico.
Ignacio Zaragoza, Panuco De Coronado. Este maiz resultado de mezcla de
los criollos locales. (Note on MEX_ALL DB, 95 LAMP CD.).

- PI 645771. *Zea mays* L. subsp. *mays***
Landrace. Population. Durango 230; MEX 1690 (INIFAP ACC NO); Amarillo 4 Meses; DGO 230; Ames 19466. Collected 01/08/1974 in Durango, Mexico. Latitude 24° 53' N. Longitude 103° 42' W. Cuauhtemoc, Cuencame.
- PI 645772. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010486; Guerrero 3; NRC 1881; MEX 2077 (INIFAP ACC NO); Pepitilla; Goodman 3282 (84-85); Goodman F-2; Goodman 3284 (84-85); Goodman F-7 (490); GRO 3; Goodman 3282 (84-85); Goodman F-7 (490); Goodman F-2; Goodman 3284 (84-85); Goodman 3284 (84-85); Goodman F-7 (490); Ames 19467. Collected 01/01/1943 in Guerrero, Mexico. Latitude 18° 22' N. Longitude 99° 33' W. Elevation 731 m. Iguala.
- PI 645773. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 116; MEX 2192 (INIFAP ACC NO); NRC 1994; Amarillo Alto; GRO 116; Ames 19468. Collected 01/01/1947 in Guerrero, Mexico. Elevation 480 m. Vallecito.
- PI 645774. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 131; MEX 2207 (INIFAP ACC NO); NRC 2622; Prieto Breve; GRO 131; Ames 19469. Collected 01/01/1947 in Guerrero, Mexico. Elevation 100 m. Murga.
- PI 645775. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 252; MEX 2331 (INIFAP ACC NO); Pepitilla Rojo; GRO 252; Ames 19470. Collected in Guerrero, Mexico.
- PI 645776. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 281; MEX 2360 (INIFAP ACC NO); Ancho; GRO 281; Ames 19471. Collected 11/22/1973 in Guerrero, Mexico. Latitude 18° 26' N. Longitude 99° 44' W. Elevation 1400 m. Xalostoc (Amate Prieto), San Martin Pachivia.
- PI 645777. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 296; MEX 2375 (INIFAP ACC NO); Morado Palula; GRO 296; Ames 19472. Collected 11/26/1973 in Guerrero, Mexico. Latitude 16° 54' N. Longitude 99° 13' W. La Concordia, Ayutla.
- PI 645778. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010488; Guerrero 335; MEX 2414 (INIFAP ACC NO); Ganchudo; GRO 335; Ames 19473. Collected 12/11/1973 in Guerrero, Mexico. Latitude 18° 18' N. Longitude 99° 20' W. Elevation 762 m. Huitzucó.
- PI 645779. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 345; MEX 2424 (INIFAP ACC NO); Totoapeno; GRO 345; Ames 19474. Collected 12/13/1973 in Guerrero, Mexico. Latitude 18° 22' N. Longitude 99° 33' W. Elevation 635 m. Tuxpan, Iguala.
- PI 645780. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 349; MEX 2428 (INIFAP ACC NO); Blanco Pozolero; GRO 349; Ames 19475. Collected 06/01/1973 in Guerrero, Mexico. Latitude 17° 36' N. Longitude 99° 11' W. Elevation 1300 m. Chilapa.

- PI 645781. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 350; MEX 2429 (INIFAP ACC NO); Blanco; GRO 350; Ames 19476. Collected 06/01/1973 in Guerrero, Mexico. Latitude 17° 36' N. Longitude 99° 11' W. Elevation 1300 m. Chilapa.
- PI 645782. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 351; MEX 2430 (INIFAP ACC NO); Medio Arroceno; GRO 351; Ames 19477. Collected 06/01/1973 in Guerrero, Mexico. Latitude 18° 19' N. Longitude 101° 44' W. Elevation 600 m. La Providencia, Coahuayutla.
- PI 645783. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 354; MEX 2433 (INIFAP ACC NO); Rojo; GRO 354; Ames 19478. Collected 06/01/1973 in Guerrero, Mexico. Tlalpizaco.
- PI 645784. *Zea mays* L. subsp. *mays***
Landrace. Population. Guerrero 357; MEX 2436 (INIFAP ACC NO); Blanco Ancho; GRO 357; Ames 19479. Collected 06/01/1973 in Guerrero, Mexico. Tlalpizaco.
- PI 645785. *Zea mays* L. subsp. *mays***
Landrace. Population. Guanajuato 18; MEX 1748 (INIFAP ACC NO); NRC 1798; Arroz; GTO 18; Ames 19480. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 41' N. Longitude 101° 21' W. Elevation 731 m. Las Animas, Irapuato.
- PI 645786. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010478; Guanajuato 36; MEX 1769 (INIFAP ACC NO); NRC 1816; Maiz de San Luis; San Luis; GTO 36; Goodman 3292 (84-85); Goodman F-1 (41); Goodman 1235; Goodman F 7 (420); Goodman 5845 (85-86); Goodman 3290 (84-85); Ames 19481. Collected 01/01/1944 in Guanajuato, Mexico. Latitude 20° 13' N. Longitude 100° 53' W. Elevation 1800 m. Zona Federal, Salvatierra.
- PI 645787. *Zea mays* L. subsp. *mays***
Landrace. Population. Guanajuato 43; MEX 1776 (INIFAP ACC NO); NRC 1823; Jugo; GTO 43; Ames 19482. Collected 01/31/1945 in Guanajuato, Mexico. Latitude 21° 10' N. Longitude 100° 56' W. Elevation 1767 m. Jesus Maria, Dolores Hidalgo.
- PI 645788. *Zea mays* L. subsp. *mays***
Landrace. Population. Guanajuato 44; MEX 1777 (INIFAP ACC NO); NRC 1824; Criollo; GTO 44; Ames 19483. Collected 01/28/1945 in Guanajuato, Mexico. Latitude 20° 43' N. Longitude 100° 45' W. Elevation 1828 m. Rancho Viejo, Comonfort.
- PI 645789. *Zea mays* L. subsp. *mays***
Landrace. Population. Guanajuato 45; MEX 1778 (INIFAP ACC NO); NRC 1825; Blanco; GTO 45; Ames 19484. Collected 01/29/1945 in Guanajuato, Mexico. Latitude 20° 43' N. Longitude 100° 45' W. Elevation 1828 m. Neutla, Comonfort.
- PI 645790. *Zea mays* L. subsp. *mays***
Landrace. Population. Guanajuato 54; MEX 1787 (INIFAP ACC NO); NRC 1834; Bolita; GTO 54; Ames 19485. Collected 01/31/1945 in Guanajuato, Mexico. Latitude 20° 38' N. Longitude 101° 40' W. Elevation 1798 m. Cueramaro.

- PI 645791. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 57; MEX 1790 (INIFAP ACC NO); NRC 1837; San Luis; GTO 57; Ames 19486. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 13' N. Longitude 100° 53' W. Elevation 1798 m. Salvatierra.
- PI 645792. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 64; NRC 1844; MEX 1797 (INIFAP ACC NO); Blanco; GTO 64; Ames 19487. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 34' N. Longitude 101° 12' W. Elevation 1737 m. Temascatio, Salamanca.
- PI 645793. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 66; MEX 1799 (INIFAP ACC NO); NRC 1846; Blanco; GTO 66; Ames 19488. Collected 01/28/1945 in Guanajuato, Mexico. Latitude 20° 43' N. Longitude 100° 45' W. Elevation 2011 m. Jalpilla, Comonfort.
- PI 645794. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-002188; Guanajuato 66A; NRC 1846; MEX 1800 (INIFAP ACC NO); Blanco; GTO 66A; Ames 19489. Collected 01/01/1944 in Guanajuato, Mexico. Latitude 20° 43' N. Longitude 100° 45' W. Elevation 1889 m. Jalpilla, Comonfort.
- PI 645795. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 72; NRC 1852; MEX 1806 (INIFAP ACC NO); San Luis; GTO 72; Ames 19490. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 13' N. Longitude 100° 53' W. Elevation 1760 m. Aquiles Serdan, Salvatierra.
- PI 645796. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 74; MEX 1808 (INIFAP ACC NO); NRC 1854; Criollo; GTO 74; Ames 19491. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 23' N. Longitude 101° 12' W. Elevation 1737 m. San Jose La Grande, Valle De Santiago.
- PI 645797. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 78; MEX 1812 (INIFAP ACC NO); NRC 1858; San Luis; GTO 78; Ames 19492. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 13' N. Longitude 100° 53' W. Elevation 1798 m. San Nicolas De Agustinos, Salvatierra.
- PI 645798. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 82; MEX 1817 (INIFAP ACC NO); NRC 1862; Grueso; GTO 82; Ames 19493. Collected 01/01/1945 in Guanajuato, Mexico. Latitude 20° 13' N. Longitude 101° 7' W. Elevation 1767 m. El Plan, Yuriria.
- PI 645799. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 91; MEX 1826 (INIFAP ACC NO); NRC 1871; GTO 91; Ames 19494. Collected 01/01/1946 in Guanajuato, Mexico. Latitude 21° 18' N. Longitude 100° 31' W. Elevation 2042 m. San Luis de la Paz.

- PI 645800. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 110; MEX 1846 (INIFAP ACC NO); Goodman 3314 (84-85); GTO 110; Goodman 1329; Goodman F-10 (494); Ames 19495. Collected 01/01/1943 in Guanajuato, Mexico. Latitude 20° 2' N. Longitude 100° 44' W. Elevation 1856 m. Acambaro.
- PI 645801. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 141; MEX 1872 (INIFAP ACC NO); Dulce; GTO 141; Ames 19496. Collected 03/29/1974 in Guanajuato, Mexico. Latitude 20° 55' N. Longitude 100° 44' W. Elevation 1990 m. Ejido El Penon, San Miguel Allende.
- PI 645802. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 166; MEX 1897 (INIFAP ACC NO); Criollo De Jugo; GTO 166; Ames 19497. Collected 03/31/1974 in Guanajuato, Mexico. Latitude 21° 10' N. Longitude 100° 56' W. Elevation 1950 m. El Carmen, Dolores Hidalgo.
- PI 645803. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 167; MEX 1898 (INIFAP ACC NO); De Jugo; GTO 167; Ames 19498. Collected 03/31/1974 in Guanajuato, Mexico. Latitude 21° 10' N. Longitude 100° 56' W. Elevation 1950 m. Hacienda San Antonio del Carmen, Dolores Hidalgo.
- PI 645804. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-010485; Guanajuato 191; MEX 1922 (INIFAP ACC NO); Criollo; GTO 191; Ames 19499. Collected 04/03/1974 in Guanajuato, Mexico. Latitude 21° 8' N. Longitude 101° 40' W. Elevation 1870 m. Ejido Albarradones, Leon.
- PI 645805. *Zea mays* L. subsp. *mays***
 Landrace. Population. Guanajuato 331; MEX 2060 (INIFAP ACC NO); GTO 331; Ames 19500. Collected 01/04/1978 in Guanajuato, Mexico. Latitude 21° 29' N. Longitude 101° 13' W. El Aposento, San Felipe.
- PI 645806. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-001560; Hidalgo 13; MEX 2474 (INIFAP ACC NO); NRC 2724; Perla; HGO 13; B-88 127#; Ames 19501. Collected 01/01/1944 in Hidalgo, Mexico. Latitude 20° 39' N. Longitude 98° 39' W. Elevation 1700 m. Zacualtipan.
- PI 645807. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-001556; Hidalgo 34; MEX 2495 (INIFAP ACC NO); NRC 2745; Blanco; HGO 34; Ames 19502. Collected 02/01/1952 in Hidalgo, Mexico. Latitude 20° 36' N. Longitude 98° 46' W. Elevation 1630 m. Palo Blanco, Metztitlan.
- PI 645808. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-001916; Hidalgo 41; MEX 2502 (INIFAP ACC NO); NRC 2752; Chino; HGO 41; Ames 19503. Collected 01/20/1952 in Hidalgo, Mexico. Latitude 20° 47' N. Longitude 98° 46' W. Elevation 1600 m. Texcalera, Molango.
- PI 645809. *Zea mays* L. subsp. *mays***
 Landrace. Population. Hidalgo 48; MEX 2509 (INIFAP ACC NO); NRC 2759; Llanero; HGO 48; Ames 19504. Collected 01/21/1952 in Hidalgo, Mexico.

Latitude 20° 53' N. Longitude 98° 42' W. Elevation 1500 m.
Ixtlahuaca, Lolotla.

PI 645810. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 49; MEX 2510 (INIFAP ACC NO); NRC 2760; Sangre De Cristo; HGO 49; Ames 19505. Collected 01/21/1952 in Hidalgo, Mexico. Latitude 20° 50' N. Longitude 98° 44' W. Elevation 1700 m. Cuitchapa, Lolotla.

PI 645811. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 50; MEX 2511 (INIFAP ACC NO); NRC 2761; Blanco; HGO 50; Ames 19506. Collected 01/21/1952 in Hidalgo, Mexico. Latitude 20° 50' N. Longitude 98° 44' W. Elevation 1500 m. Lolotla.

PI 645812. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 60; MEX 2521 (INIFAP ACC NO); Pilchipahuak; HGO 60; Ames 19507. Collected 01/01/1952 in Hidalgo, Mexico. Latitude 20° 47' N. Longitude 98° 46' W. Elevation 1000 m. Ixcatlan, Molango.

PI 645813. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 62; MEX 2523 (INIFAP ACC NO); HGO 62; Ames 19508. Collected in Hidalgo, Mexico. Latitude 20° 5' N. Longitude 98° 22' W. Elevation 2400 m. Rancho Loma Linda, Tulancingo.

PI 645814. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 71; MEX 2532 (INIFAP ACC NO); Criollo Blanco; HGO 71; Ames 19509. Collected in Hidalgo, Mexico. Latitude 19° 43' N. Longitude 98° 25' W. Elevation 2500 m. Apan.

PI 645815. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 72; MEX 2533 (INIFAP ACC NO); HGO 72; Ames 19510. Collected in Hidalgo, Mexico. Latitude 20° 9' N. Longitude 98° 12' W. Elevation 1800 m. Tlaupa, Acaxochitlan.

PI 645816. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 75; MEX 2536 (INIFAP ACC NO); HGO 75; Ames 19511. Collected in Hidalgo, Mexico. Latitude 20° 5' N. Longitude 98° 22' W. Elevation 2180 m. Santa Ana Huetlalpa, Tulancingo.

PI 645817. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 77; MEX 2538 (INIFAP ACC NO); HGO 77; Ames 19512. Collected in Hidalgo, Mexico. Latitude 20° 9' N. Longitude 98° 12' W. Elevation 2260 m. San Mateo, Acaxochitlan.

PI 645818. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 93; MEX 2554 (INIFAP ACC NO); Blanco 8 Carrera; HGO 93; Ames 19513. Collected 01/01/1972 in Hidalgo, Mexico. Latitude 19° 43' N. Longitude 98° 23' W. Elevation 2500 m. Almoloya.

PI 645819. Zea mays L. subsp. mays

Landrace. Population. Hidalgo 94; MEX 2555 (INIFAP ACC NO); Criollo Blanco; HGO 94; Ames 19514. Collected 01/01/1972 in Hidalgo, Mexico. Latitude 19° 43' N. Longitude 98° 25' W. Elevation 2450 m. Mala Hierba, Apan.

- PI 645820. *Zea mays* L. subsp. *mays***
Landrace. Population. Hidalgo 133; MEX 2594 (INIFAP ACC NO); Pinto; HGO 133; Ames 19515. Collected 01/01/1972 in Hidalgo, Mexico. Latitude 19° 50' N. Longitude 98° 59' W. Colonia Olmos, Tizayuca.
- PI 645821. *Zea mays* L. subsp. *mays***
Landrace. Population. Hidalgo 151; MEX 2612 (INIFAP ACC NO); Criollo; HGO 151; Ames 19516. Collected 01/01/1972 in Hidalgo, Mexico. Latitude 19° 50' N. Longitude 98° 59' W. Elevation 2109 m. Tizayuca.
- PI 645822. *Zea mays* L. subsp. *mays***
Landrace. Population. Hidalgo 183; MEX 2644 (INIFAP ACC NO); Blanco; HGO 183; CH-90 965#; Ames 19517. Collected 01/01/1972 in Hidalgo, Mexico. Latitude 20° 2' N. Longitude 98° 18' W. Elevation 2350 m. San Lorenzo, Cuautepe.
- PI 645823. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 20; MEX 2717 (INIFAP ACC NO); NRC 2787; Reventador; JAL 20; Ames 19518. Collected 01/01/1944 in Jalisco, Mexico. Latitude 19° 49' N. Longitude 104° 11' W. Elevation 1737 m. El Limon.
- PI 645824. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 24A; MEX 2722 (INIFAP ACC NO); JAL 24A; Ames 19519. Collected 01/01/1944 in Jalisco, Mexico. Latitude 20° 12' N. Longitude 104° 3' W. Elevation 1311 m. Cofradia De Los Duendes, Tecolotlan.
- PI 645825. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 30; MEX 2729 (INIFAP ACC NO); NRC 2797; Tabloncillo; JAL 30; Ames 19520. Collected 01/01/1944 in Jalisco, Mexico. Latitude 20° 15' N. Longitude 102° 32' W. Elevation 1493 m. La Barca (Paz de Ordaz).
- PI 645826. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 35A; MEX 2735 (INIFAP ACC NO); NRC 2803; JAL 35A; Ames 19521. Collected 01/01/1944 in Jalisco, Mexico. Latitude 20° 25' N. Longitude 103° 35' W. Elevation 1463 m. Acatlan De Juarez.
- PI 645827. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 39; MEX 2740 (INIFAP ACC NO); NRC 2808; Amarillo; JAL 39; B-86R 133#; Ames 19522. Collected 01/01/1944 in Jalisco, Mexico. Latitude 20° 34' N. Longitude 104° 4' W. Elevation 1250 m. Ejido La Calera, Ameca.
- PI 645828. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 66; MEX 2768 (INIFAP ACC NO); NRC 2837; Amarillo; JAL 66; Ames 19523. Collected 01/01/1945 in Jalisco, Mexico. Latitude 20° 40' N. Longitude 103° 20' W. Elevation 1615 m. Santa Anita, Guadalajara.
- PI 645829. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 70; MEX 2772 (INIFAP ACC NO); NRC 2841; Prieto; JAL 70; Ames 19524. Collected 01/01/1945 in Jalisco, Mexico. Latitude 20° 40' N. Longitude 103° 18' W. Elevation 1615 m. San Nicolas, Tlaquepaque.

- PI 645830. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 93; MEX 2796 (INIFAP ACC NO); NRC 2864; Negro; JAL 93; Ames 19525. Collected 01/01/1945 in Jalisco, Mexico. Latitude 20° 1' N. Longitude 103° 30' W. Elevation 1402 m. Atoyac.
- PI 645831. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 105; MEX 2809 (INIFAP ACC NO); NRC 2876; Reventon; B-90 64#; JAL 105; Ames 19526. Collected 02/09/1945 in Jalisco, Mexico. Latitude 19° 39' N. Longitude 103° 25' W. Elevation 1529 m. Zapotiltic.
- PI 645832. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-002218; Jalisco 106; MEX 2810 (INIFAP ACC NO); NRC 2877; Amarillo; JAL 106; Ames 19527. Collected 02/13/1945 in Jalisco, Mexico. Latitude 19° 40' N. Longitude 103° 14' W. Elevation 1280 m. Hacienda Santa Rosa, Tamazula de Gordiano.
- PI 645833. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 110; MEX 2814 (INIFAP ACC NO); NRC 2881; Mamey; JAL 110; Ames 19528. Collected 02/13/1945 in Jalisco, Mexico. Latitude 19° 40' N. Longitude 103° 14' W. Elevation 1280 m. Hacienda Santa Rosa, Tamazula de Gordiano.
- PI 645834. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 111; MEX 2815 (INIFAP ACC NO); NRC 2882; Comun; JAL 111; Ames 19529. Collected 02/13/1945 in Jalisco, Mexico. Latitude 19° 40' N. Longitude 103° 14' W. Elevation 1280 m. Hacienda Santa Rosa, Tamazula de Gordiano.
- PI 645835. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 118; MEX 2822 (INIFAP ACC NO); NRC 2889; Blanco; JAL 118; Ames 19530. Collected 01/01/1945 in Jalisco, Mexico. Latitude 21° 22' N. Longitude 101° 55' W. Elevation 1828 m. Lagos De Moreno.
- PI 645836. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 121; MEX 2825 (INIFAP ACC NO); NRC 2892; Blanco; JAL 121; Ames 19531. Collected 01/01/1946 in Jalisco, Mexico. Elevation 1889 m. 228 km Guadalajara a San Luis Potosi.
- PI 645837. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 129; MEX 2833 (INIFAP ACC NO); NRC 2900; Amarillo; JAL 129; Ames 19532. Collected 01/01/1946 in Jalisco, Mexico. Latitude 19° 56' N. Longitude 103° 44' W. Elevation 1800 m. Tapalpa.
- PI 645838. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-000565; Jalisco 130; NRC 2901; MEX 2834 (INIFAP ACC NO); Pinto; JAL 130; Ames 19533. Collected 01/01/1946 in Jalisco, Mexico. Latitude 19° 56' N. Longitude 103° 44' W. Elevation 1800 m. Tapalpa.
- PI 645839. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 130A; MEX 2835 (INIFAP ACC NO); JAL 130A; Ames 19534. Collected 01/01/1946 in Jalisco, Mexico. Latitude 19° 56' N. Longitude 103° 44' W. Elevation 1800 m. Tapalpa.

- PI 645840. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 132; MEX 2837 (INIFAP ACC NO); NRC 2903; Rojo Sol; JAL 132; Ames 19535. Collected 01/01/1946 in Jalisco, Mexico. Latitude 19° 56' N. Longitude 103° 44' W. Elevation 1800 m. Tapalpa.
- PI 645841. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 142; MEX 2847 (INIFAP ACC NO); NRC 2913; JAL 142; Ames 19536. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 2200 m. Juanacatlan.
- PI 645842. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 144; MEX 2849 (INIFAP ACC NO); NRC 2915; JAL 144; Ames 19537. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 2200 m. Juanacatlan.
- PI 645843. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 149; MEX 2854 (INIFAP ACC NO); NRC 2920; Blanco; JAL 149; Ames 19538. Collected 01/01/1946 in Jalisco, Mexico. Latitude 19° 42' N. Longitude 103° 26' W. Elevation 1300 m. Ciudad Guzman.
- PI 645844. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-001733; Jalisco 153; NRC 2929; MEX 2858 (INIFAP ACC NO); Conico; JAL 153; JALI 153; Ames 19539. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 2660 m. Juanacatlan.
- PI 645845. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 154; MEX 2859 (INIFAP ACC NO); NRC 2925; Conico; JAL 154; Ames 19540. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 1645 m. Juanacatlan.
- PI 645846. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 167; MEX 2872 (INIFAP ACC NO); NRC 2938; Conico; JAL 167; Ames 19541. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 1645 m. Juanacatlan.
- PI 645847. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 170; MEX 2876 (INIFAP ACC NO); NRC 2941; Rosquesa; JAL 170; Ames 19542. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 1645 m. Juanacatlan.
- PI 645848. *Zea mays* L. subsp. *mays***
 Landrace. Population. Jalisco 176; MEX 2882 (INIFAP ACC NO); NRC 2947; JAL 176; Ames 19543. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 1645 m. Juanacatlan.
- PI 645849. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-006110; Jalisco 177; MEX 2883 (INIFAP ACC NO); NRC 2948; JAL 177; Ames 19544. Collected 01/01/1946 in Jalisco, Mexico. Latitude 20° 30' N. Longitude 103° 9' W. Elevation 1646 m. Juanacatlan.

- PI 645850. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 203; MEX 2914 (INIFAP ACC NO); NRC 2974; Blanco; JAL 203; Ames 19545. Collected in Jalisco, Mexico. Latitude 20° 16' N. Longitude 104° 30' W. Elevation 1645 m. San Jose de los Andrades.
- PI 645851. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 215; MEX 2926 (INIFAP ACC NO); NRC 2986; JAL 215; CH-88 31#; Ames 19546. Collected 01/01/1952 in Jalisco, Mexico. Latitude 19° 54' N. Longitude 103° 1' W. Elevation 1737 m. Mazamitla.
- PI 645852. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 243; MEX 2957 (INIFAP ACC NO); NRC 3014; JAL 243; Ames 19547. Collected 01/01/1952 in Jalisco, Mexico. Latitude 20° 0' N. Longitude 103° 9' W. Elevation 1371 m. La Manzanilla de la Paz.
- PI 645853. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 248; NRC 3019; MEX 2962 (INIFAP ACC NO); Tampiqueno; JAL 248; Ames 19548. Collected 01/01/1952 in Jalisco, Mexico. Latitude 19° 23' N. Longitude 103° 1' W. Elevation 914 m. Jilotlan de los Dolores.
- PI 645854. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 254; MEX 2968 (INIFAP ACC NO); NRC 3025; JAL 254; Ames 19549. Collected 01/01/1952 in Jalisco, Mexico. Latitude 19° 34' N. Longitude 103° 22' W. Elevation 1371 m. Tuxpan.
- PI 645855. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 262; MEX 2976 (INIFAP ACC NO); JAL 262; B-90 72#; Ames 19550. Collected in Jalisco, Mexico. Latitude 19° 42' N. Longitude 103° 26' W. Elevation 1528 m. Ciudad Guzman.
- PI 645856. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 265; MEX 2979 (INIFAP ACC NO); JAL 265; Ames 19551. Collected in Jalisco, Mexico. Colotitlan.
- PI 645857. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 266; MEX 2980 (INIFAP ACC NO); JAL 266; Ames 19552. Collected in Jalisco, Mexico. Latitude 19° 40' N. Longitude 103° 14' W. Elevation 1285 m. Tamazula De Gordiano.
- PI 645858. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 272; MEX 2986 (INIFAP ACC NO); Amarillo Ahuevado; JAL 272; Ames 19553. Collected in Jalisco, Mexico. Elevation 1500 m. Volcanes.
- PI 645859. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 323; MEX 3038 (INIFAP ACC NO); De Ocho; JAL 323; Ames 19554. Collected in Jalisco, Mexico. Latitude 21° 59' N. Longitude 103° 36' W. Elevation 1760 m. Villa Guerrero.
- PI 645860. *Zea mays* L. subsp. *mays***
Landrace. Population. Jalisco 554; MEX 3269 (INIFAP ACC NO); Celaya Ii; JAL 554; Ames 19555. Collected 01/06/1978 in Jalisco, Mexico. Latitude

21° 22' N. Longitude 101° 55' W. Elevation 2000 m. Ejido Canada de Ricos, Lagos De Moreno.

PI 645861. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 32; MEX 3430 (INIFAP ACC NO); NRC 3059; MEX 32; Ames 19556. Collected 01/01/1943 in Mexico, Mexico. Latitude 19° 2' N. Longitude 98° 46' W. Elevation 2255 m. Camino a Ozumba 35 km, Chalco.

PI 645862. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 36; MEX 3434 (INIFAP ACC NO); NRC 3063; Marceno; MEX 36; Ames 19557. Collected 01/01/1943 in Mexico, Mexico. Latitude 19° 44' N. Longitude 99° 14' W. Elevation 2255 m. Near Tepetzotlan.

PI 645863. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-010434; Mexico 37; MEX 3435 (INIFAP ACC NO); NRC 3064; Marceno; Goodman 1213; MEX 37; Ames 19558. Collected 01/01/1943 in Mexico, Mexico. Latitude 19° 44' N. Longitude 99° 14' W. Elevation 2255 m. Near Tepetzotlan.

PI 645864. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 42; MEX 3440 (INIFAP ACC NO); NRC 3069; Blanco Apastillado; MEX 42; Ames 19559. Collected 01/01/1943 in Mexico, Mexico. Elevation 2255 m. Magdalena Chichicaspan.

PI 645865. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 48A; MEX 3447 (INIFAP ACC NO); MEX 48A; Ames 19560. Collected 01/01/1943 in Mexico, Mexico. Latitude 19° 41' N. Longitude 99° 8' W. Elevation 2263 m. Ejido Tultepec.

PI 645866. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 141; MEX 3541 (INIFAP ACC NO); Palomero; MEX 141; Ames 19561. Collected 01/01/1952 in Mexico, Mexico. Latitude 19° 48' N. Longitude 99° 52' W. Elevation 2600 m. El Potrero, Atlacomulco.

PI 645867. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 151; MEX 3551 (INIFAP ACC NO); Criollo Blanco Abrileno; MEX 151; Ames 19562. Collected 01/01/1954 in Mexico, Mexico. Latitude 20° 2' N. Longitude 99° 30' W. Elevation 2400 m. San Agustin, Soyoniquilpan.

PI 645868. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 152; MEX 3552 (INIFAP ACC NO); Criollo Blanco; MEX 152; Ames 19563. Collected 01/01/1954 in Mexico, Mexico. Latitude 19° 58' N. Longitude 99° 31' W. Elevation 2400 m. San Pablo Huantepec, Jilotepec.

PI 645869. *Zea mays* L. subsp. *mays*

Landrace. Population. Mexico 165; MEX 3565 (INIFAP ACC NO); Cacahuacintle; MEX 165; Ames 19564. Collected 01/01/1954 in Mexico, Mexico. Latitude 19° 58' N. Longitude 99° 31' W. Elevation 2400 m. El Atascadero, Jilotepec.

- PI 645870. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 183; MEX 3583 (INIFAP ACC NO); Blanco Chico; CH-89 17#; MEX 183; Ames 19565. Collected 01/01/1954 in Mexico, Mexico. Latitude 19° 44' N. Longitude 99° 27' W. Elevation 2600 m. San Jeronimo, Villa Del Carbon.
- PI 645871. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 194; MEX 3594 (INIFAP ACC NO); MEX 194; Ames 19566. Collected 01/01/1954 in Mexico, Mexico. Latitude 19° 58' N. Longitude 99° 31' W. Elevation 2400 m. Canalejas, Jilotepec.
- PI 645872. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 307; MEX 3707 (INIFAP ACC NO); Criollo; MEX 307; Ames 19567. Collected in Mexico, Mexico. Latitude 19° 31' N. Longitude 98° 52' W. Elevation 2400 m. San Bernardino, Texcoco.
- PI 645873. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 331; MEX 3731 (INIFAP ACC NO); MEX 331; Ames 19568. Collected in Mexico, Mexico. Mizqui.
- PI 645874. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 337; MEX 3737 (INIFAP ACC NO); Criolla Buenavista; MEX 337; Ames 19569. Collected 01/01/1950 in Mexico, Mexico.
- PI 645875. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 339; MEX 3739 (INIFAP ACC NO); MEX 339; Ames 19570. Collected 01/01/1950 in Mexico, Mexico.
- PI 645876. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 347; MEX 3747 (INIFAP ACC NO); MEX 347; Ames 19571. Collected 01/01/1950 in Mexico, Mexico. Atlapulco.
- PI 645877. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 348; MEX 3748 (INIFAP ACC NO); Amarillo San Vicente; MEX 348; Ames 19572. Collected 01/01/1950 in Mexico, Mexico. San Vicente.
- PI 645878. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 349; MEX 3749 (INIFAP ACC NO); MEX 349; Ames 19573. Collected 01/01/1950 in Mexico, Mexico. Latitude 19° 31' N. Longitude 98° 52' W. Elevation 2400 m. Texcoco.
- PI 645879. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 353; MEX 3753 (INIFAP ACC NO); MEX 353; Ames 19574. Collected 01/01/1950 in Mexico, Mexico. Latitude 19° 9' N. Longitude 99° 28' W. Tianguistengo.
- PI 645880. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 356; MEX 3756 (INIFAP ACC NO); MEX 356; Ames 19575. Collected 01/01/1950 in Mexico, Mexico. Latitude 19° 9' N. Longitude 99° 28' W. Tianguistengo.
- PI 645881. *Zea mays* L. subsp. *mays***
Landrace. Population. Mexico 361; MEX 3761 (INIFAP ACC NO); MEX 361; Ames 19576. Collected 01/01/1950 in Mexico, Mexico. Atlamulco.

- PI 645882. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-015759; Mexico 365; MEX 3765 (INIFAP ACC NO); MEX 365; Ames 19577. Collected 01/01/1950 in Mexico, Mexico. Latitude 19° 22' N. Longitude 99° 45' W. Elevation 2600 m. Almoloya De Juarez.
- PI 645883. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-015760; Mexico 366; MEX 3766 (INIFAP ACC NO); MEX 366; Ames 19578. Collected 01/01/1950 in Mexico, Mexico. Latitude 19° 42' N. Longitude 99° 48' W. Jocotitlan.
- PI 645884. *Zea mays* L. subsp. *mays***
 Landrace. Population. Mexico 380; MEX 3780 (INIFAP ACC NO); MEX 380; Ames 19579. Collected in Mexico, Mexico. Latitude 19° 9' N. Longitude 99° 28' W. Tianguistenco.
- PI 645885. *Zea mays* L. subsp. *mays***
 Landrace. Population. Mexico 382; MEX 3782 (INIFAP ACC NO); Pico De Pichon; CH-86 111#; MEX 382; Ames 19580. Collected in Mexico, Mexico. Latitude 19° 7' N. Longitude 99° 33' W. Tenango Del Valle.
- PI 645886. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-015780; Mexico 407; MEX 3807 (INIFAP ACC NO); Nativo; MEX 407; Ames 19581. Collected in Mexico, Mexico. Latitude 19° 18' N. Longitude 99° 44' W. San Cristobal Tecali, Zinacantepec.
- PI 645887. *Zea mays* L. subsp. *mays***
 Landrace. Population. Mexico 409; MEX 3809 (INIFAP ACC NO); Pico De Gorrion; MEX 409; Ames 19582. Collected in Mexico, Mexico. Latitude 19° 18' N. Longitude 99° 44' W. San Cristobal Tecali, Zinacantepec.
- PI 645888. *Zea mays* L. subsp. *mays***
 Landrace. Population. Mexico 637; MEX 4038 (INIFAP ACC NO); Chalqueno; MEX 637; id=62160; Ames 19583. Collected 01/01/1972 in Mexico, Mexico. Latitude 19° 15' N. Longitude 98° 53' W. Elevation 2280 m. Santiago Zula, Chalco.
- PI 645889. *Zea mays* L. subsp. *mays***
 Landrace. Population. Michoacan 6; MEX 4129 (INIFAP ACC NO); NRC 3154; MICH 6; Ames 19584. Collected 01/01/1943 in Michoacan, Mexico. Latitude 19° 20' N. Longitude 101° 55' W. Elevation 2175 m. Taretan.
- PI 645890. *Zea mays* L. subsp. *mays***
 Landrace. Population. Michoacan 39; MEX 4163 (INIFAP ACC NO); NRC 3187; MICH 39; Ames 19585. Collected 01/01/1944 in Michoacan, Mexico. Mesa Del Tacuaro.
- PI 645891. *Zea mays* L. subsp. *mays***
 Landrace. Population. Michoacan 41; MEX 4165 (INIFAP ACC NO); NRC 3189; Pepitilla; MICH 41; Ames 19586. Collected 02/07/1945 in Michoacan, Mexico. Latitude 19° 41' N. Longitude 100° 33' W. Elevation 2224 m. Ciudad Hidalgo.

- PI 645892. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 53; MEX 4178 (INIFAP ACC NO); NRC 3201; Marceno O Cerrano; MICH 53; Ames 19587. Collected 02/08/1945 in Michoacan, Mexico. Latitude 19° 45' N. Longitude 102° 29' W. Elevation 1800 m. Las Trojes, Tinguindin.
- PI 645893. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 59; MEX 4184 (INIFAP ACC NO); NRC 3207; Amarillo; MICH 59; Ames 19588. Collected 02/11/1945 in Michoacan, Mexico. Latitude 19° 59' N. Longitude 101° 46' W. Elevation 2200 m. El Potrero de San Antonio, Panindicuaro.
- PI 645894. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010497; Michoacan 66; NRC 3214; MEX 4191 (INIFAP ACC NO); Maiz Grueso; B-90 27#; MICH 66; Ames 19589. Collected 02/13/1945 in Michoacan, Mexico. Latitude 20° 6' N. Longitude 101° 57' W. Elevation 1645 m. Ejido El Tecolote, Penjamillo.
- PI 645895. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 73; MEX 4198 (INIFAP ACC NO); NRC 3221; Uruapeno; MICH 73; Ames 19590. Collected 02/08/1945 in Michoacan, Mexico. Latitude 19° 43' N. Longitude 102° 31' W. Tocumbo.
- PI 645896. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 80; MEX 4205 (INIFAP ACC NO); NRC 3228; Ahumado; MICH 80; B-90 74#; Ames 19591. Collected 01/01/1944 in Michoacan, Mexico. Latitude 19° 59' N. Longitude 102° 16' W. Elevation 1768 m. Cerro Guanajuatillo, Zamora.
- PI 645897. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 85; MEX 4210 (INIFAP ACC NO); NRC 3233; Guaruti; MICH 85; Ames 19592. Collected 01/01/1944 in Michoacan, Mexico. Latitude 19° 39' N. Longitude 102° 3' W. Elevation 2042 m. Paracho.
- PI 645898. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 114A; MEX 4240 (INIFAP ACC NO); MICH 114A; Ames 19593. Collected 01/01/1946 in Michoacan, Mexico. Latitude 19° 25' N. Longitude 102° 4' W. Elevation 1500 m. Angahuan Paricutin, Uruapan.
- PI 645899. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-000142; Michoacan 166; NRC 3314; MEX 4294 (INIFAP ACC NO); Tampiqueno; MICH 166; Ames 19594. Collected 02/15/1952 in Michoacan, Mexico. Latitude 18° 45' N. Longitude 103° 40' W. Elevation 250 m. El Ranchito, Coahuayana. Large stalk, resistant to drought. (Note on MEX_ALL/LAMP CD 1995).
- PI 645900. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 234; MEX 4362 (INIFAP ACC NO); MICH 234; Ames 19595. Collected in Michoacan, Mexico. Latitude 17° 57' N. Longitude 102° 12' W. El Habillal, Lazaro Cardenas.
- PI 645901. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-016650; Michoacan 248; MEX 4376 (INIFAP ACC NO); Ij,; B-90 77#; MICH 248; Ames 19596. Collected in Michoacan, Mexico. Latitude 17° 57' N. Longitude 102° 2' W. La Mira, Lazaro Cardenas.

- PI 645902. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 264; MEX 4393 (INIFAP ACC NO); MICH 264;
Ames 19597. Collected in Michoacan, Mexico. Carangaro.
- PI 645903. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 267; MEX 4396 (INIFAP ACC NO); MICH 267;
B-90 78#; Ames 19598. Collected in Michoacan, Mexico. Latitude 18°
44' N. Longitude 102° 47' W. Elevation 1648 m. Aguililla.
- PI 645904. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 281; MEX 4411 (INIFAP ACC NO); MICH 281;
B-90 79#; Ames 19599. Collected 01/01/1960 in Michoacan, Mexico.
- PI 645905. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 283; MEX 4413 (INIFAP ACC NO); MICH 283;
B-90 80#; Ames 19600. Collected 01/01/1960 in Michoacan, Mexico.
- PI 645906. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 292; MEX 4422 (INIFAP ACC NO); Grano
Amarillo; MICH 292; Ames 19601. Collected 01/01/1968 in Michoacan,
Mexico. Latitude 19° 48' N. Longitude 100° 55' W. Querendaro.
- PI 645907. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 294; MEX 4424 (INIFAP ACC NO); MICH 294;
Ames 19602. Collected 01/01/1968 in Michoacan, Mexico. Lauredo de
Zaragoza.
- PI 645908. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 305; MEX 4435 (INIFAP ACC NO); MICH 305;
Ames 19603. Collected in Michoacan, Mexico. Latitude 19° 24' N.
Longitude 101° 39' W. Elevation 2650 m. San Gregorio, Villa Escalante.
- PI 645909. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 307; MEX 4437 (INIFAP ACC NO); MICH 307;
Ames 19604. Collected in Michoacan, Mexico. Latitude 19° 24' N.
Longitude 101° 39' W. Elevation 2350 m. Rancho El Llano Huaniqueo,
Villa Escalante.
- PI 645910. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-005579; Michoacan 317; MEX 4447 (INIFAP
ACC NO); Largo; MICH 317; Ames 19605. Collected 01/13/1970 in Michoacan,
Mexico. Latitude 19° 14' N. Longitude 101° 28' W. Elevation 2260 m.
Villita De Jocozuki, Tacambaro.
- PI 645911. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 421; MEX 4551 (INIFAP ACC NO); MICH 421;
Ames 19606. Collected in Michoacan, Mexico. Latitude 19° 24' N.
Longitude 101° 39' W. Elevation 2200 m. Com San Gregorio, Villa
Escalante.
- PI 645912. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 429; MEX 4559 (INIFAP ACC NO); MICH 429;
Ames 19607. Collected in Michoacan, Mexico. Latitude 19° 14' N.
Longitude 101° 27' W. Elevation 1600 m. Yoriscosito, Tacambaro.

- PI 645913. *Zea mays* L. subsp. *mays***
Landrace. Population. Michoacan 430; MEX 4560 (INIFAP ACC NO); MICH 430; Ames 19608. Collected in Michoacan, Mexico. Latitude 19° 14' N. Longitude 101° 27' W. Elevation 1600 m. Yoriscosito, Tacambaro.
- PI 645914. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-018425; Michoacan 448; MEX 4578 (INIFAP ACC NO); MICH 448; Ames 19609. Collected in Michoacan, Mexico. Latitude 19° 14' N. Longitude 101° 27' W. Elevation 1600 m. Yoriscosito, Tacambaro.
- PI 645915. *Zea mays* L. subsp. *mays***
Landrace. Population. Morelos 36; MEX 4616 (INIFAP ACC NO); Pepitilla; MOR 36; Ames 19610. Collected 01/01/1968 in Morelos, Mexico. Latitude 18° 44' N. Longitude 99° 26' W. Elevation 1038 m. Coatlan Del Rio.
- PI 645916. *Zea mays* L. subsp. *mays***
Landrace. Population. Morelos 41; MEX 4621 (INIFAP ACC NO); Ancho Tepoztlano; MOR 41; Ames 19611. Collected 01/01/1972 in Morelos, Mexico. Latitude 18° 58' N. Longitude 99° 6' W. Elevation 1701 m. Tepoztlan.
- PI 645917. *Zea mays* L. subsp. *mays***
Landrace. Population. Morelos 126; MEX 4706 (INIFAP ACC NO); Pepitilla; MOR 126; Ames 19612. Collected in Morelos, Mexico. Latitude 18° 43' N. Longitude 99° 22' W. Elevation 975 m. Tehuixtla, Jojutla.
- PI 645918. *Zea mays* L. subsp. *mays***
Landrace. Population. Morelos 140; MEX 4720 (INIFAP ACC NO); Arrocillo Delgad; MOR 140; Ames 19613. Collected in Morelos, Mexico. Latitude 18° 36' N. Longitude 99° 11' W. Elevation 975 m. Tehuixtla, Jojutla.
- PI 645919. *Zea mays* L. subsp. *mays***
Landrace. Population. Morelos 147; MEX 4727 (INIFAP ACC NO); Pintillo; MOR 147; Ames 19614. Collected in Morelos, Mexico. Latitude 18° 36' N. Longitude 99° 11' W. Elevation 975 m. Tehuixtla, Jojutla.
- PI 645920. *Zea mays* L. subsp. *mays***
Landrace. Population. Nuevo Leon 64; MEX 5144 (INIFAP ACC NO); Olote Colorado; NL 64; Ames 19615. Collected 01/01/1977 in Nuevo Leon, Mexico. Latitude 25° 15' N. Longitude 99° 41' W. Elevation 400 m. Santana Viejo, General Teran.
- PI 645921. *Zea mays* L. subsp. *mays***
Landrace. Population. Nuevo Leon 77; MEX 5157 (INIFAP ACC NO); Olote Colorado; NL 77; Ames 19616. Collected 01/01/1977 in Nuevo Leon, Mexico. Latitude 25° 12' N. Longitude 99° 48' W. Elevation 600 m. Tierras Colorades, Montemorelos.
- PI 645922. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-002246; Nayarit 6; NRC 3393; MEX 4751 (INIFAP ACC NO); Jala; NAY 6; Ames 19617. Collected 01/01/1944 in Nayarit, Mexico. Latitude 21° 7' N. Longitude 104° 25' W. Elevation 1098 m. Jala.
- PI 645923. *Zea mays* L. subsp. *mays***
Landrace. Population. Nayarit 55; MEX 4800 (INIFAP ACC NO); NRC 3442; IG-87/88 16#; NAY 55; Ames 19618. Collected 01/01/1952 in Nayarit,

Mexico. Latitude 21° 7' N. Longitude 104° 25' W. Elevation 1097 m.
Jala.

PI 645924. *Zea mays* L. subsp. *mays*

Landrace. Population. Nayarit 108; MEX 4852 (INIFAP ACC NO); Tabloncillo; NAY 108; Ames 19619. Collected 01/01/1951 in Nayarit, Mexico. Latitude 21° 21' N. Longitude 104° 35' W. Elevation 500 m. La Labor, Santa Maria Del Oro.

PI 645925. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-006954; Nayarit 191; MEX 4935 (INIFAP ACC NO); Rojo; B-90 5#; Goodman F-500-18; NAY 191; Goodman F-500-18; Ames 19620. Collected 01/01/1968 in Nayarit, Mexico. Latitude 21° 25' N. Longitude 104° 7' W. Elevation 1000 m. Amatlan De Jara, La Yesca.

PI 645926. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-007065; Nayarit 205; MEX 4949 (INIFAP ACC NO); Huteco; NAY 205; Ames 19621. Collected 01/01/1968 in Nayarit, Mexico. Latitude 21° 2' N. Longitude 104° 28' W. Elevation 1200 m. Cofradia de los Sauces, Ixtlan del Rio.

PI 645927. *Zea mays* L. subsp. *mays*

Landrace. Population. Nayarit 300; MEX 5044 (INIFAP ACC NO); NAY 300; Ames 19622. Collected 01/01/1975 in Nayarit, Mexico. Latitude 21° 14' N. Longitude 104° 43' W. Elevation 1300 m. San Pedro Lagunillas.

PI 645928. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-000244; Oaxaca 1; NRC 3482; MEX 5199 (INIFAP ACC NO); Catalan; OAX 1; Ames 19623. Collected 01/01/1943 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 95° 56' W. Ejido Tecotixpan, Loma Bonita.

PI 645929. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-000241; Oaxaca 6; NRC 3487; MEX 5204 (INIFAP ACC NO); Catalan; OAX 6; Ames 19624. Collected 01/01/1943 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 95° 56' W. Elevation 200 m. Ejido El Obispo, Loma Bonita.

PI 645930. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-002267; Oaxaca 28; MEX 5228 (INIFAP ACC NO); NRC 3509; Amarillo Largo; Goodman 1311; OAX 28; B-90 15#; Ames 19625. Collected 01/01/1943 in Oaxaca, Mexico. Latitude 17° 10' N. Longitude 96° 47' W. Elevation 1640 m. Etna.

PI 645931. *Zea mays* L. subsp. *mays*

Landrace. Population. Oaxaca 37; MEX 5237 (INIFAP ACC NO); NRC 3518; De Cajete; OAX 37; Ames 19626. Collected 01/01/1944 in Oaxaca, Mexico. Elevation 1645 m. Asuncion Nochixtlan.

PI 645932. *Zea mays* L. subsp. *mays*

Landrace. Population. Oaxaca 61; MEX 5261 (INIFAP ACC NO); NRC 3542; OAX 61; Ames 19627. Collected 01/01/1946 in Oaxaca, Mexico. Latitude 16° 57' N. Longitude 96° 45' W. Elevation 1500 m. Zaachila.

- PI 645933. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 62; MEX 5262 (INIFAP ACC NO); NRC 3543; Bolita; OAX 62; Ames 19628. Collected 01/01/1946 in Oaxaca, Mexico. Latitude 16° 57' N. Longitude 96° 45' W. Elevation 1500 m. Zaachila.
- PI 645934. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 111; NRC 3592; MEX 5312 (INIFAP ACC NO); Criollo Amarillo; OAX 111; Ames 19629. Collected 01/25/1952 in Oaxaca, Mexico. Elevation 2080 m. Yolomeca.
- PI 645935. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-016636; Oaxaca 123; NRC 3604; MEX 5324 (INIFAP ACC NO); Negrito; OAX 123; Ames 19630. Collected 01/27/1952 in Oaxaca, Mexico. Elevation 2150 m. El Moral.
- PI 645936. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 128; MEX 5329 (INIFAP ACC NO); NRC 3609; Morado; OAX 128; Ames 19631. Collected 01/28/1952 in Oaxaca, Mexico. Latitude 17° 58' N. Longitude 97° 1' W. Elevation 600 m. Tecomavaca.
- PI 645937. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 133; MEX 5334 (INIFAP ACC NO); NRC 3614; Azul; OAX 133; Ames 19632. Collected 01/29/1952 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 97° 1' W. Elevation 950 m. Teotitlan del Camino.
- PI 645938. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 136; MEX 5337 (INIFAP ACC NO); NRC 3617; Amarillo; OAX 136; Ames 19633. Collected 01/01/1952 in Oaxaca, Mexico. Latitude 17° 6' N. Longitude 96° 3' W. Elevation 2133 m. Tlahuitoltepec, Santiago Zacatepec.
- PI 645939. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 144; MEX 5345 (INIFAP ACC NO); NRC 3625; OAX 144; Ames 19634. Collected 01/01/1952 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 97° 1' W. Elevation 944 m. Teotitlan del Camino.
- PI 645940. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 182; MEX 5384 (INIFAP ACC NO); Gran Amarillo; OAX 182; Ames 19635. Collected 01/21/1961 in Oaxaca, Mexico. Elevation 650 m. Totontepec.
- PI 645941. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-018290; Oaxaca 197; MEX 5399 (INIFAP ACC NO); Sangre De Cristo; OAX 197; Ames 19636. Collected 01/01/1951 in Oaxaca, Mexico. Elevation 1500 m. Cimatlan.
- PI 645942. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-006043; Oaxaca 270; MEX 5474 (INIFAP ACC NO); De Tomamil; OAX 270; Ames 19637. Collected 02/17/1970 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 96° 49' W. Elevation 1700 m. San Andres Hidalgo, Huautla De Jimenez.
- PI 645943. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-006044; Oaxaca 271; MEX 5475 (INIFAP ACC NO); De Temporal; OAX 271; Ames 19638. Collected 02/17/1970 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 96° 49' W. Elevation 1700 m.

San Andres Hidalgo, Huautla De Jimenez. 12 hileras, en base irregular, olote rigido con gluma aspera, lluvias a fines de mayo y principios de junio. (note on MEX_ALL/LAMP 95 CD).

PI 645944. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-005882; Oaxaca 273; MEX 5477 (INIFAP ACC NO); Pinto; OAX 273; Ames 19639. Collected 02/17/1970 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 96° 49' W. Elevation 1700 m. San Andres Hidalgo, Huautla De Jimenez.

PI 645945. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-005887; Oaxaca 278; MEX 5482 (INIFAP ACC NO); De Temporal; OAX 278; Ames 19640. Collected 02/17/1970 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 96° 49' W. Elevation 1700 m. San Andres Hidalgo, Huautla De Jimenez. 10-14 hileras algo helicoidales irregulares en base abultada, olote rigido. (Information on MEX_ALL/LAMP 95 CD).

PI 645946. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-006046; Oaxaca 281; MEX 5485 (INIFAP ACC NO); Pinto; OAX 281; Ames 19641. Collected 02/17/1970 in Oaxaca, Mexico. Latitude 18° 8' N. Longitude 96° 49' W. Elevation 1700 m. San Andres Hidalgo, Huautla De Jimenez. 12-14 hileras rectas base algo abultada, olote ligero flexible blanco. (Information on MEX_ALL/LAMP 95 CD).

PI 645947. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-005889; Oaxaca 283; MEX 5487 (INIFAP ACC NO); De Temporal; OAX 283; B-90 95#; Ames 19642. Collected 02/17/1970 in Oaxaca, Mexico. Latitude 18° 7' N. Longitude 96° 47' W. Elevation 1520 m. La Providencia, Huautla De Jimenez. 10-12 hileras, algo abultado en base, hileras rectas menos irregulares en base. (Information on MEX_ALL/LAMP 95 CD).

PI 645948. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-006055; Oaxaca 300; MEX 5504 (INIFAP ACC NO); Negro; OAX 300; Ames 19643. Collected 02/21/1970 in Oaxaca, Mexico. Latitude 17° 46' N. Longitude 96° 47' W. Elevation 2060 m. Santa Maria Papalo.

PI 645949. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-006057; Oaxaca 302; MEX 5506 (INIFAP ACC NO); Amarillo; OAX 302; Ames 19644. Collected 02/21/1970 in Oaxaca, Mexico. Latitude 17° 46' N. Longitude 96° 47' W. Elevation 2060 m. Santa Maria Papalo.

PI 645950. Zea mays L. subsp. mays

Landrace. Population. Oaxaca 316; MEX 5520 (INIFAP ACC NO); Colorado; B-90 97#; OAX 316; Ames 19645. Collected 01/01/1970 in Oaxaca, Mexico. Latitude 17° 17' N. Longitude 97° 48' W. Elevation 1700 m. San Juan Mixtepec.

PI 645951. Zea mays L. subsp. mays

Landrace. Population. CIMMYTMA-005975; Oaxaca 317; MEX 5521 (INIFAP ACC NO); Blanco de Tierra de Enmed; OAX 317; Ames 19646. Collected 02/28/1970 in Oaxaca, Mexico. Latitude 17° 13' N. Longitude 96° 13' W. Elevation 1250 m. Villa Hidalgo Yalalag.

- PI 645952. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-006067; Oaxaca 321; MEX 5525 (INIFAP ACC NO); Pinto; OAX 321; Ames 19647. Collected 02/28/1970 in Oaxaca, Mexico. Latitude 17° 35' N. Longitude 96° 32' W. Elevation 1950 m. San Pedro Yolox, Sierra de Juare. 12-14 hileras,olote rigido algo fasciado. (Information on MEX_ALL/LAMP 95 CD).
- PI 645953. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-006097; Oaxaca 385; MEX 5589 (INIFAP ACC NO); Amarillo de Tierra Fria; OAX 385; Ames 19648. Collected 02/28/1970 in Oaxaca, Mexico. Latitude 17° 35' N. Longitude 96° 32' W. Elevation 1950 m. San Pedro Yolox, Sierra de Juare.
- PI 645954. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-005918; Oaxaca 387; MEX 5591 (INIFAP ACC NO); Blanco; OAX 387; Ames 19649. Collected 02/28/1970 in Oaxaca, Mexico. Latitude 17° 35' N. Longitude 96° 32' W. Elevation 1950 m. San Pedro Yolox, Sierra de Juare.
- PI 645955. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 406; MEX 5610 (INIFAP ACC NO); OAX 406; Ames 19650. Collected 01/01/1975 in Oaxaca, Mexico. Latitude 17° 10' N. Longitude 96° 47' W. Elevation 1600 m. San Pablo Etlá.
- PI 645956. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 415; MEX 5619 (INIFAP ACC NO); OAX 415; Ames 19651. Collected 01/01/1975 in Oaxaca, Mexico. Monte del Toro.
- PI 645957. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 425; MEX 5629 (INIFAP ACC NO); OAX 425; Ames 19652. Collected 01/01/1975 in Oaxaca, Mexico. Latitude 16° 52' N. Longitude 96° 47' W. Elevation 1500 m. Zimatlan De Alvarez.
- PI 645958. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 446; MEX 5650 (INIFAP ACC NO); OAX 446; Ames 19653. Collected 01/01/1975 in Oaxaca, Mexico. Latitude 16° 47' N. Longitude 96° 41' W. Elevation 1500 m. Ocotlan De Morelos.
- PI 645959. *Zea mays* L. subsp. *mays***
Landrace. Population. Oaxaca 570; Ames 19654. Collected in Oaxaca, Mexico.
- PI 645960. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-018275; Puebla 3; MEX 5769 (INIFAP ACC NO); NRC 3629; PUE 3; Ames 19655. Collected 01/01/1943 in Puebla, Mexico. Latitude 18° 28' N. Longitude 97° 25' W. Elevation 1645 m. Tehuacan.
- PI 645961. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 12; MEX 5778 (INIFAP ACC NO); NRC 3638; PUE 12; Ames 19656. Collected 01/01/1943 in Puebla, Mexico. Elevation 2164 m. 125 km Camino Tehuacan a Cholula.
- PI 645962. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-000082; Puebla 13; MEX 5779 (INIFAP ACC NO); NRC 3639; Negro; PUE 13; Ames 19657. Collected 01/01/1943 in

Puebla, Mexico. Latitude 19° 4' N. Longitude 98° 18' W.
Elevation 1162 m. Ejido San Rafael Comac, San Andres Cholula.

PI 645963. Zea mays L. subsp. mays

Landrace. Population. Puebla 47; MEX 5813 (INIFAP ACC NO); NRC 3673; PUE 47; Ames 19658. Collected 01/01/1943 in Puebla, Mexico. Latitude 18° 56' N. Longitude 97° 52' W. Elevation 1707 m. Mercado de San Hipolito, Tepeaca.

PI 645964. Zea mays L. subsp. mays

Landrace. Population. Puebla 56; MEX 5823 (INIFAP ACC NO); NRC 3682; Blanco Gorrion; PUE 56; Ames 19659. Collected 01/01/1943 in Puebla, Mexico. Latitude 19° 22' N. Longitude 97° 37' W. Elevation 2347 m. Oriental.

PI 645965. Zea mays L. subsp. mays

Landrace. Population. Puebla 61; MEX 5828 (INIFAP ACC NO); NRC 3687; Amarillo; PUE 61; Ames 19660. Collected 01/01/1943 in Puebla, Mexico. Latitude 19° 17' N. Longitude 97° 20' W. Elevation 1706 m. Guadalupe Victoria.

PI 645966. Zea mays L. subsp. mays

Landrace. Population. Puebla 62; MEX 5829 (INIFAP ACC NO); NRC 3688; Negro; PUE 62; Ames 19661. Collected 01/01/1943 in Puebla, Mexico. Latitude 19° 7' N. Longitude 97° 42' W. Elevation 2377 m. El Seco, Soltepec.

PI 645967. Zea mays L. subsp. mays

Landrace. Population. Puebla 72; NRC 3698; MEX 5839 (INIFAP ACC NO); Criollo; PUE 72; Ames 19662. Collected 01/01/1943 in Puebla, Mexico. Latitude 19° 7' N. Longitude 97° 25' W. Elevation 2590 m. Tlachichuca.

PI 645968. Zea mays L. subsp. mays

Landrace. Population. Puebla 74; MEX 5841 (INIFAP ACC NO); NRC 3700; PUE 74; Ames 19663. Collected 01/01/1943 in Puebla, Mexico. Latitude 18° 28' N. Longitude 97° 25' W. Elevation 1706 m. Mercado de Tehuacan.

PI 645969. Zea mays L. subsp. mays

Landrace. Population. Puebla 77; MEX 5844 (INIFAP ACC NO); NRC 3703; PUE 77; Ames 19664. Collected 01/01/1943 in Puebla, Mexico. Latitude 19° 51' N. Longitude 97° 56' W. Elevation 2256 m. Otlatlan.

PI 645970. Zea mays L. subsp. mays

Landrace. Population. Puebla 77A; Ames 19665. Collected in Puebla, Mexico.

PI 645971. Zea mays L. subsp. mays

Landrace. Population. Puebla 96; MEX 5863 (INIFAP ACC NO); NRC 3722; PUE 96; Ames 19666. Collected 01/01/1944 in Puebla, Mexico. Latitude 18° 20' N. Longitude 98° 18' W. Elevation 1219 m. El Pitayo, Tehuitzingo.

PI 645972. Zea mays L. subsp. mays

Landrace. Population. Puebla 98A; MEX 5867 (INIFAP ACC NO); PUE 98A; Ames 19667. Collected 01/01/1944 in Puebla, Mexico. Rancheria Tepepene.

- PI 645973. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-015358; Puebla 157; NRC 3783; MEX 5928 (INIFAP ACC NO); Cuapeno Blanco; PUE 157; Ames 19668. Collected 01/22/1952 in Puebla, Mexico. Latitude 18° 47' N. Longitude 97° 32' W. Elevation 2220 m. Santa Ana, Palmar De Bravo.
- PI 645974. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 170; MEX 5941 (INIFAP ACC NO); NRC 3796; Rayado Criollo; PUE 170; Ames 19669. Collected 01/24/1952 in Puebla, Mexico. Latitude 18° 59' N. Longitude 97° 27' W. Elevation 2440 m. La Gloria, Ciudad Serdan.
- PI 645975. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-016304; Puebla 222; NRC 3848; MEX 5993 (INIFAP ACC NO); Grueso; PUE 222; Ames 19670. Collected 01/04/1952 in Puebla, Mexico. Latitude 18° 31' N. Longitude 98° 35' W. Elevation 1115 m. San Nicolas, Chietla.
- PI 645976. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 231; MEX 6002 (INIFAP ACC NO); NRC 3857; Criollo Negro; PUE 231; Ames 19671. Collected 01/19/1952 in Puebla, Mexico. Latitude 18° 54' N. Longitude 98° 26' W. Elevation 1600 m. Colonia Cuahutemoc, Atlixco.
- PI 645977. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 273; MEX 9018 (INIFAP ACC NO); PUE 273; Ames 19672. Collected 12/05/1961 in Puebla, Mexico. Latitude 19° 30' N. Longitude 97° 29' W. Elevation 2300 m. Tepeyahualco de Hidalgo. Heladas gran parte del ano. (Note on MEX_ALL DB, LAMP 95 CD).
- PI 645978. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 285; MEX 6044 (INIFAP ACC NO); PUE 285; Ames 19673. Collected in Puebla, Mexico. Latitude 18° 54' N. Longitude 97° 19' W. Elevation 2759 m. Atzitzintla.
- PI 645979. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 286; MEX 6045 (INIFAP ACC NO); PUE 286; Ames 19674. Collected 01/01/1944 in Puebla, Mexico. Latitude 18° 35' N. Longitude 97° 56' W. Elevation 1700 m. Tula, Tepexi De Rodriguez.
- PI 645980. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 293A; MEX 6053 (INIFAP ACC NO); PUE 293A; CH-87R 99#; Ames 19675. Collected 01/01/1951 in Puebla, Mexico. Latitude 18° 5' N. Longitude 97° 55' W. Elevation 1325 m. Petlalcingo.
- PI 645981. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 299; MEX 6059 (INIFAP ACC NO); Criollo Blanco; PUE 299; Ames 19676. Collected 01/01/1969 in Puebla, Mexico. Latitude 19° 9' N. Longitude 98° 24' W. San Luis Coyotzingo, Huejotzingo.
- PI 645982. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 311; MEX 6071 (INIFAP ACC NO); PUE 311; Ames 19677. Collected 01/01/1971 in Puebla, Mexico. Latitude 19° 15' N. Longitude 97° 46' W. Elevation 2400 m. Hacienda Vicencio, San Jose Chiapa.

- PI 645983. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 313; MEX 6073 (INIFAP ACC NO); Blanco; CH-86R 200#; PUE 313; Ames 19678. Collected 01/01/1971 in Puebla, Mexico. Latitude 19° 13' N. Longitude 97° 49' W. Elevation 2400 m. Hacienda La Floresta, Nopalucan.
- PI 645984. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010234; Puebla 552; MEX 6312 (INIFAP ACC NO); Cacahuacintle; PUE 552; Ames 19679. Collected 01/01/1972 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 27' W. Elevation 2580 m. San Martin Ojo de Agua, Chalchicomula Sesma.
- PI 645985. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 565; MEX 6325 (INIFAP ACC NO); PUE 565; Ames 19680. Collected 01/01/1972 in Puebla, Mexico. Latitude 19° 7' N. Longitude 97° 42' W. Elevation 2400 m. Mazapiltepec de Juarez.
- PI 645986. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-018075; Puebla 592; MEX 6352 (INIFAP ACC NO); PUE 592; Ames 19681. Collected 01/01/1972 in Puebla, Mexico. Latitude 18° 54' N. Longitude 98° 26' W. Elevation 1800 m. Otilio Montano, Atlixco.
- PI 645987. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 636; MEX 6396 (INIFAP ACC NO); PUE 636; Ames 19682. Collected 01/01/1972 in Puebla, Mexico. Latitude 19° 28' N. Longitude 97° 41' W. Elevation 2400 m. La Noria Teoloyuca, Libres.
- PI 645988. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 650; MEX 6410 (INIFAP ACC NO); PUE 650; Ames 19683. Collected 01/01/1972 in Puebla, Mexico. Latitude 19° 35' N. Longitude 97° 36' W. Elevation 2400 m. Concepcion, Cuyoaco.
- PI 645989. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 655; MEX 6415 (INIFAP ACC NO); PUE 655; Ames 19684. Collected 01/01/1972 in Puebla, Mexico. Latitude 19° 35' N. Longitude 97° 36' W. Elevation 2400 m. Concepcion, Cuyoaco.
- PI 645990. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 686; MEX 6446 (INIFAP ACC NO); PUE 686; Ames 19685. Collected 01/01/1972 in Puebla, Mexico. Latitude 19° 17' N. Longitude 97° 20' W. Elevation 2400 m. Guadalupe Victoria.
- PI 645991. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 759; MEX 6513 (INIFAP ACC NO); Blanco; PUE 759; Ames 19686. Collected 01/01/1974 in Puebla, Mexico. Latitude 19° 52' N. Longitude 97° 28' W. Elevation 1890 m. Yaonahuac.
- PI 645992. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 783; MEX 6530 (INIFAP ACC NO); Abreviado; PUE 783; Ames 19687. Collected 01/01/1974 in Puebla, Mexico. Latitude 19° 49' N. Longitude 97° 22' W. Elevation 2070 m. Cahuizco, Chignautla.

- PI 645993. *Zea mays* L. subsp. *mays***
Landrace. Population. Puebla 864; MEX6564 (INIFAP ACC NO); PUE 864; Ames 19688. Collected 01/01/1974 in Puebla, Mexico. Latitude 19° 52' N. Longitude 97° 35' W. Elevation 2260 m. Plan de Guadalupe, Zacapoaxtla.
- PI 645994. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 43; MEX 6648 (INIFAP ACC NO); NRC 3907; Toliman; QRO 43; Ames 19689. Collected in Queretaro, Mexico. Latitude 20° 55' N. Longitude 99° 55' W. Elevation 1500 m. Toliman.
- PI 645995. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 52; MEX 6657 (INIFAP ACC NO); NRC 3916; Delgado; QRO 52; CH-89 118#; Ames 19690. Collected in Queretaro, Mexico. Elevation 1981 m. Potrero Comun.
- PI 645996. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 61; MEX 6666 (INIFAP ACC NO); Urquiza; QRO 61; Ames 19691. Collected in Queretaro, Mexico.
- PI 645997. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 64; MEX 6669 (INIFAP ACC NO); Blanco Temporal; QRO 64; Ames 19692. Collected in Queretaro, Mexico. Latitude 20° 40' N. Longitude 99° 49' W. Elevation 2000 m. Ezequiel Montes.
- PI 645998. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 67; MEX 6672 (INIFAP ACC NO); Blanco Temporal; QRO 67; Ames 19693. Collected in Queretaro, Mexico. Santa Magdalena.
- PI 645999. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 69; MEX 6674 (INIFAP ACC NO); Blanco; QRO 69; Ames 19694. Collected 01/01/1946 in Queretaro, Mexico. Latitude 20° 40' N. Longitude 99° 49' W. Ezequiel Montes.
- PI 646000. *Zea mays* L. subsp. *mays***
Landrace. Population. Queretaro 80; MEX 6685 (INIFAP ACC NO); QRO 80; Ames 19695. Collected in Queretaro, Mexico. Latitude 20° 23' N. Longitude 100° 0' W. Elevation 1978 m. San Juan del Rio.
- PI 646001. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-000859; QROO 1; NRC 3925; MEX 6717 (INIFAP ACC NO); Dzit Bacal; FN3016051; Quintana Roo 1; Ames 19696. Collected 01/01/1948 in Quintana Roo, Mexico. Elevation 30 m. El Cincuenta.
- PI 646002. *Zea mays* L. subsp. *mays***
Landrace. Population. Quintana Roo 14; MEX 6730 (INIFAP ACC NO); Xnucnal; QROO 14; Ames 19697. Collected 01/01/1974 in Quintana Roo, Mexico. Latitude 20° 31' N. Longitude 86° 57' W. Elevation 10 m. Ejido Tulum, Cozumel.
- PI 646003. *Zea mays* L. subsp. *mays***
Landrace. Population. Quintana Roo 38; MEX 6754 (INIFAP ACC NO); Xnucnal; QROO 38; Ames 19698. Collected 01/01/1974 in Quintana Roo, Mexico. Latitude 19° 35' N. Longitude 88° 3' W. Elevation 30 m. Tikosuco, Felipe Carrillo Puerto.

- PI 646004. *Zea mays* L. subsp. *mays***
 Landrace. Population. Quintana Roo 100; MEX 6816 (INIFAP ACC NO); Xmejenal; QROO 100; Ames 19699. Collected 04/10/1974 in Quintana Roo, Mexico. Latitude 18° 30' N. Longitude 88° 18' W. Ejido Barbachano, Chetumal. Resiste plagas de almacen. (Note on MEX_ALL/LAMP CD 1995).
- PI 646005. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-007137; Sinaloa 29; MEX 7087 (INIFAP ACC NO); De 8 Amarillo; IG-89 29#; SIN 29; SINA 29; Ames 19700. Collected 11/28/1968 in Sinaloa, Mexico. Latitude 24° 43' N. Longitude 107° 13' W. Elevation 150 m. Alcoyoque, M. de Culiacan.
- PI 646006. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-007182; Sinaloa 75; MEX 7133 (INIFAP ACC NO); Cuarenteno; SIN 75; Ames 19701. Collected 12/06/1968 in Sinaloa, Mexico. Latitude 26° 29' N. Longitude 108° 34' W. Elevation 132 m. Mahone, El Fuerte.
- PI 646007. *Zea mays* L. subsp. *mays***
 Landrace. Population. San Luis Potosi 3A; MEX 6852 (INIFAP ACC NO); SLP 3A; Ames 19702. Collected 01/01/1943 in San Luis Potosi, Mexico.
- PI 646008. *Zea mays* L. subsp. *mays***
 Landrace. Population. San Luis Potosi 6; NRC 3936; MEX 6855 (INIFAP ACC NO); Pepitilla Criollo; SLP 6; Ames 19703. Collected 01/01/1943 in San Luis Potosi, Mexico. Latitude 23° 22' N. Longitude 100° 45' W. Elevation 1767 m. Villa Guadalupe.
- PI 646009. *Zea mays* L. subsp. *mays***
 Landrace. Population. San Luis Potosi 27; NRC 3957; MEX 6876 (INIFAP ACC NO); Blanco Largo; SLP 27; Ames 19704. Collected 01/01/1945 in San Luis Potosi, Mexico. Latitude 22° 13' N. Longitude 100° 8' W. Elevation 883 m. Angostura, Rio Verde.
- PI 646010. *Zea mays* L. subsp. *mays***
 Landrace. Population. San Luis Potosi 29; MEX 6879 (INIFAP ACC NO); NRC 3959; SLP 29; Ames 19705. Collected 01/01/1949 in San Luis Potosi, Mexico. La Huasteca.
- PI 646011. *Zea mays* L. subsp. *mays***
 Landrace. Population. San Luis Potosi 36A; MEX 6887 (INIFAP ACC NO); SLP 36A; Ames 19706. Collected 01/01/1950 in San Luis Potosi, Mexico. Latitude 21° 32' N. Longitude 98° 53' W. Elevation 215 m. Coxcatlan.
- PI 646012. *Zea mays* L. subsp. *mays***
 Landrace. Population. San Luis Potosi 45; NRC 3975; MEX 6897 (INIFAP ACC NO); Flojo; SLP 45; Ames 19707. Collected 01/12/1952 in San Luis Potosi, Mexico. Latitude 21° 42' N. Longitude 99° 29' W. Elevation 1270 m. Santa Catarina.
- PI 646013. *Zea mays* L. subsp. *mays***
 Landrace. Population. CIMMYTMA-005471; San Luis Potosi 59; NRC 3989; MEX 6911 (INIFAP ACC NO); Semilla Gorda; SLP 59; Ames 19708. Collected 01/14/1952 in San Luis Potosi, Mexico. Latitude 21° 38' N. Longitude 99° 50' W. Elevation 980 m. San Ciro de Acosta.

- PI 646014. *Zea mays* L. subsp. *mays***
Landrace. Population. San Luis Potosi 103; NRC 4033; MEX 6955 (INIFAP ACC NO); Amarillo; SLP 103; Ames 19709. Collected 01/23/1952 in San Luis Potosi, Mexico. Elevation 280 m. Villa Terrazas Antes Ixtla.
- PI 646015. *Zea mays* L. subsp. *mays***
Landrace. Population. San Luis Potosi 199; MEX 7051 (INIFAP ACC NO); SLP 199; Ames 19710. Collected in San Luis Potosi, Mexico. Latitude 22° 1' N. Longitude 98° 46' W. Tamuin.
- PI 646016. *Zea mays* L. subsp. *mays***
Landrace. Population. Sonora 33; MEX 7278 (INIFAP ACC NO); NRC 4105; SON 33; Ames 19711. Collected 01/01/1950 in Sonora, Mexico.
- PI 646017. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-002541; Tamaulipas 3; NRC 4137; MEX 7428 (INIFAP ACC NO); Raton; B-90 21#; TAMS 3; Ames 19712. Collected 01/01/1943 in Tamaulipas, Mexico. Latitude 23° 18' N. Longitude 99° 1' W. Elevation 213 m. Llera de Canales.
- PI 646018. *Zea mays* L. subsp. *mays***
Landrace. Population. Tamaulipas 31; NRC 4165; MEX 7456 (INIFAP ACC NO); Liebre; TAMS 31; Ames 19713. Collected 02/07/1953 in Tamaulipas, Mexico. Latitude 24° 34' N. Longitude 99° 32' W. Elevation 374 m. Magueyes, Villagran.
- PI 646019. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 4; MEX 7579 (INIFAP ACC NO); NRC 4184; TLAX 4; Ames 19715. Collected 01/01/1944 in Tlaxcala, Mexico. Latitude 19° 19' N. Longitude 97° 55' W. Elevation 2530 m. Huamantla.
- PI 646020. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 7; NRC 4187; MEX 7582 (INIFAP ACC NO); Morado; TLAX 7; Ames 19716. Collected 01/01/1947 in Tlaxcala, Mexico. Latitude 19° 21' N. Longitude 98° 10' W. Elevation 2255 m. San Bernabe, Amaxac de Guerrero.
- PI 646021. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 12; MEX 7587 (INIFAP ACC NO); NRC 4192; TLAX 12; Ames 19717. Collected 01/01/1952 in Tlaxcala, Mexico. Latitude 19° 36' N. Longitude 98° 17' W. Elevation 2530 m. Soltepec.
- PI 646022. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 13; MEX 7588 (INIFAP ACC NO); Blanco; TLAX 13; Ames 19718. Collected 11/18/1961 in Tlaxcala, Mexico. Latitude 19° 18' N. Longitude 97° 46' W. Elevation 2500 m. Rancho La Capilla, Cuapiaxtla.
- PI 646023. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 16; MEX 7591 (INIFAP ACC NO); Amarillo; TLAX 16; Ames 19719. Collected 01/01/1961 in Tlaxcala, Mexico. Latitude 19° 19' N. Longitude 97° 55' W. Elevation 2553 m. Huamantla.

- PI 646024. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 17; MEX 7592 (INIFAP ACC NO); TLAX 17;
Ames 19720. Collected in Tlaxcala, Mexico. Latitude 19° 19' N.
Longitude 97° 55' W. Elevation 2553 m. Huamantla.
- PI 646025. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 18; MEX 7593 (INIFAP ACC NO); TLAX 18;
Ames 19721. Collected in Tlaxcala, Mexico. Latitude 19° 13' N.
Longitude 98° 14' W. Elevation 2186 m. Santa Ines Zacatelco.
- PI 646026. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 19; MEX 7594 (INIFAP ACC NO); TLAX 19;
Ames 19722. Collected in Tlaxcala, Mexico. Latitude 19° 13' N.
Longitude 98° 14' W. Elevation 2186 m. Santa Ines Zacatelco.
- PI 646027. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 20; MEX 7595 (INIFAP ACC NO); TLAX 20;
Ames 19723. Collected in Tlaxcala, Mexico. Latitude 19° 15' N.
Longitude 98° 14' W. Elevation 2200 m. Tepeyanco.
- PI 646028. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 23; MEX 7598 (INIFAP ACC NO); TLAX 23;
Ames 19724. Collected in Tlaxcala, Mexico. Latitude 19° 19' N.
Longitude 98° 12' W. Elevation 2256 m. La Magdalena, Chiautempan.
- PI 646029. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 24; MEX 7599 (INIFAP ACC NO); TLAX 24;
Ames 19725. Collected in Tlaxcala, Mexico. Latitude 19° 19' N.
Longitude 98° 12' W. Elevation 2256 m. La Magdalena, Chiautempan.
- PI 646030. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 25; MEX 7600 (INIFAP ACC NO); TLAX 25;
Ames 19726. Collected in Tlaxcala, Mexico. Latitude 19° 19' N.
Longitude 98° 12' W. Elevation 2256 m. La Magdalena, Chiautempan.
- PI 646031. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 28; MEX 7603 (INIFAP ACC NO); TLAX 28;
Ames 19727. Collected in Tlaxcala, Mexico. Latitude 19° 19' N.
Longitude 97° 39' W. Elevation 2380 m. Tequixquitla.
- PI 646032. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 30; MEX 7605 (INIFAP ACC NO); TLAX 30;
Ames 19728. Collected in Tlaxcala, Mexico. Latitude 19° 25' N.
Longitude 98° 9' W. Elevation 2406 m. Escandon, Apizaco.
- PI 646033. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 31; MEX 7606 (INIFAP ACC NO); TLAX 31;
Ames 19729. Collected in Tlaxcala, Mexico. Latitude 19° 32' N.
Longitude 98° 12' W. Elevation 2478 m. San Pedro Ecatepec,
Atlangatepec.
- PI 646034. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 32; MEX 7607 (INIFAP ACC NO); TLAX 32;
Ames 19730. Collected in Tlaxcala, Mexico. Latitude 19° 26' N.
Longitude 98° 13' W. Elevation 2492 m. Cuamatzingo, Xaltocan.

- PI 646035. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 33; MEX 7608 (INIFAP ACC NO); TLAX 33;
Ames 19731. Collected in Tlaxcala, Mexico. Latitude 19° 25' N.
Longitude 98° 11' W. Elevation 2515 m. Las Peras, Yauhquemehcan.
- PI 646036. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 34; MEX 7609 (INIFAP ACC NO); TLAX 34;
Ames 19732. Collected in Tlaxcala, Mexico. Latitude 19° 25' N.
Longitude 98° 11' W. Elevation 2515 m. Atlihuitzian, Yauhquemehcan.
- PI 646037. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 36; MEX 7611 (INIFAP ACC NO); TLAX 36;
Ames 19733. Collected in Tlaxcala, Mexico. Latitude 19° 15' N.
Longitude 97° 54' W. Elevation 2534 m. San Juan Bautista, Ixtenco.
- PI 646038. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 41; MEX 7616 (INIFAP ACC NO); TLAX 41;
Ames 19734. Collected in Tlaxcala, Mexico. Latitude 19° 28' N.
Longitude 97° 55' W. Elevation 2740 m. San Miguel, Terrenate.
- PI 646039. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 43; MEX 7618 (INIFAP ACC NO); TLAX 43;
Ames 19735. Collected in Tlaxcala, Mexico. Latitude 19° 24' N.
Longitude 98° 3' W. Elevation 2592 m. San Cosme Xalostoc.
- PI 646040. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 45; MEX 7620 (INIFAP ACC NO); TLAX 45;
Ames 19736. Collected in Tlaxcala, Mexico. Latitude 19° 24' N.
Longitude 98° 3' W. Elevation 2592 m. San Cosme Xalostoc.
- PI 646041. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 46; MEX 7621 (INIFAP ACC NO); TLAX 46;
Ames 19737. Collected in Tlaxcala, Mexico. Latitude 19° 9' N.
Longitude 95° 54' W. Elevation 2592 m. El Rincon Zitlaltepec.
- PI 646042. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 48; MEX 7623 (INIFAP ACC NO); TLAX 48;
Ames 19738. Collected in Tlaxcala, Mexico. Latitude 19° 37' N.
Longitude 98° 6' W. Elevation 2599 m. Buenavista, Tlaxco.
- PI 646043. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 49; MEX 7624 (INIFAP ACC NO); TLAX 49;
Ames 19739. Collected in Tlaxcala, Mexico. Latitude 19° 37' N.
Longitude 98° 6' W. Elevation 2599 m. Tlaxco.
- PI 646044. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 50; MEX 7625 (INIFAP ACC NO); TLAX 50;
Ames 19740. Collected in Tlaxcala, Mexico. Latitude 19° 37' N.
Longitude 98° 6' W. Elevation 2599 m. San Miguel, Tlaxco.
- PI 646045. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 52; MEX 7627 (INIFAP ACC NO); TLAX 52;
Ames 19741. Collected in Tlaxcala, Mexico. Latitude 19° 37' N.
Longitude 98° 6' W. Elevation 2599 m. Tlaxco.

- PI 646046. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 56; MEX 7631 (INIFAP ACC NO); TLAX 56;
Ames 19742. Collected in Tlaxcala, Mexico. Latitude 19° 26' N.
Longitude 97° 48' W. Elevation 2625 m. Atltzayanca de Hidalgo.
- PI 646047. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 57; MEX 7632 (INIFAP ACC NO); TLAX 57;
Ames 19743. Collected in Tlaxcala, Mexico. Latitude 19° 26' N.
Longitude 97° 48' W. Elevation 2625 m. Atltzayanca de Hidalgo.
- PI 646048. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 58; MEX 7633 (INIFAP ACC NO); TLAX 58;
Ames 19744. Collected in Tlaxcala, Mexico. Latitude 19° 29' N.
Longitude 98° 32' W. Elevation 2650 m. Mariano Arista.
- PI 646049. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 60; MEX 7635 (INIFAP ACC NO); TLAX 60;
Ames 19745. Collected in Tlaxcala, Mexico. Latitude 19° 30' N.
Longitude 98° 32' W. Elevation 2650 m. Nanacamilpa.
- PI 646050. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 133; MEX 7708 (INIFAP ACC NO); Blanco
Chico; TLAX 133; Ames 19746. Collected 01/01/1971 in Tlaxcala, Mexico.
Latitude 19° 37' N. Longitude 98° 6' W. Elevation 2444 m. El
Rosario, Tlaxco.
- PI 646051. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 139; MEX 7714 (INIFAP ACC NO); Criollo
Blanco; TLAX 139; Ames 19747. Collected 01/01/1971 in Tlaxcala, Mexico.
Latitude 19° 37' N. Longitude 98° 6' W. Elevation 2444 m. El
Rosario, Tlaxco.
- PI 646052. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-013306; Tlaxcala 151; MEX 7726 (INIFAP
ACC NO); Mejorado; TLAX 151; Ames 19748. Collected 01/01/1971 in
Tlaxcala, Mexico. Latitude 19° 18' N. Longitude 97° 46' W.
Elevation 2483 m. Rancho Izocorro, Cuapiaxtla.
- PI 646053. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 179; MEX 7754 (INIFAP ACC NO); Cristalino;
TLAX 179; Ames 19749. Collected 01/01/1971 in Tlaxcala, Mexico.
Latitude 19° 25' N. Longitude 98° 11' W. Elevation 2515 m. Santa
Ursula, Yauhquemehcan.
- PI 646054. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 206; MEX 7781 (INIFAP ACC NO); Amarillo;
TLAX 206; Ames 19750. Collected 01/01/1971 in Tlaxcala, Mexico. Latitude
19° 28' N. Longitude 97° 55' W. Elevation 2700 m. Colonia
Toluca, Terrenate.
- PI 646055. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 208; MEX 7783 (INIFAP ACC NO); Amarillo;
TLAX 208; Ames 19751. Collected 01/01/1971 in Tlaxcala, Mexico. Latitude
19° 18' N. Longitude 97° 46' W. Elevation 2483 m. Egipto,
Cuapiaxtla.

- PI 646056. *Zea mays* L. subsp. *mays***
Landrace. Population. Tlaxcala 217; MEX 7792 (INIFAP ACC NO); Amarillo; TLAX 217; Ames 19752. Collected 01/01/1971 in Tlaxcala, Mexico. Latitude 19° 18' N. Longitude 97° 46' W. Elevation 2483 m. Santa Isabel, Cuapiaxtla.
- PI 646057. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010599; Tlaxcala 251; MEX 7826 (INIFAP ACC NO); Colorado; TLAX 251; Ames 19753. Collected 01/01/1971 in Tlaxcala, Mexico. Latitude 19° 8' N. Longitude 98° 12' W. Elevation 2281 m. Tenancingo.
- PI 646058. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 32; MEX 7940 (INIFAP ACC NO); NRC 4224; VER 32; Ames 19754. Collected 01/01/1944 in Veracruz, Mexico. Latitude 19° 34' N. Longitude 97° 15' W. Elevation 2377 m. Perote.
- PI 646059. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 33; MEX 7941 (INIFAP ACC NO); NRC 4225; VER 33; Ames 19755. Collected 01/01/1944 in Veracruz, Mexico. Latitude 19° 34' N. Longitude 97° 15' W. Elevation 2377 m. Perote.
- PI 646060. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 34; MEX 7942 (INIFAP ACC NO); NRC 4226; VER 34; Ames 19756. Collected 01/01/1944 in Veracruz, Mexico. Latitude 19° 34' N. Longitude 97° 15' W. Elevation 2377 m. Perote.
- PI 646061. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 58; NRC 4250; MEX 7967 (INIFAP ACC NO); Itkon Dentado; VER 58; Ames 19757. Collected 01/01/1948 in Veracruz, Mexico. Latitude 20° 28' N. Longitude 97° 22' W. Elevation 304 m. El Tajin, Papantla.
- PI 646062. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 69; NRC 4261; MEX 7978 (INIFAP ACC NO); Dentado; VER 69; IG-88 34#; Ames 19758. Collected 01/01/1948 in Veracruz, Mexico. Latitude 20° 28' N. Longitude 97° 22' W. Elevation 304 m. El Tajin, Papantla.
- PI 646063. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 85; NRC 4277; MEX 7994 (INIFAP ACC NO); Arrocillo Amarillo; VER 85; Ames 19759. Collected 01/30/1952 in Veracruz, Mexico. Latitude 19° 46' N. Longitude 97° 15' W. Elevation 2480 m. El Porvenir, Altotonga.
- PI 646064. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 109; NRC 4301; MEX 8018 (INIFAP ACC NO); Blanco; VER 109; IG-87/88 59#; Ames 19760. Collected 02/05/1952 in Veracruz, Mexico. Latitude 19° 8' N. Longitude 96° 55' W. Elevation 1320 m. La Cuchilla, Huatusco.
- PI 646065. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 127; NRC 4319; MEX 8036 (INIFAP ACC NO); Bejuco; VER 127; Ames 19761. Collected 01/01/1952 in Veracruz, Mexico. Latitude 17° 56' N. Longitude 94° 53' W. Elevation 152 m. Acayucan.

- PI 646066. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 131; NRC 4323; MEX 8040 (INIFAP ACC NO); Chano; VER 131; Ames 19762. Collected 01/01/1952 in Veracruz, Mexico. Yamoloapan.
- PI 646067. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 245; MEX 8154 (INIFAP ACC NO); VER 245; Ames 19763. Collected in Veracruz, Mexico. Lucas Martin.
- PI 646068. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 247; MEX 8156 (INIFAP ACC NO); VER 247; Ames 19764. Collected in Veracruz, Mexico. Latitude 19° 35' N. Longitude 96° 59' W. Elevation 1800 m. Rafael Lucio.
- PI 646069. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-008102; Veracruz 311; MEX 8220 (INIFAP ACC NO); Chino; VER 311; CH-90 908#; Ames 19765. Collected 01/21/1970 in Veracruz, Mexico. Elevation 2220 m. Tepichulco, Cofre de Perote.
- PI 646070. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 334; MEX 8243 (INIFAP ACC NO); VER 334; Ames 19766. Collected in Veracruz, Mexico. Latitude 19° 34' N. Longitude 97° 15' W. Elevation 2400 m. La Libertad, Perote.
- PI 646071. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 355; MEX 8264 (INIFAP ACC NO); Cacahuacintle; VER 355; Ames 19767. Collected 01/01/1972 in Veracruz, Mexico. Latitude 19° 39' N. Longitude 97° 13' W. Elevation 2400 m. Cruz Blanca, Villa Aldama.
- PI 646072. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010594; Veracruz 359; MEX 8268 (INIFAP ACC NO); Arrocillo Negro; VER 359; Ames 19768. Collected 01/01/1972 in Veracruz, Mexico. Latitude 19° 46' N. Longitude 97° 15' W. Elevation 2200 m. Estanzuela, Altotonga.
- PI 646073. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 389; MEX 8298 (INIFAP ACC NO); Chico; VER 389; Ames 19769. Collected 01/01/1973 in Veracruz, Mexico. Latitude 19° 5' N. Longitude 97° 2' W. Elevation 927 m. Coscomatepec.
- PI 646074. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 390; MEX 8299 (INIFAP ACC NO); Grande; VER 390; Ames 19770. Collected 01/01/1973 in Veracruz, Mexico. Latitude 19° 5' N. Longitude 97° 2' W. Elevation 927 m. Coscomatepec.
- PI 646075. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 491; MEX 8358 (INIFAP ACC NO); Blanco; VER 491; Ames 19771. Collected 01/01/1974 in Veracruz, Mexico. Latitude 19° 5' N. Longitude 97° 2' W. Elevation 1500 m. Tozongo, Coscomatepec.
- PI 646076. *Zea mays* L. subsp. *mays***
Landrace. Population. Veracruz 519; MEX 8375 (INIFAP ACC NO); Blanco; VER 519; Ames 19772. Collected 01/01/1974 in Veracruz, Mexico. Latitude 19° 5' N. Longitude 97° 2' W. Elevation 1500 m. San Nicolas, Coscomatepec.

- PI 646077. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 20; NRC 4351; MEX 8516 (INIFAP ACC NO); Xmehenal; YUC 20; Ames 19773. Collected 01/01/1948 in Yucatan, Mexico. Latitude 20° 23' N. Longitude 89° 31' W. Elevation 30 m. Ticul.
- PI 646078. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 46; NRC 4377; MEX 8542 (INIFAP ACC NO); Ehjuc; YUC 46; Ames 19774. Collected 01/01/1948 in Yucatan, Mexico. Latitude 21° 1' N. Longitude 88° 17' W. Elevation 30 m. Espita.
- PI 646079. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 66; NRC 4397; MEX 8562 (INIFAP ACC NO); Xmehenal Xtuc; YUC 66; Ames 19775. Collected 01/01/1948 in Yucatan, Mexico. Latitude 21° 9' N. Longitude 88° 9' W. Elevation 30 m. Tizimin.
- PI 646080. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 136; NRC 4467; MEX 8632 (INIFAP ACC NO); Xnuc Nal Tipico; YUC 136; Ames 19776. Collected 01/01/1948 in Yucatan, Mexico. Latitude 19° 52' N. Longitude 89° 13' W. Elevation 100 m. Becanchen, Tekax.
- PI 646081. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 201; MEX 8697 (INIFAP ACC NO); Xnuc-Nal; YUC 201; Ames 19777. Collected in Yucatan, Mexico.
- PI 646082. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 204; MEX 8700 (INIFAP ACC NO); Xnuc-Nal; IG-88 63#; YUC 204; Ames 19778. Collected in Yucatan, Mexico.
- PI 646083. *Zea mays* L. subsp. *mays***
Landrace. Population. Yucatan 226; MEX 8722 (INIFAP ACC NO); Xnuc-Nal; YUC 226; Ames 19779. Collected 02/24/1977 in Yucatan, Mexico. Latitude 20° 32' N. Longitude 88° 50' W. Elevation 100 m. Kancabdzonot, San Pedro Yaxcaba.
- PI 646084. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 8; MEX 8752 (INIFAP ACC NO); NRC 4493; Blanco; ZAC 8; Ames 19780. Collected 01/01/1944 in Zacatecas, Mexico. Latitude 22° 16' N. Longitude 101° 58' W. Elevation 2030 m. La Concepcion, Loreto.
- PI 646085. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-001911; Zacatecas 9; NRC 4494; MEX 8753 (INIFAP ACC NO); Blanco; ZAC 9; Ames 19781. Collected 01/01/1944 in Zacatecas, Mexico. Estacion Frio.
- PI 646086. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 10; NRC 4495; MEX 8755 (INIFAP ACC NO); Tempranero; ZAC 10; Ames 19782. Collected 01/01/1944 in Zacatecas, Mexico. Latitude 21° 21' N. Longitude 102° 51' W. Elevation 1950 m. Nochistlan de Mejia.
- PI 646087. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 24; NRC 4509; MEX 8768 (INIFAP ACC NO); Ermiteno Elotero; ZAC 24; Ames 19783. Collected 01/19/1952 in

Zacatecas, Mexico. Latitude 22° 35' N. Longitude 103° 2' W.
Elevation 2090 m. La Ermita Guadalupe, Jerez de Garcia Salinas.

PI 646088. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 25; NRC 4510; MEX 8769 (INIFAP ACC NO); Calereno; ZAC 25; Ames 19784. Collected 01/20/1952 in Zacatecas, Mexico. Latitude 22° 39' N. Longitude 102° 58' W. Elevation 2098 m. Hacienda Cienega, Jerez de Garcia Salinas.

PI 646089. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 30; MEX 8774 (INIFAP ACC NO); NRC 4515; Blanco de 8; ZAC 30; Ames 19785. Collected 01/23/1952 in Zacatecas, Mexico. Latitude 21° 45' N. Longitude 103° 18' W. Elevation 1550 m. La Manga, Tlaltenango de San Ramon.

PI 646090. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 31; MEX 8775 (INIFAP ACC NO); NRC 4516; Maiz Amarillo de 8; ZAC 31; Ames 19786. Collected 01/23/1952 in Zacatecas, Mexico. Latitude 21° 47' N. Longitude 103° 18' W. Elevation 1550 m. La Manga, Tlaltenango de San Ramon.

PI 646091. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 32; NRC 4517; MEX 8776 (INIFAP ACC NO); Maiz Prieto; ZAC 32; Ames 19787. Collected 01/23/1952 in Zacatecas, Mexico. Latitude 21° 47' N. Longitude 103° 18' W. Elevation 1550 m. La Manga, Tlaltenango de San Ramon.

PI 646092. *Zea mays* L. subsp. *mays*

Landrace. Population. CIMMYTMA-001514; Zacatecas 33; NRC 4518; MEX 8777 (INIFAP ACC NO); Pepitillo Blanco; ZAC 33; Ames 19788. Collected 01/23/1952 in Zacatecas, Mexico. Latitude 21° 47' N. Longitude 103° 18' W. Elevation 1550 m. Las Huertas, Tlaltenango de San Ramon.

PI 646093. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 37; NRC 4522; MEX 8781 (INIFAP ACC NO); Maiz Pepitillo; ZAC 37; Ames 19789. Collected 01/25/1952 in Zacatecas, Mexico. Latitude 22° 53' N. Longitude 102° 37' W. Elevation 2290 m. Las Lomas, Morelos.

PI 646094. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 43; NRC 4528; MEX 8787 (INIFAP ACC NO); Cana Morada; ZAC 43; Ames 19791. Collected 01/25/1952 in Zacatecas, Mexico. Latitude 22° 57' N. Longitude 102° 42' W. Elevation 2200 m. La Noria Mocha, Calera Victor Rosales.

PI 646095. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 63; MEX 8807 (INIFAP ACC NO); Criollo Temporal; ZAC 63; Ames 19792. Collected 01/01/1961 in Zacatecas, Mexico. Latitude 22° 29' N. Longitude 102° 27' W. Elevation 2200 m. San Jose de la Isla, Genaro Godina.

PI 646096. *Zea mays* L. subsp. *mays*

Landrace. Population. Zacatecas 91; MEX 8838 (INIFAP ACC NO); Criollo; ZAC 91; Ames 19793. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 10' N. Longitude 102° 52' W. Fresnillo.

- PI 646097. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 94; MEX 8841 (INIFAP ACC NO); Aventurero de 4 Meses; ZAC 94; Ames 19794. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2300 m. Chupaderos, Sombrerete.
- PI 646098. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 95; MEX 8842 (INIFAP ACC NO); ZAC 95; Ames 19795. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2200 m. San Pedro Hidalgo, Sombrerete.
- PI 646099. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 110; MEX 8857 (INIFAP ACC NO); ZAC 110; Ames 19796. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2200 m. Colonia Hidalgo, Sombrerete.
- PI 646100. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 116; MEX 8863 (INIFAP ACC NO); Temporal 3 Meses; ZAC 116; Ames 19797. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2100 m. Jose Santos Bunuelos, Sombrerete.
- PI 646101. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 121; MEX 8868 (INIFAP ACC NO); ZAC 121; Ames 19798. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2100 m. Colonia Progreso, Sombrerete.
- PI 646102. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 125; MEX 8872 (INIFAP ACC NO); Cana Morada; ZAC 125; Ames 19799. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2100 m. Colonia Gonzalez Ortega, Sombrerete.
- PI 646103. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 126; MEX 8873 (INIFAP ACC NO); ZAC 126; Ames 19800. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2100 m. Colonia Felipe Angeles, Sombrerete.
- PI 646104. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 151; MEX 8898 (INIFAP ACC NO); ZAC 151; Ames 19801. Collected 01/01/1963 in Zacatecas, Mexico. Latitude 22° 28' N. Longitude 103° 9' W. Elevation 1800 m. Tepetongo.
- PI 646105. *Zea mays* L. subsp. *mays***
Landrace. Population. CIMMYTMA-010516; Zacatecas 182; MEX 8929 (INIFAP ACC NO); Dulce; ZAC 182; B-90 14#; Ames 19802. Collected 01/01/1968 in Zacatecas, Mexico. Latitude 22° 46' N. Longitude 103° 33' W. Elevation 2050 m. Potrero de Gallegos, Valparaiso.
- PI 646106. *Zea mays* L. subsp. *mays***
Landrace. Population. Zacatecas 255; MEX 9002 (INIFAP ACC NO); Criollo; ZAC 255; Ames 19803. Collected 01/01/1974 in Zacatecas, Mexico.

Latitude 23° 38' N. Longitude 103° 39' W. Elevation 2200 m. Colonia Hidalgo, Sombrerete.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Developed by Gayle Volk, USDA, ARS, National Center for, Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States; Chris Richards, USDA, ARS, National Center for, Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States. Received 02/26/2007.

PI 646107. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chinkent. Landform: slightly inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. Contains 2 lots with 32 envelopes x 16 seed batches for 512 seed (1024). The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 32 envelopes are labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a, 3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f, 3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h, 3685.f, 3689.n, 3687.d, 4000.b, 3685.e, 3975.g, 4002.l, 3691.m, 3683.i., and 3689.m.

PI 646108. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chinkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. Contains 10 lots with 31 envelopes x 16 seed batches for 490 seed (4960). The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 31 envelopes are labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a, 3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f, 3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h, 3685.f, 3689.n, 3687.d, 4000.b, 3685.e, 3975.g, 4002.l, 3691.m, 3683.i.

PI 646109. *Malus sieversii* (Ledeb.) M. Roem.
Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N.
Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy
River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km.
North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10
degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;
Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*.
Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from
pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d,
3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k,
3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C=
GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l,
3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j,
3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination
process covers the years 2004-2006. Contains 1 lots with 30 envelopes x
16 seed batches for 480 seed. The 16 seeds are made up of 4 from each
of the pollen pools A-D listed in pedigree. The 30 envelopes are
labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a,
3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f,
3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h,
3685.f, 3689.n, 3687.d, 4000.b, 3685.e, 3975.g, 4002.l, 3691.m.

PI 646110. *Malus sieversii* (Ledeb.) M. Roem.
Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N.
Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy
River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km.
North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10
degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;
Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*.
Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from
pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d,
3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k,
3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C=
GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l,
3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j,
3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination
process covers the years 2004-2006. Contains 2 lots with 29 envelopes x
16 seed batches for 464 seed (928). The 16 seeds are made up of 4 from
each of the pollen pools A-D listed in pedigree. The 29 envelopes are
labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a,
3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f,
3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h,
3685.f, 3689.n, 3687.d, 4000.b, 3685.e, 3975.g, 4002.l.

PI 646111. *Malus sieversii* (Ledeb.) M. Roem.
Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N.
Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy
River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km.
North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10
degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;
Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*.
Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from
pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d,
3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k,
3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C=
GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l,
3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j,

3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. Contains 1 lots with 26 envelopes x 16 seed batches for 416 seed. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 26 envelopes are labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a, 3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f, 3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h, 3685.f, 3689.n, 3687.d, 4000.b, 3685.e, 3975.g.

PI 646112. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. Contains 2 lots with 25 envelopes x 16 seed batches for 400 seed (800). The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 25 envelopes are labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a, 3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f, 3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h, 3685.f, 3689.n, 3687.d.

PI 646113. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. Contains 1 lots with 25 envelopes x 16 seed batches for 352 seed. The 16 seeds are made up of 4 from each of the pollen pools A-D listed in pedigree. The 25 envelopes are labeled by the mother trees. GMALS 3682.k, 3683.f, 3683.n, 3684.a, 3684.b, 3684.l, 3685.d, 3688.n, 3689.c, 3689.p, 3690.d, 3690.o, 3691.f, 3975.d, 3975.m, 3989.f, 3989.k, 3999.b, 4002.d, 4002.e, 4002.f, 4002.h.

PI 646114. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3682.e. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (41), Pool C (8), Pool D (27), for total of 76 seed.

PI 646115. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3682.f. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (6), Pool B (8), Pool C (18), Pool D (12), for total of 44 seed.

PI 646116. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3682.k. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (63), Pool B (166), Pool C (140), Pool D (245), and Bulk (includes mixed pools A-D) has 19 for total of 663 seed.

PI 646117. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3683.k There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (4), Pool B (229), Pool C (117), for total of 350 seed.

PI 646118. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3683.f. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (709), Pool B (324), Pool C (684), Pool D (258), for total of 1975 seed.

PI 646119. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3683.i. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (76), Pool B (114), Pool C (2), Pool D (124), and Bulk (includes mixed pools A-D) has 4 for total of 320 seed.

PI 646120. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3683.n. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (90), Pool B (83), Pool C (217), Pool D (35), for total of 425 seed.

PI 646121. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3684.a. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (18), Pool B (14), Pool C (157), Pool D (50), for total of 239 seed.

PI 646122. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3684.b. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (120), Pool B (153), Pool C (153), Pool D (55), and Bulk (includes mixed pools A-D) has 20 for total of 501 seed.

PI 646123. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3684.l. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (50), Pool B (71), Pool C (248), Pool D (369), for total of 738 seed.

PI 646124. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3685.d. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (59), Pool B (80), Pool C (19), Pool D (20), and Bulk (includes mixed pools A-D) has 21 for total of 199 seed.

PI 646125. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3685.e. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (38), Pool B (1), Pool C (18), Pool D (8), for total of 65 seed.

PI 646126. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3685.f. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (142), Pool B (59), Pool C (3), Pool D (299), and Bulk (includes mixed pools A-D) has 8 for total of 511 seed.

PI 646127. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3687.d. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (11), Pool C (13), Pool D (55), and Bulk (includes mixed pools A-D) has 11 for total of 90 seed.

PI 646128. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3687.h. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (26), Pool C (48), Pool D (39), for total of 113 seed.

PI 646129. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3688.n. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (84), Pool B (3), Pool C (69), Pool D (8), for total of 164 seed.

PI 646130. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3689.c. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (754), Pool B (452), Pool C (333), Pool D (304), for total of 1843 seed.

PI 646131. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3689.m. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (12), Pool C (56), Pool D (21), for total of 89 seed.

PI 646132. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3689.n. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (123), Pool C (187), Pool D (13), for total of 323 seed.

PI 646133. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3689.p. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (74), Pool B (250), Pool C (477), Pool D (48), for total of 849 seed.

PI 646134. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3690.a. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (169), Pool B (176), Pool C (282), Pool D (127), and Bulk (includes mixed pools A-D) has 33 for total of 787 seed.

PI 646135. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3690.o. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (529), Pool B (376), Pool C (66), Pool D (263), and Bulk (includes mixed pools A-D) has 5 for total of 1239 seed.

PI 646136. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3691.f. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (70), Pool B (140), Pool C (251), Pool D (125), for total of 586 seed.

PI 646137. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3691.m. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (2), Pool B (2), Pool C (31), Pool D (47), for total of 82 seed.

PI 646138. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3975.d. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (299), Pool B (109), Pool C (206), Pool D (37), for total of 651 seed.

PI 646139. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3975.g. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (3), Pool B (244), Pool C (324), Pool D (296), and Bulk (includes mixed pools A-D) has 110 for total of 977 seed.

PI 646140. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3975.k. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (6), Pool C (6), Pool D (2), for total of 14 seed.

PI 646141. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10

degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3975.l. There are 2 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (3), Pool D (5), for total of 8 seed.

PI 646142. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3975.m. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (68), Pool B (172), Pool C (164), Pool D (34), for total of 438 seed.

PI 646143. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-M. *Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3989.a. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (44), Pool B (25), Pool C (22), and Bulk (includes mixed pools A-D) has 22 for total of 113 seed.

PI 646144. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;

Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3989.f. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B 98), Pool C 61), Pool D (337), for total of 496 seed.

PI 646145. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3989.k. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (59), Pool B (51), Pool C (27), Pool D (38), and Bulk (includes mixed pools A-D) has 15 for total of 190 seed.

PI 646146. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 3999.b. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (85), Pool B (19), Pool C (53), Pool D (11), and Bulk (includes mixed pools A-D) has 69 for total of 237 seed.

PI 646147. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus;

Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4000.b. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (22), Pool B (2), Pool D (63), and Bulk (includes mixed pools A-D) has 66 for total of 153 seed.

PI 646148. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4000.g. There are 3 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool B (2), Pool C (5), and Bulk (includes mixed pools A-D) has 31 for total of 38 seed.

PI 646149. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4002.d. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (240), Pool B (164), Pool C (223), Pool D (189), for total of 816 seed.

PI 646150. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus;

Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4002.e. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (482), Pool B (141), Pool C (91), Pool D (28), and Bulk (includes mixed pools A-D) has 21 for total of 763 seed.

PI 646151. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4002.f. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (161), Pool B (200), Pool C (128), Pool D (85), and Bulk (includes mixed pools A-D) has 471 for total of 621 seed.

PI 646152. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4002.h. There are 5 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (12), Pool B (675), Pool C (585), Pool D (374), and Bulk (includes mixed pools A-D) has 102 for total of 1748 seed.

PI 646153. Malus sieversii (Ledeb.) M. Roem.

Wild. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus;

Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Pedigree - Pollen sources from pools A, B, C, D. Pool A = GMAL 3683.f, 3683.n, 3685.f, 3689.c, 3690.d, 3690.o, 3975.m, 4000.g, 4002.d., 4002.h. Pool B= GMAL 3682.e, 3682.k, 3683.d, 3683.i, 3684.a, 3684.b, 3684.l, 3687.a, 3688.n, 3689.n. Pool C= GMAL 3685.d, 3685.e, 3689.m, 3689.p, 3691.f, 3975.d, 3975.k, 3975.l, 3989.k, 4000.b, 4002.e. Pool D= GMAL 3682.f, 3687.d, 3687.h, 3691.j, 3691.m, 3975.g, 3989.a, 3989.d, 3999.b, 4002.f, 4002.l. Pollination process covers the years 2004-2006. The mother is GMAL 4002.l. There are 4 envelopes (A, B, C, D). Seed amount from pollen pools as listed in pedigree: Pool A (115), Pool C (149), Pool D (718), and Bulk (includes mixed pools A-D) has 127 for total of 1109 seed.

The following were donated by Albert J. Oakes, USDA-ARS, Germplasm Resources Laboratory, Bldg. 001, Beltsville, Maryland, United States. Received 01/01/1973.

PI 646154. *Onobrychis viciifolia* Scop.

"Melrose"; FC 40841; NSL 448187.

The following were developed by Charles E. Simpson, Texas A&M University, P. O. Box 292, Stephenville, Texas 76401, United States; Mark Burow, Texas A&M University, Agricultural Experiment Station, 1102 East FM 1294, Lubbock, Texas 79403, United States; Michael Baring, Texas A&M University, Soil & Crop Sciences Dept., Mail Stop 2474, College Station, Texas 77843-2474, United States; Y. Lopez, Texas A&M University, Texas Agricultural Exp. Station, Soil & Crop Sci. Dept., College Station, Texas 77841, United States; J. Ayers, Texas Agricultural Experiment Station, Soil and Crop Science, Lubbock, Texas 79403, United States. Received 02/22/2007.

PI 646155. *Arachis hypogaea* L. var. *hypogaea*

Breeding. Pureline. Golden Virginia; TxAG-8; Tx046127. GP-127. Pedigree - Cross between Golden Aureous, a yellow leaf Spanish type peanut, and Tamrun 96, a runner variety. No F2 plants combined yellow leaves and runner growth habit; selections were made for yellow leaves and the Virginia growth habit. Several F3 and F4 populations were evaluated in 2003 and 2004. Several entries were selected and increased in Brownfield, TX in 2005. Entry Tx046127 was selected to be released as Golden Virginia. Developed for its leaf color, which turns yellow approximately 60 to 70 d after planing. Proposed to be used as a field marker to separate experiments, for confirmation of correct planting order, or to fill plots for which seed were insufficient. Given the yellow leaf color during the latter half of the growing season, the line is easy to distinguish from other peanut lines. Another field marker, Golden Aureous, is a Spanish type, and is best avoided in experiments involving runner or Virginia plants due to differences in interplot competition. Is a Virginia type line with semi-erect lateral branches, mainstem not prominent, and lacking flowers on the mainstem. Mainstem height was 13.2 and 17.0 cm at Denver City in 2004 and Brownfield in 2005, respectively, and plant width averaged 30 and 40 cm. During the first 60 d of the growing season, the color of the leaves was light green (137A, 143A, B, C, 144A, and 144B according to the Royal Horticultural Society [RHS]/Flower Council of Holland Scale); by contrast, the leaves of Florunner and Tamrun 96 were green (132A, 137B, and 144C). At 60 to 70 DAP, the leaves of Golden Virginia begin changing

color, to light yellow (7A, 13A, RHS Scale) and eventually darker yellow (14B, 15A). Some of the leaves on a plant remain light green (143A, 144A); usually the plants at the ends of the plot keep greener leaves. Toward the end of the season the leaves turn brown. Stem color varies from light green (137A) to pale yellow (13A). Flowering is alternate, with hypogaea-type pods variable for size and shape. Two-seeded pods range from 2.6 to 3.8 cm in length and to 1.2 to 1.8 cm in width. There is a high frequency of single-seeded pods, averaging 36% (range 24-50%). Pod constriction ranges from very deep to moderate. Has tan testa and has a 100-seed weight of 44.7 g.

The following were developed by Joe W. Burton, USDA-ARS, Plant Science Research Building, 3127 Ligon Street, Raleigh, North Carolina 27607, United States; Sam C. Anand, University of Missouri, Department of Agronomy, 210 Waters Hall, Columbia, Missouri 65211, United States; David A. Sleper, University of Missouri, Department of Agronomy, 271-F Life Sciences Center, Columbia, Missouri 65211, United States; W.P. Novitzky, USDA, ARS, North Carolina State Univ., Dept. of Crop Sci., Raleigh, North Carolina 27695-7631, United States; J. Grover Shannon, University of Missouri-Columbia, Missouri Ag Experiment Station, Delta Research Center, Portageville, Missouri 63873, United States; A.S. Chappell, USDA-ARS, University of Missouri, Plant Genetics Research Unit, Columbia, Missouri 65211, United States. Received 03/02/2007.

PI 646156. *Glycine max* (L.) Merr.

Breeding. Pureline. S01-9364. GP-350. Pedigree - F4 selection composited in the F5 generation from Anand x a low linolenic acid selection from Delsoy 5710 x (S92-1403 x N94-2529). S92-1403 is from Pioneer Brand 9581 x Hartwig. N94-2529 is a low linolenic acid selection developed by the USDA-ARS and the North Carolina Agric. Exp. Stn. and contains the low linolenic acid gene FAD3A derived from PI 123440. Soybean germplasm lines S01-9364 and S01-9391 were developed and released by the University of Missouri Agricultural Experiment Station and the USDA-ARS. S01-9364 and S01-9391 are late group V maturity (relative maturity 5.7) with a determinate growth habit. S01-9364 has purple and white flowers, gray pubescence and tan pods. Seeds are shiny yellow seed with buff hila. S01-9391 has purple flowers tawny pubescence and tan pods. Seeds are shiny yellow with black hila. Both lines were tested in Missouri in research trials at five southeast Missouri locations from 2003 to 2005. In comparison to Anand, S01-9364 and S01-9391 averaged up to 9% more seed yield, one day later, 10 cm taller and were more susceptible to lodging, averaged 1.6 to 2.1 g/100 seed-1 smaller seed, and had similar protein and oil contents compared to Anand. Mean linolenic acid content of both lines over three years ranged from 34 g kg-1 to 41 g kg-1 and averaged 37 g kg-1 compared to an average of 75 g kg-1 for Anand. S01-9364 and S01-9391 are moderately resistant to populations of SCN HG types 2.5.7, 1.2.5.7, 0, 2-, and 1.3- (formerly race 1, 2, 3, 5, and 14) based on greenhouse screening at Columbia and Portageville, MO during 2003 and 2005. SCN female indexes on S01-9364 for each HG type were 26, 4, 28, 1, and 1 respectively, based on a SCN female index of 100 for the susceptible check. SCN female indexes on S01-9391 for each HG type were 1, 1, 0, 0, and 0, respectively based on a SCN female index of 100 for the susceptible check. Both lines are resistant to stem canker [caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionalis* F. A. Fernandez], bacterial pustule [caused by *Xanthomonas axonopodis* pv. *glycines* (Nakano) Vauterin et al.] and sudden death

syndrome [*Fusarium solani* (Mort.) Sacc. f. sp. *glycines* Roy]. S01-9391 also has shown moderate resistance to southern root knot nematode [*Meloidogyne incognita* (Kofoid & White) Chitwood] in screening trials planted behind.

PI 646157. *Glycine max* (L.) Merr.

Breeding. Pureline. S01-9391. GP-351. Pedigree - F4:5 line from S95-1908 x [S93-1495 x (Holladay x N94-2429)]. S95-1908 is from S92-1495 x NKS59-60. S92-1495 is from AT550 x Hartwig. AT550 is a late group V SCN resistant cultivar grown commercially in the early 1990s. NKS59-60 is from Coker 485 x (Coker 237 x Epps). Coker 485 is from Centennial x [(Hampton 266 x Bragg) x Hutton]. Soybean germplasm lines S01-9364 and S01-9391 were developed and released by the University of Missouri Agricultural Experiment Station and the USDA-ARS. S01-9364 and S01-9391 are late group V maturity (relative maturity 5.7) with a determinate growth habit. S01-9364 has purple and white flowers, gray pubescence and tan pods. Seeds are shiny yellow seed with buff hila. S01-9391 has purple flowers tawny pubescence and tan pods. Seeds are shiny yellow with black hila. Both lines were tested in Missouri in research trials at five southeast Missouri locations from 2003 to 2005. In comparison to Anand, S01-9364 and S01-9391 averaged up to 9% more seed yield, one day later, 10 cm taller and were more susceptible to lodging, averaged 1.6 to 2.1 g/100 seed-1 smaller seed, and had similar protein and oil contents compared to Anand. Mean linolenic acid content of both lines over three years ranged from 34 g kg-1 to 41 g kg-1 and averaged 37 g kg-1 compared to an average of 75 g kg-1 for Anand. S01-9364 and S01-9391 are moderately resistant to populations of SCN HG types 2.5.7, 1.2.5.7, 0, 2-, and 1.3- (formerly race 1, 2, 3, 5, and 14) based on greenhouse screening at Columbia and Portageville, MO during 2003 and 2005. SCN female indexes on S01-9364 for each HG type were 26, 4, 28, 1, and 1 respectively, based on a SCN female index of 100 for the susceptible check. SCN female indexes on S01-9391 for each HG type were 1, 1, 0, 0, and 0, respectively based on a SCN female index of 100 for the susceptible check. Both lines are resistant to stem canker [caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionalis* F. A. Fernandez], bacterial pustule [caused by *Xanthomonas axonopodis* pv. *glycines* (Nakano) Vauterin et al.] and sudden death syndrome [*Fusarium solani* (Mort.) Sacc. f. sp. *glycines* Roy]. S01-9391 also has shown moderate resistance to southern root knot nematode [*Meloidogyne incognita* (Kofoid & White) Chitwood] in screening trials planted behind.

The following were developed by Thomas K. Blake, Montana State University, Dept. of Plant Sciences & Plant Pathology, 109 Plant Biosciences Building, Bozeman, Montana 59717, United States. Received 03/01/2007.

PI 646158. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "CRAFT"; MT970116. Pedigree - Klages/Baronesse. Two-rowed malting or feed barley variety released by the Montana Agric. Exp. Stn. in 2006. Smooth-awned spring barley variety with short rachilla hairs. Easily distinguished from its two parents, Klages and Baronesse. Like Klages, Craft retains sterile lateral florets (Baronesse is deficient). Like Baronesse, Craft is smooth-awned (Klages has rough awns). In 75 dryland and irrigated yield trials from 1997-2005, Craft produced higher yield, higher percent plump grain and higher test weight than its malting counterparts, Harrington and Merit (P<.001). Produced

grain with lower protein than Harrington and Merit ($p < .05$), and was two days earlier to flower than Harrington ($p < .001$). Has been observed to be moderately resistant to stripe susceptible to net blotch. Produces grain that malts readily and uniformly, producing enzyme levels similar to Klages with excellent extract and low viscosity. Has passed two years' plant scale malting tests, and was recommended for malting by the American Malting Barley Assoc. in Feb. 2007.

PI 646159. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "HAYS"; MT981060. Pedigree - Haybet/Baronesse. Two-rowed hooded spring barley developed as a hay barley. Included in both forage and grain yield trials across Montana from 1998 through 2003. Has short rachilla hairs, like its parent Baronesse. Derives its hooded gene from its parent Haybet. Provides greater forage yield than the check varieties Haybet and Westford under irrigated conditions, and greater forage yield than Westford under dry conditions. Produces forage of excellent quality, equaling that of Haybet and superior to Westford with lower fiber percentage and lower nitrate levels. Superior to Haybet in grain production and equals the agronomic check varieties Harrington and Gallatin. Should find favor with seedsmen who sell hay barley seed, and with hay barley producers who retain their own seed.

PI 646160. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "HAXBY"; MT950186. Pedigree - MT830756 (Gallatin/Bellona)/MT83533 (Clark/Lamont). High yielding high testweight 2-rowed variety well-adapted to Montana's dryland environments. Full stature barley, with average plant height measured over 74 location years equal to 31 inches. Relatively early to flower (176.9 Julian days), with excellent plump percentage (76.4 percent), high test weight (52.4 pounds/bushel) and grain yield (97.3 bu/ac). In Montana under rainfed conditions, Haxby has been shown to equal or surpass all tested varieties for grain yield (67.2 bu/ac), test weight (51.5 bu/ac) and percent plump grain (66.9).

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 03/01/2007.

PI 646161 PVPO. *Glycine max* (L.) Merr.

Cultivar. "90A06". PVP 200700094.

PI 646162 PVPO. *Glycine max* (L.) Merr.

Cultivar. "90M02". PVP 200700095.

PI 646163 PVPO. *Glycine max* (L.) Merr.

Cultivar. "90M80". PVP 200700096.

PI 646164 PVPO. *Glycine max* (L.) Merr.

Cultivar. "90M92". PVP 200700097.

PI 646165 PVPO. *Glycine max* (L.) Merr.

Cultivar. "91M01". PVP 200700098.

PI 646166 PVPO. *Glycine max* (L.) Merr.

Cultivar. "91M41". PVP 200700099.

PI 646167 PVPO. *Glycine max* (L.) Merr.
Cultivar. "91M80". PVP 200700100.

PI 646168 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M11". PVP 200700101.

PI 646169 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M21". PVP 200700102.

PI 646170 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M41". PVP 200700103.

PI 646171 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M53". PVP 200700104.

PI 646172 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M54". PVP 200700105.

PI 646173 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M76". PVP 200700106.

PI 646174 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M81". PVP 200700107.

PI 646175 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M82". PVP 200700108.

PI 646176 PVPO. *Glycine max* (L.) Merr.
Cultivar. "93M14". PVP 200700109.

PI 646177 PVPO. *Glycine max* (L.) Merr.
Cultivar. "93M61". PVP 200700110.

PI 646178 PVPO. *Glycine max* (L.) Merr.
Cultivar. "93M62". PVP 200700111.

PI 646179 PVPO. *Glycine max* (L.) Merr.
Cultivar. "93M70". PVP 200700112.

PI 646180 PVPO. *Glycine max* (L.) Merr.
Cultivar. "94M71". PVP 200700113.

The following were developed by Seminis Vegetable Seeds, Inc., Oxnard, California, United States. Received 03/02/2007.

PI 646181. *Spinacia oleracea* L.
Cultivar. "ESA661070". PVP 200700090.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States; Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 03/02/2007.

PI 646182 PVPO. *Poa hybrid*
Cultivar. "LONGHORN". PVP 200700091. *P. arachnifera* x *P. pratensis*.

The following were developed by Westbred, LLC, United States. Received 03/02/2007.

PI 646183 PVPO. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "BIGG RED". PVP 200700114. Pedigree - Russ/Impervo.

PI 646184 PVPO. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "SMOKY HILL". PVP 200700115. Pedigree - selection from bulk population consisting of: Custer/GSR2500; Tomkawa/Karl 92//GSR2500; G1893/GSR2500; and Cossack/GSR2500.

PI 646185 PVPO. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "SHOCKER". PVP 200700116. Pedigree - Freedom/Tomahawk//Jagger.

The following were developed by Progeny Advanced Genetics, Inc., Salinas, California, United States. Received 03/02/2007.

PI 646186 PVPO. *Lactuca sativa* L.

Cultivar. "EVEREST". PVP 200700119.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 03/02/2007.

PI 646187 PVPO. *Lactuca sativa* L.

Cultivar. "CAPSULE". PVP 200700120.

The following were developed by Christopher P. Awald, North Collins, New York, United States. Received 03/02/2007.

PI 646188 PVPO. *Cucurbita pepo* L.

Cultivar. "WOLF". PVP 200700121.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 03/02/2007.

PI 646189 PVPO. *Glycine max* (L.) Merr.

Cultivar. "1335025". PVP 200700122.

PI 646190 PVPO. *Glycine max* (L.) Merr.

Cultivar. "1686017". PVP 200700123.

PI 646191 PVPO. *Glycine max* (L.) Merr.

Cultivar. "2388028". PVP 200700124.

PI 646192 PVPO. *Glycine max* (L.) Merr.

Cultivar. "2387029". PVP 200700125.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States; Novel AG, Inc., Oregon, United States. Received 03/02/2007.

PI 646193 PVPO. *Lolium perenne* L.
Cultivar. "OVERDRIVE". PVP 200700153.

The following were developed by Pybas Seeds, Santa Maria, California, United States. Received 03/02/2007.

PI 646194 PVPO. *Lactuca sativa* L.
Cultivar. "QUEST". PVP 200700155.

The following were developed by Fred Ledebouer, Albany, Oregon, United States. Received 03/02/2007.

PI 646195 PVPO. *Avena sativa* L.
Cultivar. "INTIMIDATOR". PVP 200700156.

The following were developed by Resource Seeds, Inc., United States. Received 03/02/2007.

PI 646196 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "CABERNET". PVP 200700161. Pedigree - Express/6/Probrand
2437/3/Cleo/Inia//Klasic/4/Tadorna/5/Azteca.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 03/02/2007.

PI 646197 PVPO. *Lactuca sativa* L.
Cultivar. "LETTYNY". PVP 200700165.

The following were developed by O & A Enterprises, Inc., United States. Received 03/02/2007.

PI 646198 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 353 Pima". PVP 200700167.

The following were developed by Dave Burrup, USDA-ARS, PO Box 307, Aberdeen, Idaho 83210, United States; Darrell M. Wesenberg, USDA, ARS, National Small Grains Germplasm, Research Facility, Aberdeen, Idaho 83210, United States; J.C. Whitmore, University of Idaho, Tetonia Research & Extension Center, 888 West Highway 33, Newdale, Idaho 83436, United States; Juliet M. Windes, University of Idaho, Aberdeen Research & Extension Center, P.O. Box 870, Aberdeen, Idaho 83210, United States; Charles A. Erickson, USDA, ARS, National Small Grains Collection, 1691 S 2700 W, Aberdeen, Idaho 83210, United States; Don Obert, USDA-ARS, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States. Received 03/06/2007.

PI 646199. *Hordeum vulgare* L. subsp. *vulgare*
Cultivar. Pureline. "TETONIA"; 98Ab11720; NSGC 18201. CV-334. Pedigree -
85Ab2323/Baronesse. Released 2007. Two-rowed spring barley.

The following were donated by H.D. Upadhyaya, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, Patancheru, Andhra Pradesh 502 324, India. Received 10/27/2006.

- PI 646200. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 4; IS 24699; Kaura; NSL 445574 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646201. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 6; IS 24700; Kaura; NSL 445575 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646202. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 9; IS 24701; Kaura; NSL 445576 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646203. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 11; IS 24703; Kaura; NSL 445577 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646204. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 15; IS 24704; Kaura; NSL 445578 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646205. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 34; IS 24723; Kaura; NSL 445579 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646206. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 35; IS 24724; Kaura; NSL 445580 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646207. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 47; IS 24730; Kaura; NSL 445581 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646208. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 48-1; IS 24732; Kaura; NSL 445582 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646209. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 50; IS 24734; Kaura; NSL 445583 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646210. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 66; IS 24748; Kaura; NSL 445584 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646211. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 71; IS 24753; Kaura; NSL 445585 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646212. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
POD 167; IS 24841; Kaura; NSL 445586 QUAR. Collected 10/27/2006 in Nigeria.

- PI 646213. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 POD 184; IS 24856; Kaura; NSL 445587 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646214. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 POD 200; IS 24868; Kaura; NSL 445588 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646215. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 POD 201; IS 24869; Kaura; NSL 445589 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646216. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 POD 202; IS 24870; Kaura; NSL 445590 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646217. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 NGP 219; IS 24883; Kaura; NSL 445591 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646218. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 26874; S 681-3; NSL 445592 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646219. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 26875; S 683-3; NSL 445593 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646220. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 26886; S 728-2; NSL 445594 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646221. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 26887; S 729-2; NSL 445595 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646222. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 26910; Local olledrium kano; NSL 445596 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646223. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 NGP 220; IS 27044; NSL 445597 QUAR. Collected 10/27/2006 in Nigeria.
- PI 646224. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 30357; Er huang jiao; NSL 445598 QUAR. Collected 10/27/2006 in China.
- PI 646225. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 30370; Da huang gaoliang; NSL 445599 QUAR. Collected 10/27/2006 in China.
- PI 646226. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 30379; Da yu gaoliang; NSL 445600 QUAR. Collected 10/27/2006 in China.
- PI 646227. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 30423; Da dao bo; NSL 445601 QUAR. Collected 10/27/2006 in China.
- PI 646228. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
 IS 30431; Gaoliang; NSL 445602 QUAR. Collected 10/27/2006 in China.

- PI 646229. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30455; Da hong pao; NSL 445603 QUAR. Collected 10/27/2006 in China.
- PI 646230. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30896; US 7; Ekow; NSL 445604 QUAR. Collected 10/27/2006 in Uganda.
- PI 646231. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30898; US 9; Edeidei; NSL 445605 QUAR. Collected 10/27/2006 in Uganda.
- PI 646232. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30900; US 11; NSL 445606 QUAR. Collected 10/27/2006 in Uganda.
- PI 646233. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30908; US 22; NSL 445607 QUAR. Collected 10/27/2006 in Uganda.
- PI 646234. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30913; US 29; NSL 445608 QUAR. Collected 10/27/2006 in Uganda.
- PI 646235. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30915; US 31; NSL 445609 QUAR. Collected 10/27/2006 in Uganda.
- PI 646236. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30923; US 43; NSL 445610 QUAR. Collected 10/27/2006 in Uganda.
- PI 646237. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30952; US 75; NSL 445611 QUAR. Collected 10/27/2006 in Uganda.
- PI 646238. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30955; US 78; NSL 445612 QUAR. Collected 10/27/2006 in Uganda.
- PI 646239. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30958; US 82; NSL 445613 QUAR. Collected 10/27/2006 in Uganda.
- PI 646240. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30961; US 85; NSL 445614 QUAR. Collected 10/27/2006 in Uganda.
- PI 646241. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30969; US 93; NSL 445615 QUAR. Collected 10/27/2006 in Uganda.
- PI 646242. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30975; US 99; NSL 445616 QUAR. Collected 10/27/2006 in Uganda.
- PI 646243. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30979; US 103; NSL 445617 QUAR. Collected 10/27/2006 in Uganda.
- PI 646244. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30983; US 107; NSL 445618 QUAR. Collected 10/27/2006 in Uganda.
- PI 646245. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31006; US 131; NSL 445619 QUAR. Collected 10/27/2006 in Uganda.
- PI 646246. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31009; US 134; NSL 445620 QUAR. Collected 10/27/2006 in Uganda.
- PI 646247. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31028; US 154; NSL 445621 QUAR. Collected 10/27/2006 in Uganda.

- PI 646248. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31030; US 156; NSL 445622 QUAR. Collected 10/27/2006 in Uganda.
- PI 646249. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31033; US 159; NSL 445623 QUAR. Collected 10/27/2006 in Uganda.
- PI 646250. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31048; US 177; NSL 445624 QUAR. Collected 10/27/2006 in Uganda.
- PI 646251. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31059; US 192; NSL 445625 QUAR. Collected 10/27/2006 in Uganda.
- PI 646252. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31062; US 195; NSL 445626 QUAR. Collected 10/27/2006 in Uganda.
- PI 646253. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31063; US 196; NSL 445627 QUAR. Collected 10/27/2006 in Uganda.
- PI 646254. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31081; US 217; NSL 445628 QUAR. Collected 10/27/2006 in Uganda.
- PI 646255. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31092; US 232; NSL 445629 QUAR. Collected 10/27/2006 in Uganda.
- PI 646256. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31093; US 233; NSL 445630 QUAR. Collected 10/27/2006 in Uganda.
- PI 646257. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31098; US 238; NSL 445631 QUAR. Collected 10/27/2006 in Uganda.
- PI 646258. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31099; US 239; NSL 445632 QUAR. Collected 10/27/2006 in Uganda.
- PI 646259. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31100; US 240; NSL 445633 QUAR. Collected 10/27/2006 in Uganda.
- PI 646260. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31101; US 241; NSL 445634 QUAR. Collected 10/27/2006 in Uganda.
- PI 646261. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31104; US 245; NSL 445635 QUAR. Collected 10/27/2006 in Uganda.
- PI 646262. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31106; US 248; NSL 445636 QUAR. Collected 10/27/2006 in Uganda.
- PI 646263. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31107; US 249; NSL 445637 QUAR. Collected 10/27/2006 in Uganda.
- PI 646264. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31109; US 251; NSL 445638 QUAR. Collected 10/27/2006 in Uganda.
- PI 646265. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31110; US 252; NSL 445639 QUAR. Collected 10/27/2006 in Uganda.
- PI 646266. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31113; US 255; NSL 445640 QUAR. Collected 10/27/2006 in Uganda.

- PI 646267. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31115; US 257; NSL 445641 QUAR. Collected 10/27/2006 in Uganda.
- PI 646268. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31116; US 258; NSL 445642 QUAR. Collected 10/27/2006 in Uganda.
- PI 646269. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31118; US 260; NSL 445643 QUAR. Collected 10/27/2006 in Uganda.
- PI 646270. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31119; US 261; NSL 445644 QUAR. Collected 10/27/2006 in Uganda.
- PI 646271. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31127; US 271; NSL 445645 QUAR. Collected 10/27/2006 in Uganda.
- PI 646272. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31128; US 272; NSL 445646 QUAR. Collected 10/27/2006 in Uganda.
- PI 646273. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31130; US 274; NSL 445647 QUAR. Collected 10/27/2006 in Uganda.
- PI 646274. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31135; US 279; NSL 445648 QUAR. Collected 10/27/2006 in Uganda.
- PI 646275. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31137; US 281; NSL 445649 QUAR. Collected 10/27/2006 in Uganda.
- PI 646276. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31139; US 283; NSL 445650 QUAR. Collected 10/27/2006 in Uganda.
- PI 646277. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31140; US 284; NSL 445651 QUAR. Collected 10/27/2006 in Uganda.
- PI 646278. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31143; US 287; NSL 445652 QUAR. Collected 10/27/2006 in Uganda.
- PI 646279. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31151; US 295; NSL 445653 QUAR. Collected 10/27/2006 in Uganda.
- PI 646280. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31162; US 306; NSL 445654 QUAR. Collected 10/27/2006 in Uganda.
- PI 646281. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31163; US 307; NSL 445655 QUAR. Collected 10/27/2006 in Uganda.
- PI 646282. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31166; US 311; NSL 445656 QUAR. Collected 10/27/2006 in Uganda.
- PI 646283. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31168; US 313; NSL 445657 QUAR. Collected 10/27/2006 in Uganda.
- PI 646284. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31185; US 330; NSL 445658 QUAR. Collected 10/27/2006 in Uganda.
- PI 646285. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31186; US 331; NSL 445659 QUAR. Collected 10/27/2006 in Uganda.

- PI 646286. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31187; US 332; NSL 445660 QUAR. Collected 10/27/2006 in Uganda.
- PI 646287. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31191; US 336; NSL 445661 QUAR. Collected 10/27/2006 in Uganda.
- PI 646288. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31192; US 337; NSL 445662 QUAR. Collected 10/27/2006 in Uganda.
- PI 646289. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31199; US 344; NSL 445663 QUAR. Collected 10/27/2006 in Uganda.
- PI 646290. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31203; US 348; NSL 445664 QUAR. Collected 10/27/2006 in Uganda.
- PI 646291. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31206; US 351; NSL 445665 QUAR. Collected 10/27/2006 in Uganda.
- PI 646292. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31207; US 352; NSL 445666 QUAR. Collected 10/27/2006 in Uganda.
- PI 646293. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31210; US 355; NSL 445667 QUAR. Collected 10/27/2006 in Uganda.
- PI 646294. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31221; US 366; NSL 445668 QUAR. Collected 10/27/2006 in Uganda.
- PI 646295. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31244; US 389; NSL 445669 QUAR. Collected 10/27/2006 in Uganda.
- PI 646296. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31256; US 401; NSL 445670 QUAR. Collected 10/27/2006 in Uganda.
- PI 646297. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31262; US 407; NSL 445671 QUAR. Collected 10/27/2006 in Uganda.
- PI 646298. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31265; US 410; NSL 445672 QUAR. Collected 10/27/2006 in Uganda.
- PI 646299. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31295; US 446; NSL 445673 QUAR. Collected 10/27/2006 in Uganda.
- PI 646300. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31307; US 459; NSL 445674 QUAR. Collected 10/27/2006 in Uganda.
- PI 646301. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31310; US 462; NSL 445675 QUAR. Collected 10/27/2006 in Uganda.
- PI 646302. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31311; US 463; NSL 445676 QUAR. Collected 10/27/2006 in Uganda.
- PI 646303. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31319; US 471; Rutare; NSL 445677 QUAR. Collected 10/27/2006 in Uganda.

- PI 646304. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31325; US 478; Kankwerere-bugangari 1; NSL 445678 QUAR. Collected
10/27/2006 in Uganda.
- PI 646305. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31345; US 499; NSL 445679 QUAR. Collected 10/27/2006 in Uganda.
- PI 646306. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31359; US 513; NSL 445680 QUAR. Collected 10/27/2006 in Uganda.
- PI 646307. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31364; US 518; NSL 445681 QUAR. Collected 10/27/2006 in Uganda.
- PI 646308. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31365; US 519; NSL 445682 QUAR. Collected 10/27/2006 in Uganda.
- PI 646309. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31394; US 550; NSL 445683 QUAR. Collected 10/27/2006 in Uganda.
- PI 646310. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31413; US 569; NSL 445684 QUAR. Collected 10/27/2006 in Uganda.
- PI 646311. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31414; US 570; NSL 445685 QUAR. Collected 10/27/2006 in Uganda.
- PI 646312. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31455; US 612; NSL 445686 QUAR. Collected 10/27/2006 in Uganda.
- PI 646313. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31462; US 619; NSL 445687 QUAR. Collected 10/27/2006 in Uganda.
- PI 646314. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31465; US 622; NSL 445688 QUAR. Collected 10/27/2006 in Uganda.
- PI 646315. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31484; US 641; NSL 445689 QUAR. Collected 10/27/2006 in Uganda.
- PI 646316. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31496; US 653; NSL 445690 QUAR. Collected 10/27/2006 in Uganda.
- PI 646317. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31497; US 654; NSL 445691 QUAR. Collected 10/27/2006 in Uganda.
- PI 646318. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31498; US 655; NSL 445692 QUAR. Collected 10/27/2006 in Uganda.
- PI 646319. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31500; US 657; Namatera-masambala; NSL 445693 QUAR. Collected
10/27/2006 in Uganda.
- PI 646320. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31501; US 658; Seziwemba; NSL 445694 QUAR. Collected 10/27/2006 in
Uganda.
- PI 646321. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31511; US 668; NSL 445695 QUAR. Collected 10/27/2006 in Uganda.

- PI 646322. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31512; US 669; Masansabali I; NSL 445696 QUAR. Collected 10/27/2006
in Uganda.
- PI 646323. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31515; US 672; NSL 445697 QUAR. Collected 10/27/2006 in Uganda.
- PI 646324. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31518; US 676; NSL 445698 QUAR. Collected 10/27/2006 in Uganda.
- PI 646325. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31521; US 679; NSL 445699 QUAR. Collected 10/27/2006 in Uganda.
- PI 646326. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31522; US 680; Nakanyoro; NSL 445700 QUAR. Collected 10/27/2006 in
Uganda.
- PI 646327. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32275; PC 40; NSL 445701 QUAR. Collected 10/27/2006 in India.
- PI 646328. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32285; PC 68; NSL 445702 QUAR. Collected 10/27/2006 in India.
- PI 646329. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32302; SAR 6; NSL 445703 QUAR. Collected 10/27/2006 in India.
- PI 646330. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32304; SAR 10; NSL 445704 QUAR. Collected 10/27/2006 in India.
- PI 646331. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32307; SAR 13; NSL 445705 QUAR. Collected 10/27/2006 in India.
- PI 646332. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32328; SAR 36; NSL 445706 QUAR. Collected 10/27/2006 in India.
- PI 646333. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 14; IS 32335; Sattara jonnalu; NSL 445707 QUAR. Collected
10/27/2006 in India.
- PI 646334. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 24; IS 32336; NSL 445708 QUAR. Collected 10/27/2006 in India.
- PI 646335. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 32; IS 32337; NSL 445709 QUAR. Collected 10/27/2006 in India.
- PI 646336. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 38; IS 32338; NSL 445710 QUAR. Collected 10/27/2006 in India.
- PI 646337. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 40; IS 32340; NSL 445711 QUAR. Collected 10/27/2006 in India.
- PI 646338. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 45; IS 32342; NSL 445712 QUAR. Collected 10/27/2006 in India.
- PI 646339. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 68; IS 32347; NSL 445713 QUAR. Collected 10/27/2006 in India.

- PI 646340. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 73; IS 32351; NSL 445714 QUAR. Collected 10/27/2006 in India.
- PI 646341. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 75; IS 32354; NSL 445715 QUAR. Collected 10/27/2006 in India.
- PI 646342. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 82; IS 32357; NSL 445716 QUAR. Collected 10/27/2006 in India.
- PI 646343. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 92; IS 32363; NSL 445717 QUAR. Collected 10/27/2006 in India.
- PI 646344. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 93; IS 32364; NSL 445718 QUAR. Collected 10/27/2006 in India.
- PI 646345. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 98; IS 32369; Jonnerla; NSL 445719 QUAR. Collected 10/27/2006 in India.
- PI 646346. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 103; IS 32373; NSL 445720 QUAR. Collected 10/27/2006 in India.
- PI 646347. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 111; IS 32377; NSL 445721 QUAR. Collected 10/27/2006 in India.
- PI 646348. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 112; IS 32378; Gangai; NSL 445722 QUAR. Collected 10/27/2006 in India.
- PI 646349. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 119; IS 32384; NSL 445723 QUAR. Collected 10/27/2006 in India.
- PI 646350. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 125; IS 32386; NSL 445724 QUAR. Collected 10/27/2006 in India.
- PI 646351. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 133; IS 32394; NSL 445725 QUAR. Collected 10/27/2006 in India.
- PI 646352. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 159; IS 32403; Bajra; NSL 445726 QUAR. Collected 10/27/2006 in India.
- PI 646353. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 161; IS 32404; Bajra; NSL 445727 QUAR. Collected 10/27/2006 in India.
- PI 646354. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 168; IS 32408; NSL 445728 QUAR. Collected 10/27/2006 in India.
- PI 646355. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 174; IS 32412; NSL 445729 QUAR. Collected 10/27/2006 in India.
- PI 646356. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 176; IS 32413; NSL 445730 QUAR. Collected 10/27/2006 in India.

- PI 646357. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 189; IS 32418; Bajra; NSL 445731 QUAR. Collected 10/27/2006 in India.
- PI 646358. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 215; IS 32428; NSL 445732 QUAR. Collected 10/27/2006 in India.
- PI 646359. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 219; IS 32431; NSL 445733 QUAR. Collected 10/27/2006 in India.
- PI 646360. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 221; IS 32433; Kassava; NSL 445734 QUAR. Collected 10/27/2006 in India.
- PI 646361. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 224; IS 32435; Kassava; NSL 445735 QUAR. Collected 10/27/2006 in India.
- PI 646362. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 226; IS 32437; NSL 445736 QUAR. Collected 10/27/2006 in India.
- PI 646363. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 227; IS 32438; NSL 445737 QUAR. Collected 10/27/2006 in India.
- PI 646364. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 236; IS 32445; Kassava; NSL 445738 QUAR. Collected 10/27/2006 in India.
- PI 646365. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 238; IS 32448; NSL 445739 QUAR. Collected 10/27/2006 in India.
- PI 646366. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 250; IS 32455; NSL 445740 QUAR. Collected 10/27/2006 in India.
- PI 646367. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 255; IS 32459; NSL 445741 QUAR. Collected 10/27/2006 in India.
- PI 646368. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 258; IS 32460; NSL 445742 QUAR. Collected 10/27/2006 in India.
- PI 646369. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 261; IS 32461; NSL 445743 QUAR. Collected 10/27/2006 in India.
- PI 646370. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 263; IS 32463; NSL 445744 QUAR. Collected 10/27/2006 in India.
- PI 646371. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 264; IS 32464; NSL 445745 QUAR. Collected 10/27/2006 in India.
- PI 646372. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 267; IS 32466; Bajra; NSL 445746 QUAR. Collected 10/27/2006 in India.
- PI 646373. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 270; IS 32469; Bajra; NSL 445747 QUAR. Collected 10/27/2006 in India.

- PI 646374. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 272; IS 32470; Bajra; NSL 445748 QUAR. Collected 10/27/2006 in India.
- PI 646375. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 273; IS 32471; Bajra; NSL 445749 QUAR. Collected 10/27/2006 in India.
- PI 646376. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 283; IS 32472; NSL 445750 QUAR. Collected 10/27/2006 in India.
- PI 646377. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 314; IS 32483; NSL 445751 QUAR. Collected 10/27/2006 in India.
- PI 646378. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 317; IS 32484; NSL 445752 QUAR. Collected 10/27/2006 in India.
- PI 646379. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 318; IS 32485; NSL 445753 QUAR. Collected 10/27/2006 in India.
- PI 646380. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 322; IS 32488; NSL 445754 QUAR. Collected 10/27/2006 in India.
- PI 646381. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 334; IS 32496; NSL 445755 QUAR. Collected 10/27/2006 in India.
- PI 646382. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 344; IS 32505; NSL 445756 QUAR. Collected 10/27/2006 in India.
- PI 646383. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AKG 352; IS 32508; NSL 445757 QUAR. Collected 10/27/2006 in India.
- PI 646384. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 124; IS 32867; NSL 445758 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646385. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 154; IS 32887; NSL 445759 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646386. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 160; IS 32891; NSL 445760 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646387. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 176; IS 32904; NSL 445761 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646388. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 226; IS 32930; NSL 445762 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646389. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 250; IS 32935; NSL 445763 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646390. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 453; IS 33015; NSL 445764 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646391. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 489; IS 33037; NSL 445765 QUAR. Collected 10/27/2006 in Tanzania.

- PI 646392. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
AMF 499; IS 33042; NSL 445766 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646393. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
S 482; IS 33069; NSL 445767 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646394. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
S 489; IS 33071; NSL 445768 QUAR. Collected 10/27/2006 in Tanzania.
- PI 646395. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33344; ADS 8; NSL 445769 QUAR. Collected 10/27/2006 in Kenya.
- PI 646396. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33348; ADS 16; NSL 445770 QUAR. Collected 10/27/2006 in Kenya.
- PI 646397. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33351; ADS 20; NSL 445771 QUAR. Collected 10/27/2006 in Kenya.
- PI 646398. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33357; ADS 26; NSL 445772 QUAR. Collected 10/27/2006 in Kenya.
- PI 646399. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33362; ADS 31; NSL 445773 QUAR. Collected 10/27/2006 in Kenya.
- PI 646400. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33364; ADS 33; NSL 445774 QUAR. Collected 10/27/2006 in Kenya.
- PI 646401. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33365; ADS 34; NSL 445775 QUAR. Collected 10/27/2006 in Kenya.
- PI 646402. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33366; ADS 35; NSL 445776 QUAR. Collected 10/27/2006 in Kenya.
- PI 646403. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33367; ADS 36; NSL 445777 QUAR. Collected 10/27/2006 in Kenya.
- PI 646404. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33368; ADS 37; NSL 445778 QUAR. Collected 10/27/2006 in Kenya.
- PI 646405. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33369; ADS 38; NSL 445779 QUAR. Collected 10/27/2006 in Kenya.
- PI 646406. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33370; ADS 39; NSL 445780 QUAR. Collected 10/27/2006 in Kenya.
- PI 646407. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33371; ADS 40; NSL 445781 QUAR. Collected 10/27/2006 in Kenya.
- PI 646408. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33372; ADS 41; NSL 445782 QUAR. Collected 10/27/2006 in Kenya.
- PI 646409. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33373; ADS 42; NSL 445783 QUAR. Collected 10/27/2006 in Kenya.
- PI 646410. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33374; ADS 43; NSL 445784 QUAR. Collected 10/27/2006 in Kenya.

- PI 646411. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33375; ADS 44; NSL 445785 QUAR. Collected 10/27/2006 in Kenya.
- PI 646412. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33376; ADS 45; NSL 445786 QUAR. Collected 10/27/2006 in Kenya.
- PI 646413. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33377; ADS 46; NSL 445787 QUAR. Collected 10/27/2006 in Kenya.
- PI 646414. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33378; ADS 47; NSL 445788 QUAR. Collected 10/27/2006 in Kenya.
- PI 646415. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33379; ADS 48; NSL 445789 QUAR. Collected 10/27/2006 in Kenya.
- PI 646416. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33380; ADS 49; NSL 445790 QUAR. Collected 10/27/2006 in Kenya.
- PI 646417. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33381; ADS 50; NSL 445791 QUAR. Collected 10/27/2006 in Kenya.
- PI 646418. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33382; ADS 51; NSL 445792 QUAR. Collected 10/27/2006 in Kenya.
- PI 646419. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33383; ADS 52; NSL 445793 QUAR. Collected 10/27/2006 in Kenya.
- PI 646420. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33384; ADS 53; NSL 445794 QUAR. Collected 10/27/2006 in Kenya.
- PI 646421. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33385; ADS 54; NSL 445795 QUAR. Collected 10/27/2006 in Kenya.
- PI 646422. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33386; ADS 55; NSL 445796 QUAR. Collected 10/27/2006 in Kenya.
- PI 646423. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33387; ADS 56; NSL 445797 QUAR. Collected 10/27/2006 in Kenya.
- PI 646424. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33388; ADS 57; NSL 445798 QUAR. Collected 10/27/2006 in Kenya.
- PI 646425. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33389; ADS 58; NSL 445799 QUAR. Collected 10/27/2006 in Kenya.
- PI 646426. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33390; ADS 59; NSL 445800 QUAR. Collected 10/27/2006 in Kenya.
- PI 646427. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33391; ADS 60; NSL 445801 QUAR. Collected 10/27/2006 in Kenya.
- PI 646428. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33392; ADS 61; NSL 445802 QUAR. Collected 10/27/2006 in Kenya.
- PI 646429. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33393; ADS 62; NSL 445803 QUAR. Collected 10/27/2006 in Kenya.

- PI 646430. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33394; ADS 64; NSL 445804 QUAR. Collected 10/27/2006 in Kenya.
- PI 646431. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33395; ADS 65; NSL 445805 QUAR. Collected 10/27/2006 in Kenya.
- PI 646432. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33396; ADS 66; NSL 445806 QUAR. Collected 10/27/2006 in Kenya.
- PI 646433. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33397; ADS 67; NSL 445807 QUAR. Collected 10/27/2006 in Kenya.
- PI 646434. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33398; ADS 68; NSL 445808 QUAR. Collected 10/27/2006 in Kenya.
- PI 646435. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33399; ADS 69; NSL 445809 QUAR. Collected 10/27/2006 in Kenya.
- PI 646436. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33400; ADS 70; NSL 445810 QUAR. Collected 10/27/2006 in Kenya.
- PI 646437. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33401; ADS 71; NSL 445811 QUAR. Collected 10/27/2006 in Kenya.
- PI 646438. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33402; ADS 72; NSL 445812 QUAR. Collected 10/27/2006 in Kenya.
- PI 646439. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33403; ADS 73; NSL 445813 QUAR. Collected 10/27/2006 in Kenya.
- PI 646440. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33404; ADS 74; NSL 445814 QUAR. Collected 10/27/2006 in Kenya.
- PI 646441. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33405; ADS 75; NSL 445815 QUAR. Collected 10/27/2006 in Kenya.
- PI 646442. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33406; ADS 76; NSL 445816 QUAR. Collected 10/27/2006 in Kenya.
- PI 646443. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33407; ADS 77; NSL 445817 QUAR. Collected 10/27/2006 in Kenya.
- PI 646444. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33408; ADS 78; NSL 445818 QUAR. Collected 10/27/2006 in Kenya.
- PI 646445. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33409; ADS 79; NSL 445819 QUAR. Collected 10/27/2006 in Kenya.
- PI 646446. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33410; ADS 80; NSL 445820 QUAR. Collected 10/27/2006 in Kenya.
- PI 646447. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33411; ADS 81; NSL 445821 QUAR. Collected 10/27/2006 in Kenya.
- PI 646448. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33412; ADS 82; NSL 445822 QUAR. Collected 10/27/2006 in Kenya.

- PI 646449. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33413; ADS 83; NSL 445823 QUAR. Collected 10/27/2006 in Kenya.
- PI 646450. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33414; ADS 84; NSL 445824 QUAR. Collected 10/27/2006 in Kenya.
- PI 646451. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33415; ADS 85; NSL 445825 QUAR. Collected 10/27/2006 in Kenya.
- PI 646452. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33416; ADS 86; NSL 445826 QUAR. Collected 10/27/2006 in Kenya.
- PI 646453. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33417; ADS 87; NSL 445827 QUAR. Collected 10/27/2006 in Kenya.
- PI 646454. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33418; ADS 88; NSL 445828 QUAR. Collected 10/27/2006 in Kenya.
- PI 646455. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33419; ADS 89; NSL 445829 QUAR. Collected 10/27/2006 in Kenya.
- PI 646456. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33420; ADS 90; NSL 445830 QUAR. Collected 10/27/2006 in Kenya.
- PI 646457. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33421; ADS 91; NSL 445831 QUAR. Collected 10/27/2006 in Kenya.
- PI 646458. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33422; ADS 92; NSL 445832 QUAR. Collected 10/27/2006 in Kenya.
- PI 646459. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33423; ADS 93; NSL 445833 QUAR. Collected 10/27/2006 in Kenya.
- PI 646460. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33424; ADS 94; NSL 445834 QUAR. Collected 10/27/2006 in Kenya.
- PI 646461. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33425; ADS 95; NSL 445835 QUAR. Collected 10/27/2006 in Kenya.
- PI 646462. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33426; ADS 96; NSL 445836 QUAR. Collected 10/27/2006 in Kenya.
- PI 646463. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33427; ADS 97; NSL 445837 QUAR. Collected 10/27/2006 in Kenya.
- PI 646464. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33428; ADS 98; NSL 445838 QUAR. Collected 10/27/2006 in Kenya.
- PI 646465. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33429; ADS 99; NSL 445839 QUAR. Collected 10/27/2006 in Kenya.
- PI 646466. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33430; ADS 100; NSL 445840 QUAR. Collected 10/27/2006 in Kenya.
- PI 646467. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33431; ADS 100-1; NSL 445841 QUAR. Collected 10/27/2006 in Kenya.

- PI 646468. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33432; ADS 101; NSL 445842 QUAR. Collected 10/27/2006 in Kenya.
- PI 646469. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33433; ADS 102; NSL 445843 QUAR. Collected 10/27/2006 in Kenya.
- PI 646470. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33434; ADS 103; NSL 445844 QUAR. Collected 10/27/2006 in Kenya.
- PI 646471. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33435; ADS 104; NSL 445845 QUAR. Collected 10/27/2006 in Kenya.
- PI 646472. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33436; ADS 105; NSL 445846 QUAR. Collected 10/27/2006 in Kenya.
- PI 646473. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33437; ADS 106; NSL 445847 QUAR. Collected 10/27/2006 in Kenya.
- PI 646474. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33438; ADS 107; NSL 445848 QUAR. Collected 10/27/2006 in Kenya.
- PI 646475. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33439; ADS 108; NSL 445849 QUAR. Collected 10/27/2006 in Kenya.
- PI 646476. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33440; ADS 109; NSL 445850 QUAR. Collected 10/27/2006 in Kenya.
- PI 646477. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33441; ADS 110; NSL 445851 QUAR. Collected 10/27/2006 in Kenya.
- PI 646478. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33442; ADS 111; NSL 445852 QUAR. Collected 10/27/2006 in Kenya.
- PI 646479. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33443; ADS 112; NSL 445853 QUAR. Collected 10/27/2006 in Kenya.
- PI 646480. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33444; ADS 113; NSL 445854 QUAR. Collected 10/27/2006 in Kenya.
- PI 646481. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33445; ADS 114; NSL 445855 QUAR. Collected 10/27/2006 in Kenya.
- PI 646482. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33446; ADS 115; NSL 445856 QUAR. Collected 10/27/2006 in Kenya.
- PI 646483. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33447; ADS 116; NSL 445857 QUAR. Collected 10/27/2006 in Kenya.
- PI 646484. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33448; ADS 117; NSL 445858 QUAR. Collected 10/27/2006 in Kenya.
- PI 646485. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33449; ADS 118; NSL 445859 QUAR. Collected 10/27/2006 in Kenya.
- PI 646486. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33450; ADS 119; NSL 445860 QUAR. Collected 10/27/2006 in Kenya.

- PI 646487. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33451; ADS 120; NSL 445861 QUAR. Collected 10/27/2006 in Kenya.
- PI 646488. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33452; ADS 121; NSL 445862 QUAR. Collected 10/27/2006 in Kenya.
- PI 646489. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33453; ADS 122; NSL 445863 QUAR. Collected 10/27/2006 in Kenya.
- PI 646490. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33454; ADS 123; NSL 445864 QUAR. Collected 10/27/2006 in Kenya.
- PI 646491. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33455; ADS 124; NSL 445865 QUAR. Collected 10/27/2006 in Kenya.
- PI 646492. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33456; ADS 125; NSL 445866 QUAR. Collected 10/27/2006 in Kenya.
- PI 646493. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33457; ADS 126; NSL 445867 QUAR. Collected 10/27/2006 in Kenya.
- PI 646494. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33458; ADS 127; NSL 445868 QUAR. Collected 10/27/2006 in Kenya.
- PI 646495. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33459; ADS 128; NSL 445869 QUAR. Collected 10/27/2006 in Kenya.
- PI 646496. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33460; ADS 129; NSL 445870 QUAR. Collected 10/27/2006 in Kenya.
- PI 646497. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33461; ADS 130; NSL 445871 QUAR. Collected 10/27/2006 in Kenya.
- PI 646498. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33462; ADS 131; NSL 445872 QUAR. Collected 10/27/2006 in Kenya.
- PI 646499. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33464; ADS 133; NSL 445873 QUAR. Collected 10/27/2006 in Kenya.
- PI 646500. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33465; ADS 135; NSL 445874 QUAR. Collected 10/27/2006 in Kenya.
- PI 646501. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33466; ADN 241; NSL 445875 QUAR. Collected 10/27/2006 in Sudan.
- PI 646502. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33467; ADN 242; NSL 445876 QUAR. Collected 10/27/2006 in Sudan.
- PI 646503. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33468; ADN 243; NSL 445877 QUAR. Collected 10/27/2006 in Sudan.
- PI 646504. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33469; ADN 244; NSL 445878 QUAR. Collected 10/27/2006 in Sudan.
- PI 646505. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33470; ADN 245; NSL 445879 QUAR. Collected 10/27/2006 in Sudan.

- PI 646506. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33471; ADN 246; NSL 445880 QUAR. Collected 10/27/2006 in Sudan.
- PI 646507. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33472; ADN 247; NSL 445881 QUAR. Collected 10/27/2006 in Sudan.
- PI 646508. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33473; ADN 248; NSL 445882 QUAR. Collected 10/27/2006 in Sudan.
- PI 646509. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33474; ADN 249; NSL 445883 QUAR. Collected 10/27/2006 in Sudan.
- PI 646510. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33475; ADN 250; NSL 445884 QUAR. Collected 10/27/2006 in Sudan.
- PI 646511. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33476; ADN 252; NSL 445885 QUAR. Collected 10/27/2006 in Sudan.
- PI 646512. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33477; ADN 253; NSL 445886 QUAR. Collected 10/27/2006 in Sudan.
- PI 646513. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33478; ADN 254; NSL 445887 QUAR. Collected 10/27/2006 in Sudan.
- PI 646514. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33479; ADN 255; NSL 445888 QUAR. Collected 10/27/2006 in Sudan.
- PI 646515. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33480; ADN 256; NSL 445889 QUAR. Collected 10/27/2006 in Sudan.
- PI 646516. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33481; ADN 257; NSL 445890 QUAR. Collected 10/27/2006 in Sudan.
- PI 646517. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33482; ADN 258; NSL 445891 QUAR. Collected 10/27/2006 in Sudan.
- PI 646518. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33483; ADN 259; NSL 445892 QUAR. Collected 10/27/2006 in Sudan.
- PI 646519. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33484; ADN 260; NSL 445893 QUAR. Collected 10/27/2006 in Sudan.
- PI 646520. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33485; ADN 261; NSL 445894 QUAR. Collected 10/27/2006 in Sudan.
- PI 646521. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33486; ADN 262; NSL 445895 QUAR. Collected 10/27/2006 in Sudan.
- PI 646522. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33487; ADN 263; NSL 445896 QUAR. Collected 10/27/2006 in Sudan.
- PI 646523. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33488; ADN 264; NSL 445897 QUAR. Collected 10/27/2006 in Sudan.
- PI 646524. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33489; ADN 265; NSL 445898 QUAR. Collected 10/27/2006 in Sudan.

- PI 646525. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33490; ADN 266; NSL 445899 QUAR. Collected 10/27/2006 in Sudan.
- PI 646526. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33491; ADN 267; NSL 445900 QUAR. Collected 10/27/2006 in Sudan.
- PI 646527. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33492; ADN 268; NSL 445901 QUAR. Collected 10/27/2006 in Sudan.
- PI 646528. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33493; ADN 269; NSL 445902 QUAR. Collected 10/27/2006 in Sudan.
- PI 646529. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33494; ADN 270; NSL 445903 QUAR. Collected 10/27/2006 in Sudan.
- PI 646530. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33495; ADN 271; NSL 445904 QUAR. Collected 10/27/2006 in Sudan.
- PI 646531. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33496; ADN 272; NSL 445905 QUAR. Collected 10/27/2006 in Sudan.
- PI 646532. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33497; ADN 273; NSL 445906 QUAR. Collected 10/27/2006 in Sudan.
- PI 646533. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33498; ADN 274; NSL 445907 QUAR. Collected 10/27/2006 in Sudan.
- PI 646534. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33499; ADN 275; NSL 445908 QUAR. Collected 10/27/2006 in Sudan.
- PI 646535. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33500; ADN 276; NSL 445909 QUAR. Collected 10/27/2006 in Sudan.
- PI 646536. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33501; ADN 277; NSL 445910 QUAR. Collected 10/27/2006 in Sudan.
- PI 646537. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33502; ADN 278; NSL 445911 QUAR. Collected 10/27/2006 in Sudan.
- PI 646538. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33503; ADN 279; NSL 445912 QUAR. Collected 10/27/2006 in Sudan.
- PI 646539. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33504; ADN 280; NSL 445913 QUAR. Collected 10/27/2006 in Sudan.
- PI 646540. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33505; ADN 281; NSL 445914 QUAR. Collected 10/27/2006 in Sudan.
- PI 646541. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33506; ADN 282; NSL 445915 QUAR. Collected 10/27/2006 in Sudan.
- PI 646542. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33507; ADN 283; NSL 445916 QUAR. Collected 10/27/2006 in Sudan.
- PI 646543. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33508; ADN 284; NSL 445917 QUAR. Collected 10/27/2006 in Sudan.

- PI 646544. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33509; ADN 285; NSL 445918 QUAR. Collected 10/27/2006 in Sudan.
- PI 646545. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33510; ADN 286; NSL 445919 QUAR. Collected 10/27/2006 in Sudan.
- PI 646546. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33511; ADN 287; NSL 445920 QUAR. Collected 10/27/2006 in Sudan.
- PI 646547. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33512; ADN 288; NSL 445921 QUAR. Collected 10/27/2006 in Sudan.
- PI 646548. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33513; ADN 289; NSL 445922 QUAR. Collected 10/27/2006 in Sudan.
- PI 646549. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33514; ADN 290; NSL 445923 QUAR. Collected 10/27/2006 in Sudan.
- PI 646550. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33515; ADN 291; NSL 445924 QUAR. Collected 10/27/2006 in Sudan.
- PI 646551. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33516; ADN 292; NSL 445925 QUAR. Collected 10/27/2006 in Sudan.
- PI 646552. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33517; ADN 293; NSL 445926 QUAR. Collected 10/27/2006 in Sudan.
- PI 646553. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33518; ADN 294; NSL 445927 QUAR. Collected 10/27/2006 in Sudan.
- PI 646554. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33519; ADN 295; NSL 445928 QUAR. Collected 10/27/2006 in Sudan.
- PI 646555. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33520; ADN 296; NSL 445929 QUAR. Collected 10/27/2006 in Sudan.
- PI 646556. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33521; ADN 297; NSL 445930 QUAR. Collected 10/27/2006 in Sudan.
- PI 646557. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33522; ADN 298; NSL 445931 QUAR. Collected 10/27/2006 in Sudan.
- PI 646558. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33523; ADN 299; NSL 445932 QUAR. Collected 10/27/2006 in Sudan.
- PI 646559. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33524; ADN 300; NSL 445933 QUAR. Collected 10/27/2006 in Sudan.
- PI 646560. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33525; ADN 301; NSL 445934 QUAR. Collected 10/27/2006 in Sudan.
- PI 646561. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33526; ADN 302; NSL 445935 QUAR. Collected 10/27/2006 in Sudan.
- PI 646562. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33527; ADN 303; NSL 445936 QUAR. Collected 10/27/2006 in Sudan.

- PI 646563. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33528; ADN 304; NSL 445937 QUAR. Collected 10/27/2006 in Sudan.
- PI 646564. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33529; ADN 305; NSL 445938 QUAR. Collected 10/27/2006 in Sudan.
- PI 646565. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33530; ADN 306; NSL 445939 QUAR. Collected 10/27/2006 in Sudan.
- PI 646566. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33531; ADN 307; NSL 445940 QUAR. Collected 10/27/2006 in Sudan.
- PI 646567. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33532; ADN 308; NSL 445941 QUAR. Collected 10/27/2006 in Sudan.
- PI 646568. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33533; ADN 309; NSL 445942 QUAR. Collected 10/27/2006 in Sudan.
- PI 646569. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33534; ADN 310; NSL 445943 QUAR. Collected 10/27/2006 in Sudan.
- PI 646570. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33535; ADN 311; NSL 445944 QUAR. Collected 10/27/2006 in Sudan.
- PI 646571. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33536; ADN 312; NSL 445945 QUAR. Collected 10/27/2006 in Sudan.
- PI 646572. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33537; ADN 313; NSL 445946 QUAR. Collected 10/27/2006 in Sudan.
- PI 646573. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33538; ADN 314; NSL 445947 QUAR. Collected 10/27/2006 in Sudan.
- PI 646574. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33539; ADN 315; NSL 445948 QUAR. Collected 10/27/2006 in Sudan.
- PI 646575. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33540; ADN 316; NSL 445949 QUAR. Collected 10/27/2006 in Sudan.
- PI 646576. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33541; ADN 316-1; NSL 445950 QUAR. Collected 10/27/2006 in Sudan.
- PI 646577. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33542; ADN 317; NSL 445951 QUAR. Collected 10/27/2006 in Sudan.
- PI 646578. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33543; ADN 318; NSL 445952 QUAR. Collected 10/27/2006 in Sudan.
- PI 646579. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33544; ADN 319; NSL 445953 QUAR. Collected 10/27/2006 in Sudan.
- PI 646580. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33545; ADN 320; NSL 445954 QUAR. Collected 10/27/2006 in Sudan.
- PI 646581. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33546; ADN 321; NSL 445955 QUAR. Collected 10/27/2006 in Sudan.

- PI 646582. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33547; ADN 322; NSL 445956 QUAR. Collected 10/27/2006 in Sudan.
- PI 646583. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33548; ADN 323; NSL 445957 QUAR. Collected 10/27/2006 in Sudan.
- PI 646584. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33549; ADN 324; NSL 445958 QUAR. Collected 10/27/2006 in Sudan.
- PI 646585. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33550; ADN 325; NSL 445959 QUAR. Collected 10/27/2006 in Sudan.
- PI 646586. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33551; ADN 326; NSL 445960 QUAR. Collected 10/27/2006 in Sudan.
- PI 646587. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33552; ADN 327; NSL 445961 QUAR. Collected 10/27/2006 in Sudan.
- PI 646588. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33553; ADN 328; NSL 445962 QUAR. Collected 10/27/2006 in Sudan.
- PI 646589. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33554; ADN 329; NSL 445963 QUAR. Collected 10/27/2006 in Sudan.
- PI 646590. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33555; ADN 330; NSL 445964 QUAR. Collected 10/27/2006 in Sudan.
- PI 646591. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33556; ADN 331; NSL 445965 QUAR. Collected 10/27/2006 in Sudan.
- PI 646592. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33557; ADN 332; NSL 445966 QUAR. Collected 10/27/2006 in Sudan.
- PI 646593. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33558; ADN 333; NSL 445967 QUAR. Collected 10/27/2006 in Sudan.
- PI 646594. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33559; ADN 334; NSL 445968 QUAR. Collected 10/27/2006 in Sudan.
- PI 646595. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33560; ADN 335; NSL 445969 QUAR. Collected 10/27/2006 in Sudan.
- PI 646596. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33561; ADN 336; NSL 445970 QUAR. Collected 10/27/2006 in Sudan.
- PI 646597. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33562; ADN 337; NSL 445971 QUAR. Collected 10/27/2006 in Sudan.
- PI 646598. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33563; ADN 338; NSL 445972 QUAR. Collected 10/27/2006 in Sudan.
- PI 646599. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33564; ADN 339; NSL 445973 QUAR. Collected 10/27/2006 in Sudan.
- PI 646600. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33565; ADN 340; NSL 445974 QUAR. Collected 10/27/2006 in Sudan.

- PI 646601. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33566; ADN 341; NSL 445975 QUAR. Collected 10/27/2006 in Sudan.
- PI 646602. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33567; ADN 342; NSL 445976 QUAR. Collected 10/27/2006 in Sudan.
- PI 646603. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33568; ADN 343; NSL 445977 QUAR. Collected 10/27/2006 in Sudan.
- PI 646604. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33569; ADN 344; NSL 445978 QUAR. Collected 10/27/2006 in Sudan.
- PI 646605. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33570; ADN 345; NSL 445979 QUAR. Collected 10/27/2006 in Sudan.
- PI 646606. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33571; ADN 346; NSL 445980 QUAR. Collected 10/27/2006 in Sudan.
- PI 646607. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 2; IS 33617; Dhani jowar; NSL 445981 QUAR. Collected 10/27/2006 in India.
- PI 646608 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 4; IS 33618; Sadhuri jonna; NSL 445982 QUAR. Collected 10/27/2006 in India.
- PI 646609 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 6; IS 33619; Sadhuri jonna; NSL 445983 QUAR. Collected 10/27/2006 in India.
- PI 646610 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 7; IS 33620; Gowrani; NSL 445984 QUAR. Collected 10/27/2006 in India
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- PI 646611 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 8; IS 33621; Gowrani; NSL 445985 QUAR. Collected 10/27/2006 in India
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- PI 646612 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 10; IS 33622; Pelala jonna; NSL 445986 QUAR. Collected 10/27/2006 in India.
- PI 646613 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 11; IS 33623; Tekedari jonna; NSL 445987 QUAR. Collected 10/27/2006 in India.
- PI 646614 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 12; IS 33624; Tekedari jonna; NSL 445988 QUAR. Collected 10/27/2006 in India.
- PI 646615 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 13; IS 33625; Tekedari jonna; NSL 445989 QUAR. Collected 10/27/2006 in India.
- PI 646616 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 15; IS 33626; Pelala jonna; NSL 445990 QUAR. Collected 10/27/2006 in India.

- PI 646617 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 16; IS 33627; Pelala jonna; NSL 445991 QUAR. Collected 10/27/2006 in India.
- PI 646618 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 19; IS 33628; Narial jonna; NSL 445992 QUAR. Collected 10/27/2006 in India.
- PI 646619 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 20; IS 33629; Patcha jonna; NSL 445993 QUAR. Collected 10/27/2006 in India.
- PI 646620 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 21; IS 33630; Tekedari jonna; NSL 445994 QUAR. Collected 10/27/2006 in India.
- PI 646621 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 22; IS 33631; Patcha jonna; NSL 445995 QUAR. Collected 10/27/2006 in India.
- PI 646622 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 23; IS 33632; Tekedari jonna; NSL 445996 QUAR. Collected 10/27/2006 in India.
- PI 646623 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 24; IS 33633; Tellamalle jonna; NSL 445997 QUAR. Collected 10/27/2006 in India.
- PI 646624 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 25; IS 33634; Tekedari jonna; NSL 445998 QUAR. Collected 10/27/2006 in India.
- PI 646625 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 26; IS 33635; NSL 445999 QUAR. Collected 10/27/2006 in India.
- PI 646626 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 27; IS 33636; Yerra malle jonna; NSL 446000 QUAR. Collected 10/27/2006 in India.
- PI 646627 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 28; IS 33637; Tekedari jonna; NSL 446001 QUAR. Collected 10/27/2006 in India.
- PI 646628 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 31; IS 33638; Pedda jonna; NSL 446002 QUAR. Collected 10/27/2006 in India.
- PI 646629 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 32; IS 33639; Pedda jonna; NSL 446003 QUAR. Collected 10/27/2006 in India.
- PI 646630 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 34; IS 33640; Pelala jonna; NSL 446004 QUAR. Collected 10/27/2006 in India.

- PI 646631 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 36; IS 33641; Pedda jonna; NSL 446005 QUAR. Collected 10/27/2006 in India.
- PI 646632 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 41; IS 33642; Yerra jonna; NSL 446006 QUAR. Collected 10/27/2006 in India.
- PI 646633 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 42; IS 33643; Tella jonna; NSL 446007 QUAR. Collected 10/27/2006 in India.
- PI 646634 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 43; IS 33644; Pelala jonna; NSL 446008 QUAR. Collected 10/27/2006 in India.
- PI 646635 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 47; IS 33645; NSL 446009 QUAR. Collected 10/27/2006 in India.
- PI 646636 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 49; IS 33646; Varadi jonna; NSL 446010 QUAR. Collected 10/27/2006 in India.
- PI 646637 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 50; IS 33647; Varadi jonna; NSL 446011 QUAR. Collected 10/27/2006 in India.
- PI 646638 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 51; IS 33648; Wani jowar; NSL 446012 QUAR. Collected 10/27/2006 in India.
- PI 646639 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 52; IS 33649; Leha jowar; NSL 446013 QUAR. Collected 10/27/2006 in India.
- PI 646640 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 53; IS 33650; Leha jowar; NSL 446014 QUAR. Collected 10/27/2006 in India.
- PI 646641 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 56; IS 33651; Yerra jonna; NSL 446015 QUAR. Collected 10/27/2006 in India.
- PI 646642 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 57; IS 33652; Gundu jonna; NSL 446016 QUAR. Collected 10/27/2006 in India.
- PI 646643 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 58; IS 33653; Gundu jonna; NSL 446017 QUAR. Collected 10/27/2006 in India.
- PI 646644 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 60; IS 33654; Pandimuti jonna; NSL 446018 QUAR. Collected 10/27/2006 in India.

- PI 646645 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 61; IS 33655; Pedda jonna; NSL 446019 QUAR. Collected 10/27/2006 in India.
- PI 646646 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 62; IS 33656; Natora jonna; NSL 446020 QUAR. Collected 10/27/2006 in India.
- PI 646647 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 63; IS 33657; Chiruthalvalu; NSL 446021 QUAR. Collected 10/27/2006 in India.
- PI 646648 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 64; IS 33658; Palam jonna; NSL 446022 QUAR. Collected 10/27/2006 in India.
- PI 646649 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 65; IS 33659; Chiruthalvalu; NSL 446023 QUAR. Collected 10/27/2006 in India.
- PI 646650 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 67; IS 33660; Motitura; NSL 446024 QUAR. Collected 10/27/2006 in India.
- PI 646651 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 68; IS 33661; Garibi jowar; NSL 446025 QUAR. Collected 10/27/2006 in India.
- PI 646652 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 70; IS 33662; Varadi jowar; NSL 446026 QUAR. Collected 10/27/2006 in India.
- PI 646653 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 71; IS 33663; Varadi jowar; NSL 446027 QUAR. Collected 10/27/2006 in India.
- PI 646654 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 72; IS 33664; Varadi jowar; NSL 446028 QUAR. Collected 10/27/2006 in India.
- PI 646655 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 73; IS 33665; Gingri jowar; NSL 446029 QUAR. Collected 10/27/2006 in India.
- PI 646656 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 75; IS 33666; Pelala jonna; NSL 446030 QUAR. Collected 10/27/2006 in India.
- PI 646657 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 76; IS 33667; Pandimuti jonna; NSL 446031 QUAR. Collected 10/27/2006 in India.
- PI 646658 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 77; IS 33668; Pandimuti jonna; NSL 446032 QUAR. Collected 10/27/2006 in India.

- PI 646659 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 78; IS 33669; Tella jonna; NSL 446033 QUAR. Collected 10/27/2006 in India.
- PI 646660 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 79; IS 33670; NSL 446034 QUAR. Collected 10/27/2006 in India.
- PI 646661 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 80; IS 33671; Tomra jonna; NSL 446035 QUAR. Collected 10/27/2006 in India.
- PI 646662 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 81; IS 33672; Leha jowar; NSL 446036 QUAR. Collected 10/27/2006 in India.
- PI 646663 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 83; IS 33673; Wyno jowar; NSL 446037 QUAR. Collected 10/27/2006 in India.
- PI 646664 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 84; IS 33674; Persa jonna; NSL 446038 QUAR. Collected 10/27/2006 in India.
- PI 646665 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 85; IS 33675; Pelala jonna; NSL 446039 QUAR. Collected 10/27/2006 in India.
- PI 646666 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 86; IS 33676; Pandimutte jonna; NSL 446040 QUAR. Collected 10/27/2006 in India.
- PI 646667 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 87; IS 33677; Wyno jowar; NSL 446041 QUAR. Collected 10/27/2006 in India.
- PI 646668 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 88; IS 33678; Safed jowar; NSL 446042 QUAR. Collected 10/27/2006 in India.
- PI 646669 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 89; IS 33679; Pandimutte jonna; NSL 446043 QUAR. Collected 10/27/2006 in India.
- PI 646670 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 90; IS 33680; Tekedari jonna; NSL 446044 QUAR. Collected 10/27/2006 in India.
- PI 646671 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 91; IS 33681; Pelala jonna; NSL 446045 QUAR. Collected 10/27/2006 in India.
- PI 646672 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 96; IS 33682; Yerra jonna; NSL 446046 QUAR. Collected 10/27/2006 in India.
- PI 646673 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 97; IS 33683; NSL 446047 QUAR. Collected 10/27/2006 in India.

PI 646674 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 102; IS 33684; Kobbari jonna; NSL 446048 QUAR. Collected 10/27/2006
in India.

PI 646675 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 105; IS 33685; Buramulu jonna; NSL 446049 QUAR. Collected 10/27/2006
in India.

PI 646676 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 109; IS 33686; Sai jonna; NSL 446050 QUAR. Collected 10/27/2006 in
India.

PI 646677 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 110; IS 33687; Kobbari jonna; NSL 446051 QUAR. Collected 10/27/2006
in India.

PI 646678 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 111; IS 33688; Tella jonna; NSL 446052 QUAR. Collected 10/27/2006 in
India.

PI 646679 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 112; IS 33689; Sai jonna; NSL 446053 QUAR. Collected 10/27/2006 in
India.

PI 646680 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 113; IS 33690; Potti thimmalu; NSL 446054 QUAR. Collected 10/27/2006
in India.

PI 646681 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 114; IS 33691; Potti thimmalu; NSL 446055 QUAR. Collected 10/27/2006
in India.

PI 646682 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 115; IS 33692; Tella jonna; NSL 446056 QUAR. Collected 10/27/2006 in
India.

PI 646683 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 116; IS 33693; Shivuni thalavalu; NSL 446057 QUAR. Collected
10/27/2006 in India.

PI 646684 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 120; IS 33694; NSL 446058 QUAR. Collected 10/27/2006 in India.

PI 646685 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 121; IS 33695; NSL 446059 QUAR. Collected 10/27/2006 in India.

PI 646686 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 128; IS 33696; Menti jonna; NSL 446060 QUAR. Collected 10/27/2006
in India.

PI 646687 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 130; IS 33697; Mahuri jonna; NSL 446061 QUAR. Collected 10/27/2006
in India.

- PI 646688 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 131; IS 33698; Mahuri jonna; NSL 446062 QUAR. Collected 10/27/2006
in India.
- PI 646689 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 132; IS 33699; Pelala jonna; NSL 446063 QUAR. Collected 10/27/2006
in India.
- PI 646690 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 133; IS 33700; Pelala jonna; NSL 446064 QUAR. Collected 10/27/2006
in India.
- PI 646691 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 134; IS 33701; Pelala jonna; NSL 446065 QUAR. Collected 10/27/2006
in India.
- PI 646692 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 135; IS 33702; Mahuri jowar; NSL 446066 QUAR. Collected 10/27/2006
in India.
- PI 646693 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 138; IS 33703; Jhipri jonna; NSL 446067 QUAR. Collected 10/27/2006
in India.
- PI 646694 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 139; IS 33704; NSL 446068 QUAR. Collected 10/27/2006 in India.
- PI 646695 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 140; IS 33705; Mahuri jonna; NSL 446069 QUAR. Collected 10/27/2006
in India.
- PI 646696 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 141; IS 33706; Mahuri jonna; NSL 446070 QUAR. Collected 10/27/2006
in India.
- PI 646697 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 142; IS 33707; Mahuri jonna; NSL 446071 QUAR. Collected 10/27/2006
in India.
- PI 646698 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 143; IS 33708; Mahuri jonna; NSL 446072 QUAR. Collected 10/27/2006
in India.
- PI 646699 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 144; IS 33709; Mahuri jonna; NSL 446073 QUAR. Collected 10/27/2006
in India.
- PI 646700 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 145; IS 33710; Mahuri jonna; NSL 446074 QUAR. Collected 10/27/2006
in India.
- PI 646701 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GS 146; IS 33711; Thithri jonna; NSL 446075 QUAR. Collected 10/27/2006
in India.

- PI 646702 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GS 149; IS 33713; Tella jonna; NSL 446076 QUAR. Collected 10/27/2006 in
India.
- PI 646703 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 1; IS 33714; Badi jowar; NSL 446077 QUAR. Collected 10/27/2006 in
India.
- PI 646704 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 2; IS 33715; Badi jowar; NSL 446078 QUAR. Collected 10/27/2006 in
India.
- PI 646705 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 6; IS 33716; Maldandi; NSL 446079 QUAR. Collected 10/27/2006 in
India.
- PI 646706 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 7; IS 33717; Safed jowar; NSL 446080 QUAR. Collected 10/27/2006 in
India.
- PI 646707 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 8; IS 33718; Ghat jowar; NSL 446081 QUAR. Collected 10/27/2006 in
India.
- PI 646708 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 9; IS 33719; Maldandi; NSL 446082 QUAR. Collected 10/27/2006 in
India.
- PI 646709 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 11; IS 33720; Dagadi jowar; NSL 446083 QUAR. Collected 10/27/2006
in India.
- PI 646710 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 12; IS 33721; Maldandi; NSL 446084 QUAR. Collected 10/27/2006 in
India.
- PI 646711 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 13; IS 33722; Maldandi; NSL 446085 QUAR. Collected 10/27/2006 in
India.
- PI 646712 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 14; IS 33723; Dagadi; NSL 446086 QUAR. Collected 10/27/2006 in
India.
- PI 646713 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 16; IS 33724; Dagadi; NSL 446087 QUAR. Collected 10/27/2006 in
India.
- PI 646714 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 17; IS 33725; Maldandi; NSL 446088 QUAR. Collected 10/27/2006 in
India.
- PI 646715 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 18; IS 33726; Dagadi; NSL 446089 QUAR. Collected 10/27/2006 in
India.

- PI 646716 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 19; IS 33727; Dukari; NSL 446090 QUAR. Collected 10/27/2006 in India.
- PI 646717 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 20; IS 33728; Dagadi; NSL 446091 QUAR. Collected 10/27/2006 in India.
- PI 646718 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 21; IS 33729; Dagadi; NSL 446092 QUAR. Collected 10/27/2006 in India.
- PI 646719 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 25; IS 33730; Rajhans; NSL 446093 QUAR. Collected 10/27/2006 in India.
- PI 646720 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 26; IS 33731; Maldandi; NSL 446094 QUAR. Collected 10/27/2006 in India.
- PI 646721 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 27; IS 33732; NSL 446095 QUAR. Collected 10/27/2006 in India.
- PI 646722 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 28; IS 33733; Maldandi; NSL 446096 QUAR. Collected 10/27/2006 in India.
- PI 646723 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 32; IS 33734; Maldandi; NSL 446097 QUAR. Collected 10/27/2006 in India.
- PI 646724 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 33; IS 33735; Maldandi; NSL 446098 QUAR. Collected 10/27/2006 in India.
- PI 646725 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 34; IS 33736; Dagadi; NSL 446099 QUAR. Collected 10/27/2006 in India.
- PI 646726 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 35; IS 33737; Kavali; NSL 446100 QUAR. Collected 10/27/2006 in India.
- PI 646727 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 36; IS 33738; Kavali; NSL 446101 QUAR. Collected 10/27/2006 in India.
- PI 646728 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 39; IS 33739; Dagadi; NSL 446102 QUAR. Collected 10/27/2006 in India.
- PI 646729 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 40; IS 33740; Maldandi; NSL 446103 QUAR. Collected 10/27/2006 in India.

- PI 646730 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 41; IS 33741; Dagadi; NSL 446104 QUAR. Collected 10/27/2006 in
India.
- PI 646731 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 42; IS 33742; Dagadi; NSL 446105 QUAR. Collected 10/27/2006 in
India.
- PI 646732 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 43; IS 33743; Lahya jowar; NSL 446106 QUAR. Collected 10/27/2006 in
India.
- PI 646733 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 45; IS 33744; Maldandi; NSL 446107 QUAR. Collected 10/27/2006 in
India.
- PI 646734 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 48; IS 33745; Dagadi; NSL 446108 QUAR. Collected 10/27/2006 in
India.
- PI 646735 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 50; IS 33746; Kavali; NSL 446109 QUAR. Collected 10/27/2006 in
India.
- PI 646736 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 51; IS 33747; Kavali; NSL 446110 QUAR. Collected 10/27/2006 in
India.
- PI 646737 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 52; IS 33748; Kavali; NSL 446111 QUAR. Collected 10/27/2006 in
India.
- PI 646738 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 54; IS 33749; Kavali; NSL 446112 QUAR. Collected 10/27/2006 in
India.
- PI 646739 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 55; IS 33750; Kavali; NSL 446113 QUAR. Collected 10/27/2006 in
India.
- PI 646740 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 56; IS 33751; Dagadi; NSL 446114 QUAR. Collected 10/27/2006 in
India.
- PI 646741 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 57; IS 33752; Dagadi; NSL 446115 QUAR. Collected 10/27/2006 in
India.
- PI 646742 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 59; IS 33753; Kavali; NSL 446116 QUAR. Collected 10/27/2006 in
India.
- PI 646743 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 60; IS 33754; NSL 446117 QUAR. Collected 10/27/2006 in India.

- PI 646744 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 62; IS 33755; Dagadi; NSL 446118 QUAR. Collected 10/27/2006 in
India.
- PI 646745 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 63; IS 33756; Maldandi; NSL 446119 QUAR. Collected 10/27/2006 in
India.
- PI 646746 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 64; IS 33757; Dagadi; NSL 446120 QUAR. Collected 10/27/2006 in
India.
- PI 646747 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 65; IS 33758; Harni jowar; NSL 446121 QUAR. Collected 10/27/2006 in
India.
- PI 646748 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 66; IS 33759; Kuch kuchi; NSL 446122 QUAR. Collected 10/27/2006 in
India.
- PI 646749 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 67; IS 33760; Lal jowar; NSL 446123 QUAR. Collected 10/27/2006 in
India.
- PI 646750 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 68; IS 33761; Pandhari jowar; NSL 446124 QUAR. Collected 10/27/2006
in India.
- PI 646751 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 69; IS 33762; Kavali; NSL 446125 QUAR. Collected 10/27/2006 in
India.
- PI 646752 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 73; IS 33763; Maldandi; NSL 446126 QUAR. Collected 10/27/2006 in
India.
- PI 646753 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 74; IS 33764; Maldandi; NSL 446127 QUAR. Collected 10/27/2006 in
India.
- PI 646754 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 75; IS 33765; Gulbendi; NSL 446128 QUAR. Collected 10/27/2006 in
India.
- PI 646755 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 76; IS 33766; Gulbendi; NSL 446129 QUAR. Collected 10/27/2006 in
India.
- PI 646756 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 79; IS 33767; Gulbendi; NSL 446130 QUAR. Collected 10/27/2006 in
India.
- PI 646757 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 80; IS 33768; Kavali; NSL 446131 QUAR. Collected 10/27/2006 in
India.

- PI 646758 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 83; IS 33769; Jheepri maldandi; NSL 446132 QUAR. Collected
10/27/2006 in India.
- PI 646759 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 85; IS 33770; Kavali; NSL 446133 QUAR. Collected 10/27/2006 in
India.
- PI 646760 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 86; IS 33771; Gulbendi; NSL 446134 QUAR. Collected 10/27/2006 in
India.
- PI 646761 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 87; IS 33772; Kavali; NSL 446135 QUAR. Collected 10/27/2006 in
India.
- PI 646762 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 88; IS 33773; Desi jowar; NSL 446136 QUAR. Collected 10/27/2006 in
India.
- PI 646763 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 89; IS 33774; Desi jowar; NSL 446137 QUAR. Collected 10/27/2006 in
India.
- PI 646764 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 90; IS 33775; Desi jowar; NSL 446138 QUAR. Collected 10/27/2006 in
India.
- PI 646765 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 91; IS 33776; Desi jowar; NSL 446139 QUAR. Collected 10/27/2006 in
India.
- PI 646766 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 93; IS 33777; Tambadi jowar; NSL 446140 QUAR. Collected 10/27/2006
in India.
- PI 646767 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 94; IS 33778; Kavali; NSL 446141 QUAR. Collected 10/27/2006 in
India.
- PI 646768 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 99; IS 33779; Kempu jola; NSL 446142 QUAR. Collected 10/27/2006 in
India.
- PI 646769 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 100; IS 33780; Alluna jola; NSL 446143 QUAR. Collected 10/27/2006
in India.
- PI 646770 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 102; IS 33781; Tambdi jowar; NSL 446144 QUAR. Collected 10/27/2006
in India.
- PI 646771 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 103; IS 33782; Ubhaya dingana; NSL 446145 QUAR. Collected
10/27/2006 in India.

- PI 646772 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 104; IS 33783; Ubhaya dingana; NSL 446146 QUAR. Collected
10/27/2006 in India.
- PI 646773 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 105; IS 33784; Tambdi jowar; NSL 446147 QUAR. Collected 10/27/2006
in India.
- PI 646774 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 106; IS 33785; Dagadi; NSL 446148 QUAR. Collected 10/27/2006 in
India.
- PI 646775 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 107; IS 33786; Hulgai jowar; NSL 446149 QUAR. Collected 10/27/2006
in India.
- PI 646776 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 108; IS 33787; Dhanyagi; NSL 446150 QUAR. Collected 10/27/2006 in
India.
- PI 646777 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 112; IS 33788; Dagadi; NSL 446151 QUAR. Collected 10/27/2006 in
India.
- PI 646778 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 113; IS 33789; Hulgai jowar; NSL 446152 QUAR. Collected 10/27/2006
in India.
- PI 646779 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 114; IS 33790; Hulgai jowar; NSL 446153 QUAR. Collected 10/27/2006
in India.
- PI 646780 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 115; IS 33791; Kavali; NSL 446154 QUAR. Collected 10/27/2006 in
India.
- PI 646781 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 118; IS 33792; Hulgai jowar; NSL 446155 QUAR. Collected 10/27/2006
in India.
- PI 646782 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 120; IS 33793; Dagadi; NSL 446156 QUAR. Collected 10/27/2006 in
India.
- PI 646783 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 121; IS 33794; Dagadi; NSL 446157 QUAR. Collected 10/27/2006 in
India.
- PI 646784 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 122; IS 33795; Harni jowar; NSL 446158 QUAR. Collected 10/27/2006
in India.
- PI 646785 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 124; IS 33796; Tambdi jowar; NSL 446159 QUAR. Collected 10/27/2006
in India.

- PI 646786 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 125; IS 33797; Dagadi; NSL 446160 QUAR. Collected 10/27/2006 in India.
- PI 646787 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 126; IS 33798; Hulgai jowar; NSL 446161 QUAR. Collected 10/27/2006 in India.
- PI 646788 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 127; IS 33799; Hulgai jowar; NSL 446162 QUAR. Collected 10/27/2006 in India.
- PI 646789 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 128; IS 33800; Lal jowar; NSL 446163 QUAR. Collected 10/27/2006 in India.
- PI 646790 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 129; IS 33801; Dagadi; NSL 446164 QUAR. Collected 10/27/2006 in India.
- PI 646791 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 130; IS 33802; Wani jowar; NSL 446165 QUAR. Collected 10/27/2006 in India.
- PI 646792 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 133; IS 33803; Kagi jola; NSL 446166 QUAR. Collected 10/27/2006 in India.
- PI 646793 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 134; IS 33804; Holi jola; NSL 446167 QUAR. Collected 10/27/2006 in India.
- PI 646794 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 135; IS 33805; Dagadi; NSL 446168 QUAR. Collected 10/27/2006 in India.
- PI 646795 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 136; IS 33806; Holi jola; NSL 446169 QUAR. Collected 10/27/2006 in India.
- PI 646796 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 137; IS 33807; Rikki golya; NSL 446170 QUAR. Collected 10/27/2006 in India.
- PI 646797 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 138; IS 33808; Holi jola; NSL 446171 QUAR. Collected 10/27/2006 in India.
- PI 646798 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 139; IS 33809; Dagadi; NSL 446172 QUAR. Collected 10/27/2006 in India.
- PI 646799 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 140; IS 33810; Dukari; NSL 446173 QUAR. Collected 10/27/2006 in India.

- PI 646800 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 141; IS 33811; Dagadi; NSL 446174 QUAR. Collected 10/27/2006 in India.
- PI 646801 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 149; IS 33812; Dagadi; NSL 446175 QUAR. Collected 10/27/2006 in India.
- PI 646802 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 151; IS 33813; Dagadi; NSL 446176 QUAR. Collected 10/27/2006 in India.
- PI 646803 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 152; IS 33814; Hulgi jola; NSL 446177 QUAR. Collected 10/27/2006 in India.
- PI 646804 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 153; IS 33815; Hulgi jola; NSL 446178 QUAR. Collected 10/27/2006 in India.
- PI 646805 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 154; IS 33816; Kuch kuchi; NSL 446179 QUAR. Collected 10/27/2006 in India.
- PI 646806 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 155; IS 33817; Kavali; NSL 446180 QUAR. Collected 10/27/2006 in India.
- PI 646807 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 156; IS 33818; Hulgi jola; NSL 446181 QUAR. Collected 10/27/2006 in India.
- PI 646808 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 157; IS 33819; Hallina jola; NSL 446182 QUAR. Collected 10/27/2006 in India.
- PI 646809 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 158; IS 33820; Dagadi; NSL 446183 QUAR. Collected 10/27/2006 in India.
- PI 646810 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 159; IS 33821; NSL 446184 QUAR. Collected 10/27/2006 in India.
- PI 646811 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 160; IS 33822; Tambdi jowar; NSL 446185 QUAR. Collected 10/27/2006 in India.
- PI 646812 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 162; IS 33823; Dagadi; NSL 446186 QUAR. Collected 10/27/2006 in India.
- PI 646813 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 164; IS 33824; Kavali; NSL 446187 QUAR. Collected 10/27/2006 in India.

- PI 646814 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 165; IS 33825; Kavali; NSL 446188 QUAR. Collected 10/27/2006 in India.
- PI 646815 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 166; IS 33826; Kavali; NSL 446189 QUAR. Collected 10/27/2006 in India.
- PI 646816 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 169; IS 33827; Tambdi jowar; NSL 446190 QUAR. Collected 10/27/2006 in India.
- PI 646817 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 170; IS 33828; Dagadi; NSL 446191 QUAR. Collected 10/27/2006 in India.
- PI 646818 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 171; IS 33829; Maldandi; NSL 446192 QUAR. Collected 10/27/2006 in India.
- PI 646819 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 172; IS 33830; Dagadi; NSL 446193 QUAR. Collected 10/27/2006 in India.
- PI 646820 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 173; IS 33831; Dagadi; NSL 446194 QUAR. Collected 10/27/2006 in India.
- PI 646821 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 174; IS 33832; Maldandi; NSL 446195 QUAR. Collected 10/27/2006 in India.
- PI 646822 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 175; IS 33833; Harni jowar; NSL 446196 QUAR. Collected 10/27/2006 in India.
- PI 646823 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 177; IS 33834; Dagadi; NSL 446197 QUAR. Collected 10/27/2006 in India.
- PI 646824 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 178; IS 33835; Dagadi; NSL 446198 QUAR. Collected 10/27/2006 in India.
- PI 646825 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 180; IS 33836; Dagadi; NSL 446199 QUAR. Collected 10/27/2006 in India.
- PI 646826 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 182; IS 33837; Dagadi; NSL 446200 QUAR. Collected 10/27/2006 in India.
- PI 646827 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
GSS 183; IS 33838; Dagadi; NSL 446201 QUAR. Collected 10/27/2006 in India.

PI 646828 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 185; IS 33839; Maldandi; NSL 446202 QUAR. Collected 10/27/2006 in
India.

PI 646829 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 186; IS 33840; Dagadi; NSL 446203 QUAR. Collected 10/27/2006 in
India.

PI 646830 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 189; IS 33841; Maldandi; NSL 446204 QUAR. Collected 10/27/2006 in
India.

PI 646831 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 190; IS 33842; Maldandi; NSL 446205 QUAR. Collected 10/27/2006 in
India.

PI 646832 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 191; IS 33843; Maldandi; NSL 446206 QUAR. Collected 10/27/2006 in
India.

PI 646833 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 194; IS 33844; Maldandi; NSL 446207 QUAR. Collected 10/27/2006 in
India.

PI 646834 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 196; IS 33845; Maldandi; NSL 446208 QUAR. Collected 10/27/2006 in
India.

PI 646835 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 197; IS 33846; Maldandi; NSL 446209 QUAR. Collected 10/27/2006 in
India.

PI 646836 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 198; IS 33847; Kavali; NSL 446210 QUAR. Collected 10/27/2006 in
India.

PI 646837 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 199; IS 33848; Kavali; NSL 446211 QUAR. Collected 10/27/2006 in
India.

PI 646838 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 200; IS 33849; Wani jowar; NSL 446212 QUAR. Collected 10/27/2006 in
India.

PI 646839 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 202; IS 33850; Desi jowar; NSL 446213 QUAR. Collected 10/27/2006 in
India.

PI 646840 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 203; IS 33851; Dagadi; NSL 446214 QUAR. Collected 10/27/2006 in
India.

PI 646841 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 204; IS 33852; Dagadi; NSL 446215 QUAR. Collected 10/27/2006 in
India.

- PI 646842 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 205; IS 33853; Maldandi; NSL 446216 QUAR. Collected 10/27/2006 in
India.
- PI 646843 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 206; IS 33854; Maldandi; NSL 446217 QUAR. Collected 10/27/2006 in
India.
- PI 646844 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 207; IS 33855; Desi jowar; NSL 446218 QUAR. Collected 10/27/2006 in
India.
- PI 646845 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 208; IS 33856; Dhingana; NSL 446219 QUAR. Collected 10/27/2006 in
India.
- PI 646846 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 209; IS 33857; Kavali; NSL 446220 QUAR. Collected 10/27/2006 in
India.
- PI 646847 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 210; IS 33858; NSL 446221 QUAR. Collected 10/27/2006 in India.
- PI 646848 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 212; IS 33859; Maldandi; NSL 446222 QUAR. Collected 10/27/2006 in
India.
- PI 646849 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 214; IS 33860; Desi jowar; NSL 446223 QUAR. Collected 10/27/2006 in
India.
- PI 646850 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 217; IS 33861; NSL 446224 QUAR. Collected 10/27/2006 in India.
- PI 646851 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 218; IS 33862; Maldandi; NSL 446225 QUAR. Collected 10/27/2006 in
India.
- PI 646852 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 220; IS 33864; Bhamani; NSL 446226 QUAR. Collected 10/27/2006 in
India.
- PI 646853 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 222; IS 33866; Manjari; NSL 446227 QUAR. Collected 10/27/2006 in
India.
- PI 646854 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 223; IS 33867; Khasidi; NSL 446228 QUAR. Collected 10/27/2006 in
India.
- PI 646855 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 224; IS 33868; Kasigaon; NSL 446229 QUAR. Collected 10/27/2006 in
India.
- PI 646856 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 225; IS 33869; Ajiti; NSL 446230 QUAR. Collected 10/27/2006 in
India.

- PI 646857 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 226; IS 33870; Modnimb; NSL 446231 QUAR. Collected 10/27/2006 in India.
- PI 646858 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 227; IS 33871; Mohol; NSL 446232 QUAR. Collected 10/27/2006 in India.
- PI 646859 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 228; IS 33872; Mohol; NSL 446233 QUAR. Collected 10/27/2006 in India.
- PI 646860 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 229; IS 33873; Mohol; NSL 446234 QUAR. Collected 10/27/2006 in India.
- PI 646861 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 230; IS 33874; Mohol; NSL 446235 QUAR. Collected 10/27/2006 in India.
- PI 646862 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 239; IS 33875; Sarasamba; NSL 446236 QUAR. Collected 10/27/2006 in India.
- PI 646863 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 240; IS 33876; Sarasamba; NSL 446237 QUAR. Collected 10/27/2006 in India.
- PI 646864 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 241; IS 33877; Sarasamba; NSL 446238 QUAR. Collected 10/27/2006 in India.
- PI 646865 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 243; IS 33878; Jamaga; NSL 446239 QUAR. Collected 10/27/2006 in India.
- PI 646866 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 251; IS 33880; Aland; NSL 446240 QUAR. Collected 10/27/2006 in India.
- PI 646867 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 252; IS 33881; Koldangri; NSL 446241 QUAR. Collected 10/27/2006 in India.
- PI 646868 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 253; IS 33882; Lad chincholi; NSL 446242 QUAR. Collected 10/27/2006 in India.
- PI 646869 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 254; IS 33883; Lad chincholi; NSL 446243 QUAR. Collected 10/27/2006 in India.
- PI 646870 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 255; IS 33884; Lad chincholi; NSL 446244 QUAR. Collected 10/27/2006 in India.

- PI 646871 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 256; IS 33885; Pattan; NSL 446245 QUAR. Collected 10/27/2006 in
India.
- PI 646872 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 257; IS 33886; Sirgapur; NSL 446246 QUAR. Collected 10/27/2006 in
India.
- PI 646873 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 259; IS 33887; Ankulga; NSL 446247 QUAR. Collected 10/27/2006 in
India.
- PI 646874 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 261; IS 33888; Navadge; NSL 446248 QUAR. Collected 10/27/2006 in
India.
- PI 646875 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 262; IS 33889; Navadge; NSL 446249 QUAR. Collected 10/27/2006 in
India.
- PI 646876 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
GSS 263; IS 33890; Navadge; NSL 446250 QUAR. Collected 10/27/2006 in
India.
- PI 646877 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33891; NTJ 1 (NJ 2092); NSL 446251 QUAR. Collected 10/27/2006 in
India.
- PI 646878 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 33892; NTJ 2 (SPV 913); NSL 446252 QUAR. Collected 10/27/2006 in
India.
- PI 646879 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 1; IS 33893; Periamanjali; NSL 446253 QUAR. Collected 10/27/2006 in
India.
- PI 646880 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 2; IS 33894; Periamanjali; NSL 446254 QUAR. Collected 10/27/2006 in
India.
- PI 646881 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 3; IS 33895; Periamanjali; NSL 446255 QUAR. Collected 10/27/2006 in
India.
- PI 646882 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 4; IS 33896; Periamanjali; NSL 446256 QUAR. Collected 10/27/2006 in
India.
- PI 646883 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 5; IS 33897; Periamanjali; NSL 446257 QUAR. Collected 10/27/2006 in
India.
- PI 646884 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 6; IS 33898; Periamanjali; NSL 446258 QUAR. Collected 10/27/2006 in
India.

- PI 646885 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 7; IS 33899; Periamanjali; NSL 446259 QUAR. Collected 10/27/2006 in India.
- PI 646886 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 8; IS 33900; Periamanjali; NSL 446260 QUAR. Collected 10/27/2006 in India.
- PI 646887 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 9; IS 33901; Periamanjali; NSL 446261 QUAR. Collected 10/27/2006 in India.
- PI 646888 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 10; IS 33902; NSL 446262 QUAR. Collected 10/27/2006 in India.
- PI 646889 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 11; IS 33903; NSL 446263 QUAR. Collected 10/27/2006 in India.
- PI 646890 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 12; IS 33904; NSL 446264 QUAR. Collected 10/27/2006 in India.
- PI 646891 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 13; IS 33905; NSL 446265 QUAR. Collected 10/27/2006 in India.
- PI 646892 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 14; IS 33906; Karancholam; NSL 446266 QUAR. Collected 10/27/2006 in India.
- PI 646893 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 15; IS 33907; Karancholam; NSL 446267 QUAR. Collected 10/27/2006 in India.
- PI 646894 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 16; IS 33908; Karancholam; NSL 446268 QUAR. Collected 10/27/2006 in India.
- PI 646895 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 17; IS 33909; Karancholam; NSL 446269 QUAR. Collected 10/27/2006 in India.
- PI 646896 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 18; IS 33910; Karancholam; NSL 446270 QUAR. Collected 10/27/2006 in India.
- PI 646897 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 19; IS 33911; Karancholam; NSL 446271 QUAR. Collected 10/27/2006 in India.
- PI 646898 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 20; IS 33912; Sen cholam; NSL 446272 QUAR. Collected 10/27/2006 in India.
- PI 646899 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 21; IS 33913; Sen cholam; NSL 446273 QUAR. Collected 10/27/2006 in India.

- PI 646900 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 22; IS 33914; Sen cholam; NSL 446274 QUAR. Collected 10/27/2006 in India.
- PI 646901 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 23; IS 33915; Sen cholam; NSL 446275 QUAR. Collected 10/27/2006 in India.
- PI 646902 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 39; IS 33916; Sadai manjal cholam; NSL 446276 QUAR. Collected 10/27/2006 in India.
- PI 646903 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 40; IS 33918; Sadai manjal cholam; NSL 446277 QUAR. Collected 10/27/2006 in India.
- PI 646904 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 41; IS 33919; Sadai manjal cholam; NSL 446278 QUAR. Collected 10/27/2006 in India.
- PI 646905 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 42; IS 33920; Sadai manjal cholam; NSL 446279 QUAR. Collected 10/27/2006 in India.
- PI 646906 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 43; IS 33921; Sadai manjal cholam; NSL 446280 QUAR. Collected 10/27/2006 in India.
- PI 646907 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 44; IS 33922; Sadai manjal cholam; NSL 446281 QUAR. Collected 10/27/2006 in India.
- PI 646908 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 45; IS 33923; Sadai manjal cholam; NSL 446282 QUAR. Collected 10/27/2006 in India.
- PI 646909 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 46; IS 33924; Sadai manjal cholam; NSL 446283 QUAR. Collected 10/27/2006 in India.
- PI 646910 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 49; IS 33925; Irungu cholam; NSL 446284 QUAR. Collected 10/27/2006 in India.
- PI 646911 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 50; IS 33926; Irungu cholam; NSL 446285 QUAR. Collected 10/27/2006 in India.
- PI 646912 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 51; IS 33927; Irungu cholam; NSL 446286 QUAR. Collected 10/27/2006 in India.
- PI 646913 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 52; IS 33928; Irungu cholam; NSL 446287 QUAR. Collected 10/27/2006 in India.

- PI 646914 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 53; IS 33929; Irungu cholam; NSL 446288 QUAR. Collected 10/27/2006
in India.
- PI 646915 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 54; IS 33930; Irungu cholam; NSL 446289 QUAR. Collected 10/27/2006
in India.
- PI 646916 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 55; IS 33931; Irungu cholam; NSL 446290 QUAR. Collected 10/27/2006
in India.
- PI 646917 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 56; IS 33932; Irungu cholam; NSL 446291 QUAR. Collected 10/27/2006
in India.
- PI 646918 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 57; IS 33933; Irungu cholam; NSL 446292 QUAR. Collected 10/27/2006
in India.
- PI 646919 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 58; IS 33934; Irungu cholam; NSL 446293 QUAR. Collected 10/27/2006
in India.
- PI 646920 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 59; IS 33935; Irungu cholam; NSL 446294 QUAR. Collected 10/27/2006
in India.
- PI 646921 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 60; IS 33936; Irungu cholam; NSL 446295 QUAR. Collected 10/27/2006
in India.
- PI 646922 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 61; IS 33937; Irungu cholam; NSL 446296 QUAR. Collected 10/27/2006
in India.
- PI 646923 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 62; IS 33938; Irungu cholam; NSL 446297 QUAR. Collected 10/27/2006
in India.
- PI 646924 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 63; IS 33939; Irungu cholam; NSL 446298 QUAR. Collected 10/27/2006
in India.
- PI 646925 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 64; IS 33940; Irungu cholam; NSL 446299 QUAR. Collected 10/27/2006
in India.
- PI 646926 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 65; IS 33941; Irungu cholam; NSL 446300 QUAR. Collected 10/27/2006
in India.
- PI 646927 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 66; IS 33942; Irungu cholam; NSL 446301 QUAR. Collected 10/27/2006
in India.

PI 646928 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 68; IS 33943; NSL 446302 QUAR. Collected 10/27/2006 in India.

PI 646929 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 87; IS 33944; Uallavirichina cholam; NSL 446303 QUAR. Collected
10/27/2006 in India.

PI 646930 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 89; IS 33945; Tallavirichina cholam; NSL 446304 QUAR. Collected
10/27/2006 in India.

PI 646931 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 90; IS 33946; Tallavirichina cholam; NSL 446305 QUAR. Collected
10/27/2006 in India.

PI 646932 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 91; IS 33947; Tallavirichina cholam; NSL 446306 QUAR. Collected
10/27/2006 in India.

PI 646933 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 92; IS 33948; Tallavirichina cholam; NSL 446307 QUAR. Collected
10/27/2006 in India.

PI 646934 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 93; IS 33949; Tallavirichina cholam; NSL 446308 QUAR. Collected
10/27/2006 in India.

PI 646935 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 94; IS 33950; NSL 446309 QUAR. Collected 10/27/2006 in India.

PI 646936 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 96; IS 33951; NSL 446310 QUAR. Collected 10/27/2006 in India.

PI 646937 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 97; IS 33952; NSL 446311 QUAR. Collected 10/27/2006 in India.

PI 646938 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 98; IS 33953; NSL 446312 QUAR. Collected 10/27/2006 in India.

PI 646939 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 99; IS 33954; NSL 446313 QUAR. Collected 10/27/2006 in India.

PI 646940 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 100; IS 33955; NSL 446314 QUAR. Collected 10/27/2006 in India.

PI 646941 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 101; IS 33956; NSL 446315 QUAR. Collected 10/27/2006 in India.

PI 646942 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 102; IS 33957; NSL 446316 QUAR. Collected 10/27/2006 in India.

PI 646943 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 103; IS 33958; NSL 446317 QUAR. Collected 10/27/2006 in India.

PI 646944 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 104; IS 33959; NSL 446318 QUAR. Collected 10/27/2006 in India.

PI 646945 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 105; IS 33961; NSL 446319 QUAR. Collected 10/27/2006 in India.

PI 646946 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 106; IS 33962; NSL 446320 QUAR. Collected 10/27/2006 in India.

PI 646947 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 107; IS 33963; NSL 446321 QUAR. Collected 10/27/2006 in India.

PI 646948 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 108; IS 33964; NSL 446322 QUAR. Collected 10/27/2006 in India.

PI 646949 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 109; IS 33965; NSL 446323 QUAR. Collected 10/27/2006 in India.

PI 646950 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 110; IS 33966; NSL 446324 QUAR. Collected 10/27/2006 in India.

PI 646951 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 111; IS 33967; NSL 446325 QUAR. Collected 10/27/2006 in India.

PI 646952 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 112; IS 33968; NSL 446326 QUAR. Collected 10/27/2006 in India.

PI 646953 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 113; IS 33969; NSL 446327 QUAR. Collected 10/27/2006 in India.

PI 646954 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 114; IS 33970; NSL 446328 QUAR. Collected 10/27/2006 in India.

PI 646955 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 115; IS 33971; NSL 446329 QUAR. Collected 10/27/2006 in India.

PI 646956 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 116; IS 33972; NSL 446330 QUAR. Collected 10/27/2006 in India.

PI 646957 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 117; IS 33973; Kakimari jonna; NSL 446331 QUAR. Collected
10/27/2006 in India.

PI 646958 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 118; IS 33974; Kakimari jonna; NSL 446332 QUAR. Collected
10/27/2006 in India.

PI 646959 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 119; IS 33975; Muthyala jonna; NSL 446333 QUAR. Collected
10/27/2006 in India.

PI 646960 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 120; IS 33976; Muthyala jonna; NSL 446334 QUAR. Collected
10/27/2006 in India.

PI 646961 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 121; IS 33977; Muthyala jonna; NSL 446335 QUAR. Collected
10/27/2006 in India.

- PI 646962 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 122; IS 33978; Muthyala jonna; NSL 446336 QUAR. Collected
10/27/2006 in India.
- PI 646963 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 123; IS 33979; Muthyala jonna; NSL 446337 QUAR. Collected
10/27/2006 in India.
- PI 646964 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 124; IS 33980; Yellow jowar; NSL 446338 QUAR. Collected 10/27/2006
in India.
- PI 646965 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 125; IS 33981; Yellow jowar; NSL 446339 QUAR. Collected 10/27/2006
in India.
- PI 646966 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 126; IS 33982; Kaki jonna; NSL 446340 QUAR. Collected 10/27/2006 in
India.
- PI 646967 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 127; IS 33983; Kaki jonna; NSL 446341 QUAR. Collected 10/27/2006 in
India.
- PI 646968 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 128; IS 33984; Patcha jonna; NSL 446342 QUAR. Collected 10/27/2006
in India.
- PI 646969 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 129; IS 33985; Patcha jonna; NSL 446343 QUAR. Collected 10/27/2006
in India.
- PI 646970 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 130; IS 33986; Patcha jonna; NSL 446344 QUAR. Collected 10/27/2006
in India.
- PI 646971 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 131; IS 33987; Patcha jonna; NSL 446345 QUAR. Collected 10/27/2006
in India.
- PI 646972 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 132; IS 33988; Patcha jonna; NSL 446346 QUAR. Collected 10/27/2006
in India.
- PI 646973 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 134; IS 33990; NSL 446347 QUAR. Collected 10/27/2006 in India.
- PI 646974 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 135; IS 33991; Tella jonna; NSL 446348 QUAR. Collected 10/27/2006
in India.
- PI 646975 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 136; IS 33992; Tella jonna; NSL 446349 QUAR. Collected 10/27/2006
in India.

- PI 646976 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 137; IS 33993; Tella jonna; NSL 446350 QUAR. Collected 10/27/2006
in India.
- PI 646977 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 138; IS 33994; Tella jonna; NSL 446351 QUAR. Collected 10/27/2006
in India.
- PI 646978 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 139; IS 33995; Tella jonna; NSL 446352 QUAR. Collected 10/27/2006
in India.
- PI 646979 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 140; IS 33996; Tella jonna; NSL 446353 QUAR. Collected 10/27/2006
in India.
- PI 646980 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 141; IS 33997; Tella jonna; NSL 446354 QUAR. Collected 10/27/2006
in India.
- PI 646981 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 142; IS 33998; Tella jonna; NSL 446355 QUAR. Collected 10/27/2006
in India.
- PI 646982 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 143; IS 33999; Yellow jowar; NSL 446356 QUAR. Collected 10/27/2006
in India.
- PI 646983 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 144; IS 34000; Yerra jonna; NSL 446357 QUAR. Collected 10/27/2006
in India.
- PI 646984 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 145; IS 34001; Tella jonna; NSL 446358 QUAR. Collected 10/27/2006
in India.
- PI 646985 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 146; IS 34002; NSL 446359 QUAR. Collected 10/27/2006 in India.
- PI 646986 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 147; IS 34003; Raichur jonna; NSL 446360 QUAR. Collected 10/27/2006
in India.
- PI 646987 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 148; IS 34004; Tella jonna; NSL 446361 QUAR. Collected 10/27/2006
in India.
- PI 646988 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 149; IS 34005; Tella jonna; NSL 446362 QUAR. Collected 10/27/2006
in India.
- PI 646989 QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PMP 150; IS 34006; Tella jonna; NSL 446363 QUAR. Collected 10/27/2006
in India.

- PI 646990 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 151; IS 34007; Tella jonna; NSL 446364 QUAR. Collected 10/27/2006
in India.
- PI 646991 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PMP 152; IS 34008; Raichur jonna; NSL 446365 QUAR. Collected 10/27/2006
in India.
- PI 646992 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 1; IS 34012; Safed jowar; NSL 446366 QUAR. Collected 10/27/2006 in
India.
- PI 646993 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 2; IS 34013; Chikini jowar; NSL 446367 QUAR. Collected 10/27/2006 in
India.
- PI 646994 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 3; IS 34014; Vidisha; NSL 446368 QUAR. Collected 10/27/2006 in India.
- PI 646995 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 4; IS 34015; Safed jowar; NSL 446369 QUAR. Collected 10/27/2006 in
India.
- PI 646996 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 5; IS 34016; Peela amla; NSL 446370 QUAR. Collected 10/27/2006 in
India.
- PI 646997 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 6; IS 34017; Desi dhorri; NSL 446371 QUAR. Collected 10/27/2006 in
India.
- PI 646998 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 7; IS 34018; Gehuri; NSL 446372 QUAR. Collected 10/27/2006 in India.
- PI 646999 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 8; IS 34019; NSL 446373 QUAR. Collected 10/27/2006 in India.
- PI 647000 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 9; IS 34020; NSL 446374 QUAR. Collected 10/27/2006 in India.
- PI 647001 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 10; IS 34021; NSL 446375 QUAR. Collected 10/27/2006 in India.
- PI 647002 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 11; IS 34022; Dodhana; NSL 446376 QUAR. Collected 10/27/2006 in
India.
- PI 647003 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 12; IS 34023; Gehudia; NSL 446377 QUAR. Collected 10/27/2006 in
India.
- PI 647004 QUAR. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
PM 13; IS 34024; Gehudia; NSL 446378 QUAR. Collected 10/27/2006 in
India.

- PI 647005 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 14; IS 34025; Gehudia; NSL 446379 QUAR. Collected 10/27/2006 in India.
- PI 647006 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 15; IS 34026; Safed; NSL 446380 QUAR. Collected 10/27/2006 in India.
- PI 647007 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 16; IS 34027; Safed; NSL 446381 QUAR. Collected 10/27/2006 in India.
- PI 647008 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 17; IS 34028; Kala tosa; NSL 446382 QUAR. Collected 10/27/2006 in India.
- PI 647009 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 18; IS 34029; Kala tosa; NSL 446383 QUAR. Collected 10/27/2006 in India.
- PI 647010 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 19; IS 34030; Ozad local; NSL 446384 QUAR. Collected 10/27/2006 in India.
- PI 647011 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 20; IS 34031; Uba dundya jowar; NSL 446385 QUAR. Collected 10/27/2006 in India.
- PI 647012 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 21; IS 34032; Lal rothi; NSL 446386 QUAR. Collected 10/27/2006 in India.
- PI 647013 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 22; IS 34033; Lal rothi; NSL 446387 QUAR. Collected 10/27/2006 in India.
- PI 647014 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 23; IS 34034; NSL 446388 QUAR. Collected 10/27/2006 in India.
- PI 647015 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 24; IS 34035; Safed desi; NSL 446389 QUAR. Collected 10/27/2006 in India.
- PI 647016 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 25; IS 34036; Peela amla; NSL 446390 QUAR. Collected 10/27/2006 in India.
- PI 647017 **QUAR. Sorghum bicolor** (L.) Moench **subsp. bicolor**
PM 26; IS 34037; Gunghat chikinee; NSL 446391 QUAR. Collected 10/27/2006 in India.
- PI 647018. **Sorghum bicolor** (L.) Moench **subsp. bicolor**
AOC 1; IS 39662; NSL 446392 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647019. **Sorghum bicolor** (L.) Moench **subsp. bicolor**
AOC 17; IS 39668; NSL 446393 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647020. **Sorghum bicolor** (L.) Moench **subsp. bicolor**
AOC 18; IS 39669; NSL 446394 QUAR. Collected 10/27/2006 in Nigeria.

- PI 647021. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 29; IS 39671; NSL 446395 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647022. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 89; IS 39680; NSL 446396 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647023. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 125; IS 39689; NSL 446397 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647024. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 384; IS 39730; NSL 446398 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647025. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 398; IS 39732; NSL 446399 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647026. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 456; IS 39759; NSL 446400 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647027. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 623; IS 39792; NSL 446401 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647028. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 1046; IS 39822; NSL 446402 QUAR. Collected 10/27/2006 in Nigeria.
- PI 647029. *Sorghum bicolor* (L.) Moench subsp. bicolor**
AOC 496; IS 39832; NSL 446403 QUAR. Collected 10/27/2006 in Nigeria.

The following were collected by Samvel M. Gasparian, Scientific Research Center of Viticulture, Fruit Growing and Wine Making, Merdzavan, Armenia. Received 03/15/2004.

- PI 647030. *Cydonia oblonga* Mill.**
Wild. *C. oblonga* No.1; CCYD 126. Collected 2003 in Armenia. Latitude 38° 56' 41" N. Longitude 46° 12' 37" E. Elevation 0 m. In the area of Lehvaz village, Meghri region, Syunik Marz. Pedigree - Collected from the wild in Syunik Marz, Armenia. It is a small tree with a height of 2.5-3m. Leaves are velvety and roundish. Flowers are white-pinkish. Fruit are small, average length 4.3cm, width 4.2cm. Fruit are velvety, yellow and aromatic. Fruits are of different shapes: pear-shape, roundish, oblong, flat and others. It is highly frost, drought, vermin and disease resistant. Fruit become ripe in the second ten days period of September.

The following were collected by Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia. Received 04/30/2004.

- PI 647031. *Cydonia oblonga* Mill.**
Wild. *C. oblonga* #8; CCYD 127. Collected 12/02/2003 in Georgia. Latitude 42° 17' 26" N. Longitude 44° 51' 59" E. Elevation 923 m. Caucasus Mountains, Mtskheta-Mtianeti region, Dusheti District, Magaroskari village. Pedigree - Collected from the wild in Caucasus Mountains, Georgia.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Giorgi Arabuli, State Museum of Georgia, Tbilisi, Georgia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/26/2004.

PI 647032. *Cydonia oblonga* Mill.

Wild. GE-2004-007; CCYD 128. Collected 09/22/2004 in Georgia. Latitude 42° 4' 51" N. Longitude 45° 23' 6" E. Elevation 461 m. Kakheti province, upper Alazani River valley. Pedigree - Collected from the wild in Republic of Georgia.

The following were collected by Chad Finn, USDA, ARS, NW Center for Small Fruits Research, 3420 NW Orchard Street, Corvallis, Oregon 97339, United States; Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Sheng Ke Xi, The Chinese Academy of Forestry, Beijing, Beijing, China; Qinghua Zhang, Institute of Forest Ecology and Environment, Chinese Academy of Forestry, Wan Shou Shan, Beijing, Beijing 100091, China. Donated by Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States. Received 10/24/1996.

PI 647033. *Lonicera caerulea* var. *edulis* Turcz. ex Herder

Wild. 96103; CLON 12. Collected in China. Pedigree - Selection of *L. caerulea* var. *edulis*.

The following were collected by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Nick Vorsa, Rutgers University, Blueberry & Cranberry, Research Station, Chatsworth, New Jersey 08109, United States; Pavel Cherbukin, Vavilov Research Institute, Far Eastern Experiment Station, Vavilov Str. 9, Vladivostok, Primorye 690025, Russian Federation; Andrey Sabitov, N.I. Vavilov All-Russian Res. Inst. of Plant Industry, Far East Experiment Station, Vavilov Str. 9, Vladivostok, Primorye 690025, Russian Federation. Donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States. Received 08/31/2001.

PI 647034. *Lonicera caerulea* var. *edulis* Turcz. ex Herder

Wild. HVSC-091; CLON 17. Collected 08/18/2001 in Khabarovsk, Russian Federation. Latitude 49° 2' 47" N. Longitude 139° 27' 32" E. Elevation 766 m. Go westward from the coastal town of Vanino, Khabarovsk for about 65 km. On the ridge between the Huia river and Kholodnibu creek. Wooded area beside road. Poor drainage with Larix, White Birch, Walnut and Fireweed. Developed in United States. Pedigree - Collected from the wild in Khabarovsk, Russian Federation.

The following were collected by Thomas Davis, University of New Hampshire, College of Life Science and Agriculture, Plant Biology/Genetics, Durham, New Hampshire 03824-3597, United States; Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Hiroyuki Imanishi, Akita Prefectural College of Agriculture, Experimental Farm, 6 Ogata, Ogata, Akita 010-0451, Japan; Hiroyuki Iketani, National Res. Inst. of Vegetables, Ornamentals and Tea, 360 Kusawa, Ano Mie, Japan; Takao Sato, Hokkaido Forestry Research Institute, General Research and Information Center, Koshunai, Bibai, Hokkaido 0079-0918, Japan. Donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 08/03/2004.

PI 647035. *Lonicera caerulea* var. *edulis* Turcz. ex Herder

Wild. *L. caerulea* var. *edulis* J03; HD-2004-03; CLON 39. Collected 07/09/2004 in Hokkaido, Japan. Latitude 43° 17' 24" N. Longitude 141° 51' 15" E. Elevation 107 m. In Bibai at the Hokkaido Forestry Research Institute. Pedigree - Collected from the wild in Hokkaido, Japan. Hokkaido Forestry Research Institute and Greenery Research and Information Center is a state run facility by the Prefecture of Hokkaido. Native woody plants of Hokkaido are studied at this center. Dr. Takao Sato is a senior research scientist at this center and has written a book on 'Trees and Shrubs of Hokkaido'. Dr. Sato guided us through the collections at the HFRI. This accession was collected from cultivated plants of originally wild collected species growing in the experimental gardens. &P><P>This accession was collected under the auspices of a bilateral agreement between the National Institute of Agrobiological Sciences, Ministry of Agriculture Fisheries and Foods, Japan, and the U. S. Department of Agriculture, Agricultura Service, USA, prepared in May 2004.

The following were collected by E. Durant McArthur, USDA, FS, Int. Forest & Range Exper. Station, Shrub Sciences Laboratory, Provo, Utah 84601, United States. Received 11/10/1981.

PI 647036. *Sambucus racemosa* var. *microbotrys* (Rydb.) Kearney & Peebles

Wild. CSAM 4. Collected 1975 in Utah, United States. Latitude 38° N. Longitude 111° W. Elevation 0 m. Mt. Pleasant Canyon. Pedigree - Collected from the wild in Utah.

The following were collected by Otto L. Jahn, 33740 Terra Ln., Corvallis, Oregon 97330, United States. Received 09/27/1984.

PI 647037. *Sambucus cerulea* Raf.

Wild. Blue Elder; CSAM 25. Collected 09/26/1984 in Oregon, United States. Latitude 44° 10' N. Longitude 122° 5' W. Elevation 1320 m. Willamette Nat'l Forest above Cougar Reservoir. Pedigree - Collected from the wild in Oregon. Large open shrub to 4m, blue-black fruit, var. maturity.

The following were collected by James R. Ballington, North Carolina State University, Department of Horticultural Sciences, Box 7609, Raleigh, North Carolina 27695-7609, United States; James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota

55108, United States. Donated by James R. Ballington, North Carolina State University, Department of Horticultural Sciences, Box 7609, Raleigh, North Carolina 27695-7609, United States. Received 08/10/1985.

PI 647038. *Sambucus racemosa* L.

Wild. European Red Elder; CSAM 30. Collected 07/31/1985 in Oregon, United States. Latitude 44° 30' N. Longitude 122° 10' W. Elevation 1200 m. Willamette Nat'l Forest, roadsides in clearcut. Pedigree - Collected from the wild in Oregon. Typical, population collection.

The following were collected by David Ianson, USDA, ARS, National Arctic Plant Genetic, Resources Unit, Palmer, Alaska 99645, United States. Received 10/29/2004.

PI 647039. *Sorbus sambucifolia* (Cham. & Schltdl.) M. Roem.

Wild. 2SOR; CSOR 298; AG 54. Collected 10/21/1999 in Alaska, United States. Latitude 52° 57' N. Longitude 173° 18' 23" E. Elevation 0 m. Attu Island, western tip of the Aleutian Islands. Pedigree - Collected from the wild in Alaska.

Unknown source. Received 04/01/1957.

PI 647040. *Raphanus sativus* L.

Uncertain. G 2222; Bavarian Radish.

Unknown source. Received 06/28/1972.

PI 647041. *Raphanus sativus* L.

Uncertain. "DF6 Fodder Radish Lake Strain"; G 22545. Collected in France.

Unknown source. Received 08/23/1988.

PI 647042. *Raphanus sativus* L.

Cultivar. Xin Li Mei; G 28921.

Unknown source. Received 08/23/1988.

PI 647043. *Raphanus sativus* L.

Cultivar. "Da Hong Pao"; G 28922.

Unknown source. Received 02/18/1988.

PI 647044. *Raphanus sativus* L.

Cultivar. "Szkarlatna z Bialym Koncem"; G 29044.

Unknown source. Received 02/18/1988.

PI 647045. *Raphanus sativus* L.

Cultivar. G 29045; Saxa.

Unknown source. Received 02/18/1988.

PI 647046. *Raphanus sativus* L.
Uncertain. Rowa; G 29046.

Unknown source. Received 02/18/1988.

PI 647047. *Raphanus sativus* L.
Cultivar. Tetra Ilowiecka; G 29047.

Unknown source. Received 02/18/1988.

PI 647048. *Raphanus sativus* L.
Cultivar. "Sopel Lodu ('Icicle')"; G 29048.

Unknown source. Received 02/12/1990.

PI 647049. *Raphanus sativus* L.
Uncertain. Col. #2712; G 29302.

Unknown source. Received 12/18/1990.

PI 647050. *Raphanus sativus* L.
Cultivar. "Zimna Byala"; ISN 513; Temno 98608001; G 30004.

Unknown source. Received 09/26/1991.

PI 647051. *Raphanus sativus* L.
Uncertain. 1279-67; G 30258.

Unknown source. Received 11/20/1991.

PI 647052. *Raphanus sativus* L.
Cultivar. "Early 40 Days"; G 30462.

Unknown source. Received 11/20/1991.

PI 647053. *Raphanus sativus* L.
Cultivar. "Mino Early Long White"; G 30463.

Unknown source. Received 11/20/1991.

PI 647054. *Raphanus sativus* L.
Cultivar. "Miyashige White Neck"; G 30465.

Unknown source. Received 11/20/1991.

PI 647055. *Raphanus sativus* L.
Cultivar. "Nerima Pointed Root"; G 30466.

Unknown source. Received 11/20/1991.

PI 647056. *Raphanus sativus* L.
Cultivar. "Ball Cross, F1"; G 30472.

Unknown source. Received 11/20/1991.

PI 647057. *Raphanus sativus* L.
Cultivar. "Everest, F1"; G 30473.

Unknown source. Received 11/20/1991.

PI 647058. *Raphanus sativus* L.
Cultivar. "Relish Cross, F1"; G 30475.

Unknown source. Received 11/20/1991.

PI 647059. *Raphanus sativus* L.
Cultivar. "Wonder Icicle, F1"; G 30476.

The following were collected by A.T. Whittemore, Kazakh Academy of Sciences, Alma-Ata, Alma-Ata, Kazakhstan. Received 02/27/1992.

PI 647060. *Raphanus sativus* L.
Cultivar. G 30612; Dugan. Collected 01/01/1992 in Alma-Ata, Kazakhstan. Private vendor, Alma Ata area, Almaty.

PI 647061. *Raphanus sativus* L.
Cultivar. G 30613; Dugan. Collected 01/01/1992 in Alma-Ata, Kazakhstan. Government store, Alma Ata area, Almaty.

PI 647062. *Raphanus sativus* L.
Cultivar. "Sharlokhov"; G 30616. Collected 01/01/1992 in Alma-Ata, Kazakhstan. Government store, Alma Ata area, Almaty.

Unknown source. Received 11/16/1992.

PI 647063. *Raphanus sativus* L.
Cultivar. B92-80; "Winter Black"; W6 10930; G 30674. Collected in Bulgaria.

Unknown source. Received 01/11/1993.

PI 647064. *Raphanus sativus* L.
Uncertain. USM 425; G 30720. Collected in India.

Unknown source. Received 04/18/1994.

PI 647065. *Raphanus sativus* L.
Cultivar. "Toro"; G 31842.

Unknown source. Received 11/10/1986.

PI 647066. *Raphanus sativus* L.
Uncertain. G 32168.

The following were developed by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 07/22/1996.

PI 647067. *Raphanus sativus* L.
Cultivar. "Fancy Red"; NSL 98720; G 32225. PVP 7800033.

Unknown source. Received 01/17/1995.

PI 647068. *Raphanus sativus* L.
Uncertain. NSL 157301; G 32232; Caudatus, #1 Purple Pod.

Unknown source. Received 01/17/1995.

PI 647069. *Raphanus sativus* L.
Uncertain. NSL 157302; G 32233; Caudatus, #2 Green Pod.

Unknown source. Received 01/17/1995.

PI 647070. *Raphanus sativus* L.
Uncertain. NSL 157303; G 32234; Caudatus, #3 Unknown Pod.

The following were donated by Pieter-Wheeler Seed Company, California, United States. Received 1959.

PI 647071. *Raphanus sativus* L.
G 32357; Long Scarlet Red Top.

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 1961.

PI 647072. *Raphanus sativus* L.
Sparkler; G 32358; Earliest Scarlet White Tipped.

The following were donated by Rudy-Patrick Seed Company, Kansas City, Missouri, United States. Received 1961.

PI 647073. *Raphanus sativus* L.
Cincinnati Market; G 32359; Long Scarlet.

The following were donated by Seed Research Specialists, California, United States. Received 1961.

PI 647074. *Raphanus sativus* L.
G 32360; Long Black Spanish.

The following were donated by E. State Farmers. Received 1962.

PI 647075. *Raphanus sativus* L.
G 32361; Crimson Giant.

The following were donated by Reuter Seed Company, New Orleans, Louisiana, United States. Received 1964.

PI 647076. *Raphanus sativus* L.
G 32362; Long Brightest Scarlet.

The following were donated by See Agrigenetics. Received 1970.

PI 647077. *Raphanus sativus* L.
G 32363; Super Red Prince.

The following were donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Nikolaos Stavropoulos, National Agricultural Research Foundation, Agri. Res. Centre of Makedonia & Thraci, Greek Gene Bank, Thermi, Thessaly 57001, Greece. Received 09/20/1999.

PI 647078. *Raphanus sativus* L.
Uncertain. G047; GPS 133; G 32380. Round, white, medium in size.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Robert A. Stebbins, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 01/27/2000.

PI 647079. *Raphanus sativus* L.
P 124; POL 177256; Rzodkiewka; G 32398. Collected 07/15/1999 in Bialystok, Poland. Latitude 51° 42' 55" N. Longitude 23° 29' 7" E. Hanna 82, Bialystok Province. From farm of Janina Bachorek.

The following were developed by Phil Bregitzer, USDA-ARS, National Small Grains Germplasm Research Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States; J.C. Whitmore, University of Idaho, Tetonia Research & Extension Center, 888 West Highway 33, Newdale, Idaho 83436, United States; Juliet M. Windes, University of Idaho, Aberdeen Research & Extension Center, P.O. Box 870, Aberdeen, Idaho 83210, United States; Victor Raboy, USDA, ARS, 1691 South 2700 West, Aberdeen, Idaho 83210, United States; Don Obert, USDA-ARS, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States. Received 03/16/2007.

PI 647080. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "CLEARWATER"; 01ID435H; NSGC 18380. CV-335. Pedigree - Baronesse*2/Pmut882//HB317(CDC Dawn sib) Pmut882 is a sodium-azide generated mutant in Harrington. Released 2007. Hulless, low-phytate, two-rowed spring feed barley.

The following were developed by Wayne Parrott, University of Georgia, Department of Crop and Soil Sciences, Miller Plant Sciences Building, Athens, Georgia 30602-7272, United States; John All, University of Georgia, Dept. of Entomology, Athens, Georgia 30602-7503, United States; E. Dale Wood, University of Georgia, Dept. of Crop & Soil Sciences, Athens, Georgia 30602, United States; H. Roger Boerma, University of Georgia, Center for Applied Genetic Technologies, 111 Riverbend Road, Athens, Georgia 30602-7272, United States; David Walker, University of Georgia, 203 Center for Applied Genetic Technologies, 111 Riverbend Road, Athens, Georgia 30602-0915, United States; S. Zhu, University of Georgia, Center for Applied Genetic Technologies, Dept. of Crop and Soil Sciences, Athens, Georgia 30602, United States; C.V. Warrington, University of Georgia, Dept. of Entomology, Athens, Georgia 30602, United States. Received 03/07/2007.

PI 647081. *Glycine max* (L.) Merr.

Breeding. Pureline. G05-Ben229IR-MGH. GP-352. Pedigree - BC6F2-derived near-isogenic line from Benning (7) x PI 229358. Has PI 229358 alleles at the three defoliating insect resistance QTLs introgressed into Benning. In both antibiosis and antixenosis tests, this line was more resistant to CEW than Benning or a Benning BC5F2 line containing the defoliating insect resistance QTL-M. Across two environments in 2005, G05-Ben229IR-MGH yielded 3073 kg ha⁻¹, which was 10% lower than that of Benning. Has a determinate growth habit and belongs to MG VII. Has purple flowers, tawny pubescence, tan pods, yellow seed coat and brown hila of varying intensity. Similar to Benning in maturity, plant height, lodging score, seed quality score, protein and oil content, and resistance to the southern root-knot nematode [*Meloidogyne incognita*] and race 3 of the soybean cyst nematode (*Heterodera glycines*).

PI 647082. *Glycine max* (L.) Merr.

Breeding. Pureline. G04-Ben229IR-M. GP-353. Pedigree - BC6F2-derived near-isogenic line from Benning (7) x PI 229358. Genetically similar to Benning, with the exception of an introgressed region containing the PI 229358 allele at the defoliating insect resistance QTL-M. In both antibiosis and antixenosis tests, this line was more resistant to corn earworm [*CEW*, *Helicoverpa zea*] and soybean looper [*SBL*, *Pseudoplusia includens*] than its recurrent parent Benning. Averaged across five environments, was similar in yield (3067 vs 3024 kg ha⁻¹) to Benning. For unknown reasons, averaged 7% larger seeds than Benning. Has determinate growth habit and belongs to MG VII. Has purple flowers,

tawny pubescence, tan pods, yellow seed coat and brown hilum. Similar to Benning in maturity, plant height, lodging score, seed quality score, protein and oil content, and resistance to the southern root-knot nematode [*Meloidogyne incognita*] and race 3 of the soybean cyst nematode (*Heterodera glycines*).

PI 647083. *Glycine max* (L.) Merr.

Breeding. Pureline. G04-Ben229IR-G. GP-354. Pedigree - BC6F2-derived near-isogenic line from Benning (7) x PI 229358. Genetically similar to Benning other than having an introgressed segment of DNA that includes the PI 229358 allele at the defoliating insect resistance QTL-G. In antibiosis tests, this line did not reduce CEW or SBL larval weight more than its recurrent parent Benning. This was expected since the line lacks the PI 229358 allele at QTL-M that is involved in an epistatic interaction with QTL-G. When averaged across five environments, yielded 2741 kg ha⁻¹, which was 11% lower in yield than Benning. Has 9% lower seed weight than Benning (127 vs 139 mg 100 seeds⁻¹). Has a determinate growth habit and belongs to MG VII. Has purple flowers, tawny pubescence, tan pods, yellow seed coat and brown hilum. Similar to Benning in maturity, plant height, lodging score, seed quality score, protein and oil content, and resistance to the southern root-knot nematode [*Meloidogyne incognita*] and race 3 of the soybean cyst nematode (*Heterodera glycines*).

PI 647084. *Glycine max* (L.) Merr.

Breeding. Pureline. G04-Ben229IR-H. GP-355. Pedigree - BC6F2-derived near-isogenic line from Benning (7) x PI 229358. Similar to Benning, but has the PI 229358 allele introgressed at defoliating insect resistance QTL-H. In antixenosis tests, this line did not show significantly less defoliation by CEW or SBL than its recurrent parent Benning. This result was expected since the line lacks the PI 229358 allele at QTL-M that is involved in an epistatic interaction with QTL-H. When evaluated in five environments, had nearly the same yield (3053 vs. 3074 kg ha⁻¹) as Benning. Has determinate growth habit and belongs to MG VII. Has purple flowers, tawny pubescence, tan pods, yellow seed coat and brown hilum. Similar to Benning in maturity, plant height, lodging score, seed quality score, protein and oil content, and resistance to the southern root-knot nematode [*Meloidogyne incognita*] and race 3 of the soybean cyst nematode (*Heterodera glycines*).

The following were developed by Tommy E. Carter, USDA-ARS, Soybean and Nitrogen Fixation Research, 3127 Ligon Street, Raleigh, North Carolina 27607, United States; Joe W. Burton, USDA-ARS, Plant Science Research Building, 3127 Ligon Street, Raleigh, North Carolina 27607, United States; Daryl T. Bowman, North Carolina State University, Department of Crop Science, Box 8604, Raleigh, North Carolina 27695-8604, United States; Myron Fountain, USDA - ARS, 3127 Ligon St., Raleigh, North Carolina 27607, United States; M.R. Villagarcia, USDA-ARS, 3127 Ligon Street, Raleigh, North Carolina 27607, United States; P.E. Rzewnicki, USDA-ARS, 3127 Ligon Street, Raleigh, North Carolina 27607, United States. Received 03/14/2007.

PI 647085. *Glycine max* (L.) Merr.

Cultivar. Pureline. "N7002"; SY703001. CV-492. Pedigree - F4-derived selection from the cross N7001 x Cook. N7002 is a determinate group VII maturity soybean cultivar that has excellent yield potential. Twenty-five percent of its parentage is exotic germplasm. Few soybean

cultivars produced in USA have this level of genetic diversity, and thus, its release broadens the genetic base of soybean cultivars. In USDA regional tests, N7002 was rated resistant to soybean mosaic virus and peanut root-knot nematode (*Meloidogyne arenaria* (Neal) Chitwood). N7002 was rated susceptible to stem canker (caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionales* F.A. Fernandez), soybean cyst nematode (*Heterodera glycines* Ichinohe), and southern root-knot nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood). In USDA trials in NC, N7002 was rated resistant to frogeye leaf spot (*Cercospora soja* K. Hara) and bacterial pustule [*Xanthomonas campestris* pv. *glycines* (Nakano) Dye]. N7002 also resisted pod-shattering after maturity, even with extensively delayed harvest, based on field observations in NC. N7002 was evaluated in 56 environments in the USDA-ARS Southern Region Uniform Group VII Tests during 2000-2005. The average plant height of N7002 was 84 cm. On a lodging scale of 1-5 with 1 being best, average score of N7002 was 1.9. The seed yield average was 3,223 kg ha⁻¹. The 100-seed weight of N7002 was 13.1 g. Seed protein content of N7002 averaged 407 g kg⁻¹ on a zero moisture basis. N7002 had seed oil content of 197 g kg⁻¹.

PI 647086. *Glycine max* (L.) Merr.

Cultivar. Pureline. "N8001"; SY703002. CV-496. Pedigree - F4-derived selection from the cross N7001 x Cook. N8001 is a determinate group VIII maturity soybean cultivar that has excellent yield potential. Twenty-five percent of its parentage is exotic germplasm. Few soybean cultivars produced in USA have this level of genetic diversity, and thus, its release broadens the genetic base of soybean cultivars. In USDA regional tests, N8001 was rated resistant to soybean mosaic virus and stem canker (caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionales* F.A. Fernandez). It was rated susceptible to soybean cyst (*Heterodera glycines* Ichinohe) and root-knot nematodes (*Meloidogyne arenaria* (Neal) Chitwood and *Meloidogyne incognita* (Kofoid & White) Chitwood). In USDA field trials in NC, N8001 was rated resistant to bacterial pustule (*Xanthomonas axonopodia* pv. *glycines*), and frogeye leaf spot (*Cercospora soja* K. Hara). N8001 also resisted pod-shattering after maturity, even with extensively delayed harvest, based on field observations in NC. N8001 was evaluated in 48 environments in the USDA-ARS Southern Region Uniform Group VIII Test during 2000-2005. The average plant height of N8001 was 89 cm. On a lodging scale of 1-5 with 1 being best, average score of N8001 was 2.1. Yield of N8001 averaged 2999 kg ha⁻¹. The 100-seed weight of N8001 was 14.8 g. Seed protein content of N8001 was 410 g kg⁻¹ on a zero moisture basis. N8001 had a seed oil content of 190 g kg⁻¹.

The following were developed by Ron Fioritto, Ohio State University, Dept of Horticulture & Crop Science, OARDC, Wooster, Ohio 44691, United States; Anne E. Dorrance, Ohio State University, OARDC - Department of Plant Pathology, 1680 Madison Avenue, Wooster, Ohio 44691-4096, United States; S.A. McIntyre, USDA, ARS, Ohio State University, Dept. of Horticulture and Crop Science, Columbus, Ohio 43210-1086, United States; Clay H. Sneller, Ohio State University, O.A.R.D.C., 1680 Madison Avenue, Wooster, Ohio 44691, United States; Steven St. Martin, The Ohio State University, Department of Horticulture and Crop Science, 310D Kottman Hall, Columbus, Ohio 43210-1086, United States; M.K. Feller, Ohio State University, Ohio Agric. Res. and Development Center, Dept. of Horticulture and Crop Science, Columbus, Ohio 43210-1086, United States; S.A. Berry, Ohio State University, Ohio Agric.

Res. and Development Center, Dept. of Plant Pathology, Columbus, Ohio 43210-1086, United States. Received 03/16/2007.

PI 647087. *Glycine max* (L.) Merr.

Cultivar. "DENNISON"; HS1-3717. CV-493. Pedigree - Athow x HS94-4533. Dennison has indeterminate stem habit, white flowers, light tawny pubescence, tan pods, and yellow seeds with a black hilum. It is classified in maturity group III (relative maturity 3.5), and is adapted as a full-season cultivar from 40 to 42 N lat. In Ohio tests (2003 to 2005, four or five locations per year), seed yield of Dennison was 4% greater than that of Kottman, a current public cultivar in Ohio. Dennison matured 2 d earlier than Kottman, and was 5 cm taller and slightly less resistant to lodging. In Ohio, seed of Dennison has averaged 405 g kg⁻¹ protein, compared with 415 g kg⁻¹ for Kottman. Oil content has averaged 200 g kg⁻¹, compared with 201 g kg⁻¹ for Kottman. Hypocotyl inoculation with a series of isolates of *P. sojae* demonstrated that Dennison carries the *Rps1k* and *Rps3* genes for race-specific resistance to *Phytophthora* root and stem rot. Partial resistance to *P. sojae* is excellent, with a score of 3.5 on a scale of 1 (best) to 9 (worst), using the procedure of Schmitthenner and Bhat (1994).

The following were developed by Mehboob Ur Rahman, National Institute for Biotechnology & Genetic Engineering &, PGMB Labs, PO Box 577, Faisalabad, Pakistan; Y. Zafar, National Institute for Biotechnology and Genetic Eng., P.O. Box 577, Jhang Road, Faisalabad, Pakistan. Received 03/12/2007.

PI 647088. *Gossypium hirsutum* L.

Cultivar. Pureline. "NIBGE-2". CV-124. Pedigree - S-12 x LRA-5166. Growth habit is spreading type with light green foliage. Glanded, possesses normal shaped leaves and bracts, has pubescent stem and leaves, is nectaried. Creamy pollen color, oval type boll shape. Occasional plants are 5-10 cm taller than the norm, but similar in appearance. Tested on 10 different sites of the Punjab province in the national coordinated varietal trial (NCVT) for 2 years (2003-2004). Mean cotton seed yield (SCY) was 2792 kg ha⁻¹, compared to 2317 kg ha⁻¹ for standards (CIM-473 and CIM-499). Also tested in replicated trials under irrigated and limited water conditions in Faisalabad at NIBGE cotton field in 2006. The experimental design was a quadruplicated split-plot with water regimes assigned in main plot and cultivars in sub-plots. In drought conditions, SCY was 1910 kg ha⁻¹, compared to 1362 kg ha⁻¹ for CIM-473 and 1164 kg ha⁻¹ for CIM-499. Tested extensively in disease hot spot areas of the Punjab for resistance to disease, agronomic characteristics, earliness and fiber quality. Resistance to the disease was high in comparison to other candidate lines. Similar in maturity to CIM-473 on basis of percentage first pick yield, has 10% more bolls than CIM-473 and CIM-499. Fiber bundle strength, measured by high volume instrument analysis, was 10.6 and 4.9% more than CIM-799 and CIM-473, respectively. Micronaire readings average 0.1 units higher than that of CIM-473, but similar to CIM-799. Upper half mean fiber length was 0.9 and 1.1 mm shorter than CIM-499 and CIM-473, respectively. Will be useful for breeding cultivars against the Burewala virus strain of the cotton leaf curl disease.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 03/15/2007.

PI 647089 PVPO. Phaseolus vulgaris L.
Cultivar. "EX 08540800". PVP 200700157.

PI 647090 PVPO. Phaseolus vulgaris L.
Cultivar. "EX 08530714". PVP 200700158.

PI 647091 PVPO. Phaseolus vulgaris L.
Cultivar. "EX 08520700". PVP 200700159.

PI 647092 PVPO. Phaseolus vulgaris L.
Cultivar. "EX 08550813". PVP 200700160.

PI 647093. Pisum sativum L.
Cultivar. "EX 08550848". PVP 200700162.

PI 647094 PVPO. Pisum sativum L.
Cultivar. "EX 08540793". PVP 200700163.

PI 647095 PVPO. Pisum sativum L.
Cultivar. "CREDESCENCE". PVP 200700164.

The following were donated by A.F. Yeager. Received 01/20/1955.

PI 647096. Solanum lycopersicum L.
Cultivar. "Window Box Dwarf"; G 1592. Determinate; fair size, extra early, many locules.

PI 647097. Solanum lycopersicum L.
Cultivar. "Orange Chatham"; G 1593. Similar to Chatham, but with orange flesh.

PI 647098. Solanum lycopersicum L.
Cultivar. "N. H. Red Pickler"; G 1594. Early determinate, red pear.

PI 647099. Solanum lycopersicum L.
Cultivar. "Redskin"; G 1595. Market size; oval, very early, many locules, determinate, wilty foliage.

The following were developed by W.T. Schroeder, Plant Introduction Office, Beltsville, Maryland, United States. Received 01/10/1956.

PI 647100. Solanum lycopersicum L.
Cultivated. T24B-34-4; G 4985. Sister line to 34-14 Geneva Tafley.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 10/01/1956.

PI 647101. Solanum lycopersicum L.
Cultivated. "Early Rutgers, HES Strain"; G 5762.

The following were donated by Douglas Seed Co., LTD, Brantford, Ontario, Canada. Received 10/01/1956.

PI 647102. *Solanum lycopersicum* L.
Cultivated. "Rutgers 95"; G 5763.

The following were donated by Gleckler Brothers, Inc., Metamora, Ohio 43540-9774, United States. Received 12/17/1956.

PI 647103. *Solanum lycopersicum* L.
Cultivar. "Green Jell"; G 6068.

The following were donated by E.M. Meader, USAMGIK, Central Experiment Station, Seoul, Seoul, Korea, South. Received 05/01/1958.

PI 647104. *Solanum lycopersicum* L.
Cultivar. "High C"; NH 50; G 7444.

The following were developed by J. Wiebe, Horticultural Institute of Ontario, Vineland, Ontario, Canada. Received 01/22/1959.

PI 647105. *Solanum lycopersicum* L.
Breeding. "Early Staked"; G 8577. Pedigree - Coopers Special x M84.

The following were developed by Les Owensworth, Harrow Experiment Station, Harrow, Ontario NOR 1G0, Canada. Received 01/05/1960.

PI 647106. *Solanum lycopersicum* L.
Cultivar. G 9781; H-577.

The following were developed by J. Wiebe, Horticultural Institute of Ontario, Vineland, Ontario, Canada. Received 01/29/1960.

PI 647107. *Solanum lycopersicum* L.
Cultivar. Vineland-M-84; G 10035.

The following were donated by H.J. Heinz Co., Crop Research Department, Bowling Green, Ohio, United States. Received 10/01/1960.

PI 647108. *Solanum lycopersicum* L.
Cultivar. ES 24; G 10705; G 10698A; A 4590. Original seeds treated NA3 PO4. Hot water. Resistant to anthrac (*C. atramentarium*) spots on fruit.

The following were developed by B.L. Pollack, Rutgers University, Horticulture & Forestry Dept., New Brunswick, New Jersey, United States. Received 09/01/1964.

PI 647109. *Solanum lycopersicum* L.
Breeding. "Rutgers Hybrid C"; G 12400.

The following were developed by Paul Thomas, Peto Seed, Woodland, California, United States. Received 09/01/1964.

PI 647110. *Solanum lycopersicum* L.
Breeding. "Peto Hybrid 574"; G 12455.

The following were developed by W.A. Frazier, Oregon State University, Department of Horticulture, Lewis-Brown Farm, Corvallis, Oregon 97331, United States. Received 09/01/1964.

PI 647111. *Solanum lycopersicum* L.
Breeding. OSU 395; G 12561.

PI 647112. *Solanum lycopersicum* L.
Breeding. OSU 435-4; G 12562.

The following were developed by B.L. Pollack, Rutgers University, Horticulture & Forestry Dept., New Brunswick, New Jersey, United States. Received 03/05/1963.

PI 647113. *Solanum lycopersicum* L.
Breeding. "Hybrid A"; 161-J; G 12701. Early, same maturity as 'Fireball'. Bush excellent vigor, good foliage cover. Fruit round, smooth, crack-free; uniform, light green color. Size 1 to 2 oz. larger than 'Fireball'. Sets fruit under average conditions. Not Fusarium Wilt Resistant.

PI 647114. *Solanum lycopersicum* L.
Breeding. "Hybrid B"; 137-J; G 12702. Matures about 1 week later than 'Moreton Hybrid'. Plant is large, dense and vigorous for stake or trellis. Fruit somewhat flattened, smooth, crack-free; uniform light green color. Size larger (5-9 oz.). Tendency to rough blossom end when setting under too cold conditions.

The following were donated by Stokes Seeds, Limited, St. Catharines, Ontario, Canada. Received 09/03/1964.

PI 647115. *Solanum lycopersicum* L.
Cultivar. "Ottawa 6"; 408; G 13508.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 09/03/1964.

PI 647116. *Solanum lycopersicum* L.
Cultivar. "Fukuju #2"; G 13715. Pedigree - June Pink x Delicious. Remnant of seed from Hokkaido Japan. Indeterminate; non-uniform green color, late, severe yellow top, blotch pink fruit.

The following were donated by Ernest A. Kerr, Horticultural Experiment Station, Ontario Ministry of Agriculture and Food, P.O. Box 587, Simcoe, Ontario N34 4N5, Canada. Received 09/03/1964.

PI 647117. *Solanum lycopersicum* L.

Cultivar. "Hokan #1"; G 13717. Collected in Hokkaido, Japan. Remnant of seed from Hokkaido Japan. Indeterminate; non-uniform ripening late. Pink fruit, severe yellow top.

PI 647118. *Solanum lycopersicum* L.

Cultivar. "Hokan #2"; G 13718. Collected in Hokkaido, Japan. Remnant of seed from Hokkaido Japan. Indeterminate; non-uniform ripening late. Pink fruit, severe yellow top.

PI 647119. *Solanum lycopersicum* L.

Cultivar. "Sekiko"; G 13719. Collected in Hokkaido, Japan. Remnant of seed from Hokkaido Japan. Indeterminate; non-uniform green color, late, yellow top.

PI 647120. *Solanum lycopersicum* L.

Cultivar. "Ideson"; G 13723. Collected in Nova Scotia, Canada. Latitude 45° 4' N. Longitude 64° 30' W. Kentville. Remnant of seed from Kentville, Nova Scotia. Determinate; uniform green color.

The following were donated by Roy G. Creech, USDA, ARS, P.O. Box 5367, R. W. Harned Building, Mississippi State, Mississippi 39762, United States. Received 03/25/1964.

PI 647121. *Solanum lycopersicum* L.

Cultivar. "PA 103 F1"; G 13809.

The following were donated by T. O. Graham, University of Guelph, Department of Horticulture, Guelph, Ontario, Canada. Received 05/11/1964.

PI 647122. *Solanum lycopersicum* L.

Cultivar. "High Crimson"; G 14129. Indeterminate.

The following were collected by Robert Sweet, Cornell University, Ithaca, New York 14853, United States. Received 09/14/1964.

PI 647123. *Solanum lycopersicum* L.

Cultivar. "Jamiaca"; G 14200. Collected 09/01/1964 in Jamaica. Shown at Vegetable Variety Field Day in Ithaca, NY 9/14/1964. Fruit 3.3 cm. x 4.0 cm. - 4.2 cm., red to pinkish in color. Most fruit not green top, some are. Peel is translucent - see a vertical veneration through skin. Some cracks, mostly radial. Small round deep set stem scar. When picked, calyx remains on plant.

The following were donated by G.L. Slate, New York Agr. Exp. Sta., Geneva, New York, United States. Received 09/23/1964.

PI 647124. *Solanum lycopersicum* L.

Cultivar. "Gardener"; H-859; G 14227. Fruit set early.

PI 647125. *Solanum lycopersicum* L.

Cultivar. "Harris Cherry"; H-879; G 14228. Small, bright red, 2.2 cm. fruit.

The following were developed by T. O. Graham, University of Guelph, Department of Horticulture, Guelph, Ontario, Canada. Received 12/17/1964.

- PI 647126. *Solanum lycopersicum* L.**
Cultivar. "Brown"; G 14377. Pedigree - Camp 1327 x High Crimson; Pearson x Fil 2273446 x High Crimson #14.
- PI 647127. *Solanum lycopersicum* L.**
Cultivar. "Step 434"; G 14383. Pedigree - Homestead No. 18-D2-D4-8-1-1-DBK-D5-BK-DBK CAV St\N. Resistant to wild, early blight, and leaf mold. May be crack resistant.

The following were donated by Don Loomis, NYSAES, Loomis Farm, Geneva, New York 14456, United States. Received 12/17/1964.

- PI 647128. *Solanum lycopersicum* L.**
Cultivar. G 14390. Pedigree - Geneva 14 x Fireball. Mr. Loomis thinks it is the same as Harris 858 "Galaxy".

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 02/05/1965.

- PI 647129. *Solanum lycopersicum* L.**
Cultivar. "San Pablo"; G 14402.
- PI 647130. *Solanum lycopersicum* L.**
Cultivar. "Cirio 49"; G 14403.
- PI 647131. *Solanum lycopersicum* L.**
Cultivar. "Cirio 103.L"; G 14404.
- PI 647132. *Solanum lycopersicum* L.**
Cultivar. "Kecskemeti Konserv 485"; G 14407.
- PI 647133. *Solanum lycopersicum* L.**
Cultivar. "Kecskemeti Konserv 488"; G 14408.
- PI 647134. *Solanum lycopersicum* L.**
Cultivar. "Kecskemeti 1706"; G 14409.
- PI 647135. *Solanum lycopersicum* L.**
Cultivar. "Kecskemeti M2-1738"; G 14410.
- PI 647136. *Solanum lycopersicum* L.**
Cultivar. G 14411. Pedigree - Kecskemeti korai x K. torpe F1.
- PI 647137. *Solanum lycopersicum* L.**
Cultivar. G 14412. Pedigree - Ku 2 x K. torpe F1.
- PI 647138. *Solanum lycopersicum* L.**
Cultivar. G 14413. Pedigree - 1738 x 1714 F1.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada; P. Pecaut, Station D'Amelioration des Plantes, Maraicheres, INRA, Montfavet, Vaucluse 84140, France. Received 02/05/1965.

PI 647139. *Solanum lycopersicum* L.
Cultivar. "Piernita"; G 14414.

PI 647140. *Solanum lycopersicum* L.
Cultivar. "Piertarum"; G 14415.

PI 647141. *Solanum lycopersicum* L.
Cultivar. "Poncette"; G 14416.

The following were collected by T.P. Spence, Ontario, Canada. Donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 02/05/1965.

PI 647142. *Solanum lycopersicum* L.
Cultivar. G 14419. Collected 09/10/1964 in Ontario, Canada. From a backyard gardener, T.P. Spence, Ontario, Canada.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 02/05/1965.

PI 647143. *Solanum lycopersicum* L.
Cultivar. "Early Bird"; G 14420.

The following were donated by L.H. Lyall, Genetics and Plant Breeding Res. Inst., Ottawa, Ontario, Canada. Received 03/15/1965.

PI 647144. *Solanum lycopersicum* L.
Cultivar. G 14550; K 2217.

PI 647145. *Solanum lycopersicum* L.
Cultivar. "Ottawa 60"; G 14559.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada. Received 03/22/1965.

PI 647146. *Solanum lycopersicum* L.
Cultivar. "Berner Rose"; G 14561.

PI 647147. *Solanum lycopersicum* L.
Cultivar. "Grote Rode"; G 14569.

PI 647148. *Solanum lycopersicum* L.
Cultivar. "Kaspavek"; G 14572.

PI 647149. *Solanum lycopersicum* L.
Cultivar. "Pokomoke"; G 14580.

PI 647150. *Solanum lycopersicum* L.
Cultivar. "Slavo Poyni"; G 14583.

PI 647151. *Solanum lycopersicum* L.
Cultivar. "Silver Tuck Queen"; G 14584.

PI 647152. *Solanum lycopersicum* L.
Cultivar. "Trophy"; G 14585.

PI 647153. *Solanum lycopersicum* L.
Cultivar. "Vanhovo Hroznovite"; G 14587.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada; Ed James, National Seed Storage Lab., Colorado State University, Fort Collins, Colorado 80523, United States. Received 03/22/1965.

PI 647154. *Solanum lycopersicum* L.
Cultivar. "Prince Borghese"; G 14589.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 03/24/1965.

PI 647155. *Solanum lycopersicum* L.
Cultivar. "Kecskemeti 512"; G 14599.

PI 647156. *Solanum lycopersicum* L.
Cultivar. "Kecskemeti 530"; G 14600.

PI 647157. *Solanum lycopersicum* L.
Cultivar. "Kecskemeti 1758"; G 14601.

The following were donated by A.L. Harrison, Texas A & M, Plant Disease Lab, Rt. 3 Box 307, Yoakum, Texas 77995, United States. Received 06/06/1965.

PI 647158. *Solanum lycopersicum* L.
Cultivar. "Summertime"; G 15283.

PI 647159. *Solanum lycopersicum* L.
Cultivar. "Y144"; G 15284.

The following were donated by T. O. Graham, University of Guelph, Department of Horticulture, Guelph, Ontario, Canada; Andres Andrasfalvy, Research Institute for Horticulture, Budapest, Budapest 1016, Hungary. Received 04/26/1966.

PI 647160. *Solanum lycopersicum* L.
Cultivar. "Budai Korai"; G 16892.

PI 647161. *Solanum lycopersicum* L.
Cultivar. "Budai Zoldtalpmentes"; G 16893.

PI 647162. *Solanum lycopersicum* L.

Cultivar. "Genfi Norma"; G 16896. Very attractive, early. Most prominent of the 7 varieties sent.

The following were donated by T. O. Graham, University of Guelph, Department of Horticulture, Guelph, Ontario, Canada. Received 11/23/1966.

PI 647163. *Solanum lycopersicum* L.

Cultivar. "Pasionato"; G 17357.

The following were donated by Don Loomis, NYSAES, Loomis Farm, Geneva, New York 14456, United States. Received 02/16/1997.

PI 647164. *Solanum lycopersicum* L.

Cultivar. "Lost Name"; G 17463.

The following were donated by L.H. Lyall, Genetics and Plant Breeding Res. Inst., Ottawa, Ontario, Canada. Received 01/01/1966.

PI 647165. *Solanum lycopersicum* L.

Cultivar. "Maria 2"; G 17496.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada. Received 02/20/1966.

PI 647166. *Solanum lycopersicum* L.

Cultivar. "Trent"; G 17498.

PI 647167. *Solanum lycopersicum* L.

Cultivar. "Portacala"; G 17500.

The following were donated by Thompson & Morgan Ltd., London Road, Ipswich, England IP2 0BA, United Kingdom. Received 05/01/1967.

PI 647168. *Solanum lycopersicum* L.

Cultivar. "Bush Lebanon"; G 17932.

The following were donated by Joseph Harris Company, Inc., 3670 Buffalo Road, Rochester, New York 14624, United States. Received 11/01/1967.

PI 647169. *Solanum lycopersicum* L.

Cultivar. "Golden Globe"; G 18179.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 02/12/1968.

PI 647170. *Solanum lycopersicum* L.

Cultivar. "Pesto"; G 18553.

- PI 647171. *Solanum lycopersicum* L.
Cultivar. "Gat #4"; G 18554.
- PI 647172. *Solanum lycopersicum* L.
Cultivar. "Simola Gola"; G 18555.
- PI 647173. *Solanum lycopersicum* L.
Cultivar. "Kecskemeti Export"; G 18556.
- PI 647174. *Solanum lycopersicum* L.
Cultivar. "Konservny Shtambovy"; G 18558.
- PI 647175. *Solanum lycopersicum* L.
Cultivar. "Jubilejnyj #261"; G 18559.
- PI 647176. *Solanum lycopersicum* L.
Cultivar. "Early Sybirski"; G 18567.
- PI 647177. *Solanum lycopersicum* L.
Cultivar. "Hewskij"; G 18570.

The following were developed by E.A. Griffiths, Department of Horticulture, University of Rhode Island, Kingston, Rhode Island, United States. Received 04/10/1968.

- PI 647178. *Solanum lycopersicum* L.
Cultivar. "Rhode Island Dwarf I"; G 18853. Pedigree - Indiana 479 (Epoch) and Rhode Island Early.
- PI 647179. *Solanum lycopersicum* L.
Cultivar. "Rhode Island Dwarf II"; G 18854. Pedigree - Red jet and Summer Sunrise.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada. Received 02/14/1969.

- PI 647180. *Solanum lycopersicum* L.
Breeding. 701; Micando Ecarlate; G 19068. Potato leaf, very early, very rough.
- PI 647181. *Solanum lycopersicum* L.
Breeding. 845; Probobate; G 19069.
- PI 647182. *Solanum lycopersicum* L.
Breeding. "Sofia"; 920; G 19074.

The following were collected by Glenn W. Dobson, Rt 19, Wyoming, New York 14591, United States. Received 03/01/1969.

- PI 647183. *Solanum lycopersicum* L.
Wild. G 19160. Collected 10/01/1968 in United States. Honolulu, Hawaii.

The following were donated by T.P. Hernandez. Received 02/02/1970.

PI 647184. *Solanum lycopersicum* L.
Cultivar. "Creole"; G 19695.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada. Received 03/16/1970.

PI 647185. *Solanum lycopersicum* L.
Cultivar. ST-11B; G 20129. High crimson color although possibly not as intense as the indeterminate types of high crimson.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 04/01/1970.

PI 647186. *Solanum lycopersicum* L.
Cultivar. "Daimuna"; G 20200. Kerr received from Romania - believed to be an F1 hybrid.

PI 647187. *Solanum lycopersicum* L.
Cultivar. "Immuna Riksort"; G 20201. Kerr received from Romania - believed to be an F1 hybrid.

PI 647188. *Solanum lycopersicum* L.
Cultivar. "Rever Special"; G 20202. Kerr received from Romania - believed to be an F1 hybrid.

PI 647189. *Solanum lycopersicum* L.
Cultivar. "Earlymuna"; G 20203. Kerr received from Romania - believed to be an F1 hybrid.

PI 647190. *Solanum lycopersicum* L.
Cultivar. "Primo de Supergran"; G 20204. Kerr received from Romania - believed to be an F1 hybrid.

PI 647191. *Solanum lycopersicum* L.
Cultivar. "Patrik"; G 20205. Kerr received from Romania - believed to be an F1 hybrid.

PI 647192. *Solanum lycopersicum* L.
Cultivar. "Tiomnocrasnii"; G 20208. Kerr received from Romania.

The following were donated by Cort G. Nichols, P.O. Box 8, San Juan Bautista, California 95045, United States. Received 04/10/1970.

PI 647193. *Solanum lycopersicum* L.
Cultivar. "Grand Prix"; G 20228.

The following were donated by Rutgers University, Hilltop Gardens, New Jersey, United States. Received 04/15/1954.

PI 647194. *Solanum lycopersicum* L.

Cultivar. "Marglobe"; B-49903; G 20399. Treated with new improved cerasan.

PI 647195. *Solanum lycopersicum* L.

Cultivar. "Queens"; B-49901; G 20401. Treated with new improved cerasan.

PI 647196. *Solanum lycopersicum* L.

Cultivar. "Rutgers"; B-49902; G 20402. Treated with new improved cerasin.

The following were donated by J.W. Clark, Elkton, Maryland, United States. Received 12/04/1970.

PI 647197. *Solanum lycopersicum* L.

Cultivar. "Early Tanana"; G 20462.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada. Received 01/11/1971.

PI 647198. *Solanum lycopersicum* L.

Cultivar. ST-11; G 20494. Determinate; medium size plant, good cover. Large, smooth, round fruit, high crimson color, good yield; rated mid-season to late.

The following were donated by L.H. Lyall, Genetics and Plant Breeding Res. Inst., Ottawa, Ontario, Canada. Received 05/23/1973.

PI 647199. *Solanum lycopersicum* L.

Breeding. "Mini Rose"; G 22853.

PI 647200. *Solanum lycopersicum* L.

Breeding. "Ottawa 78"; G 22854.

The following were donated by R. Doucet, Station de Recherches Agricoles, Saint Hyacinthe, Quebec, Canada. Received 01/22/1974.

PI 647201. *Solanum lycopersicum* L.

Breeding. G 23068; Itabec.

PI 647202. *Solanum lycopersicum* L.

Breeding. G 23069; Maskabec.

PI 647203. *Solanum lycopersicum* L.

Breeding. G 23070; Precocibec.

PI 647204. *Solanum lycopersicum* L.

Breeding. G 23071; Usabec.

PI 647205. *Solanum lycopersicum* L.

Breeding. G 23072; Yorkbec.

The following were donated by D. D. Dolan, USDA, ARS, Regional Plant Introduction Station, New York Agricultural Experiment Sta., Geneva, New York 14456, United States. Received 08/29/1973.

PI 647206. *Solanum lycopersicum* L.
Cultivar. "Vineland Bright"; G 23076.

The following were donated by Tony Sgro, 131 Carter Road, Geneva, New York 14456, United States. Received 09/01/1974.

PI 647207. *Solanum lycopersicum* L.
Uncertain. G 23339; Mina de Vica. Cows teat tomato. Short plant, no staking necessary. Profolic. Medium maturity. Paste type, 5-6 fruit/cluster. Fruit 6 inches x 2 1/8 - 2 1/4 inches. Little skin cracks. Inclined to radial cracks which heal.

The following were donated by Michael Dickson, New York State Agricultural Exper. Sta., Department of Horticultural Sci., Hedrick Hall - Cornell University, Geneva, New York 14456-0462, United States. Received 05/28/1975.

PI 647208. *Solanum lycopersicum* L.
Cultivar. "Gloria"; G 23714.

PI 647209. *Solanum lycopersicum* L.
Cultivar. "Guanacache"; G 23715.

PI 647210. *Solanum lycopersicum* L.
Cultivar. "Manzana Determinado"; G 23716.

PI 647211. *Solanum lycopersicum* L.
Cultivar. "Santa Marta"; G 23717.

PI 647212. *Solanum lycopersicum* L.
Cultivar. "Panquehua"; G 23718.

PI 647213. *Solanum lycopersicum* L.
Cultivar. "Platense Determinado"; G 23719.

PI 647214. *Solanum lycopersicum* L.
Cultivar. "San Antonio"; G 23720.

PI 647215. *Solanum lycopersicum* L.
Cultivar. "San Cayetano"; G 23721.

PI 647216. *Solanum lycopersicum* L.
Cultivar. "San Doque"; G 23722.

PI 647217. *Solanum lycopersicum* L.
Cultivar. "San Isidro"; G 23723.

PI 647218. *Solanum lycopersicum* L.
Cultivar. "San Santiago"; G 23724.

The following were developed by R. Doucet, Station de Recherches Agricoles, Saint Hyacinthe, Quebec, Canada. Received 01/01/1976.

PI 647219. *Solanum lycopersicum* L.

Breeding. "Superbec"; G 23840. Pedigree - Canabec x Trimson.
Determinate. Plant size 2 1/2 to 3 feet diameter. Foliage cover is good, but opened at fruit maturity. Uniform green fruit, slightly flattened, crack resistant, yellowish red. Size is 6-8 oz. Flesh is crimson. Fruit will hold on the vine reasonably well without breaking down. Maturity: Early mid season. Heavy yield. Highly recommended for juice which is bright red and very tasty.

PI 647220. *Solanum lycopersicum* L.

Breeding. "Ultrabec"; G 23841. Pedigree - Canabec x Trimson.
Determinate. Plant size 2 to 2 1/2 feet diameter. Foliage cover is fair. Uniform green fruit, crack tolerant, red, slightly elongated (young fruit oval), size about 5 oz. with crimson flesh. Early maturity with some tendency to concentrated maturity. Yield very good. Market quality.

PI 647221. *Solanum lycopersicum* L.

Breeding. "Petitebec"; G 23842. Pedigree - Swift x PI 197159.
Determinate, spreading to 2 1/2 to 3 feet. Foliage cover is adequate. Fruit: uniform green, small 1 1/4 inches, globe, tasty, nicely dark red colored and very crack resistant. Fruits hold on the vine very well without breaking down. Early mid season maturity. Yield is very fruitful.

PI 647222. *Solanum lycopersicum* L.

Breeding. "Canabec Rose"; G 23843. Pedigree - Canabec x Unknown Japanese pink hybrid. Determinate. Plant size is about 3 feet in diameter. Foliage cover is good. Uniform green fruit, ripens to a very uniform pink, smooth attractive, slightly flattened, about 3 1/2 fruits per pound. Maturity: mid-season. Very good yield. Market type.

The following were donated by W.L. Kerr, Dept. of Agriculture, Experimental Station, Morden, Manitoba, Canada. Received 03/15/1976.

PI 647223. *Solanum lycopersicum* L.

Uncertain. V716; G 24107.

PI 647224. *Solanum lycopersicum* L.

Uncertain. Ont. 7414; G 24108.

The following were developed by Martha Mutschler, Cornell University, Department of Plant Breeding and Biometry, 303 Bradfield Hall, Ithaca, New York 14853, United States. Received 10/25/1984.

PI 647225. *Solanum lycopersicum* L.

Breeding. Alcobaca; G 27902.

The following were donated by USDA, ARS, NCRPIS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 03/30/1987.

PI 647226. *Solanum lycopersicum* L. var. *lycopersicum*

Uncertain. G 28504. Early tomato line. Reported resistant to *Septaria lycopersici* under local field conditions.

The following were donated by Zhenhua Guo, Dept. of Germplasm Resources, Vegetable Res. Institute, CAAS, 30 Baishigiao Road, Beijing, Beijing, China. Received 08/23/1988.

PI 647227. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Zhong Shu No. 6"; G 28919. F.M., indeterminate, red.

PI 647228. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Li Cun"; G 28920. F.M., indeterminate, early, pink.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1962.

PI 647229. *Solanum lycopersicum* L.

Cultivar. "Wasatch Beauty"; NSL 19989; G 29051. Determinate, medium to small plants, red fruits, adaptation northwest, medium maturity, medium fruit size, globe shape, firm. Peto Seed Co. descriptive catalog 1962.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States. Received 05/01/1989.

PI 647230. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Watanabes"; 27260.01; G 29054.

The following were donated by John R. Stommel, USDA, ARS, Genetic Improvement of Fruits, and Vegetables, Beltsville, Maryland 20705-2350, United States. Received 05/23/1989.

PI 647231. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivated. B 147; G 29106. Pedigree - Tomato breeding line: 88B147.

PI 647232. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivated. B 231; G 29107. Pedigree - Tomato breeding line: 88B231.

The following were donated by Loren Wiesner, USDA, ARS, National Center for Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States; Nancy Sanders, 3771 Ysidro Wy., Sacramento, California 95864, United States. Received 02/09/1990.

PI 647233. *Solanum lycopersicum* L. var. *lycopersicum*

Uncertain. "Large Raste"; G 29289. Large paste tomato weighing close to one pound and having few seeds and little juice.

The following were collected by J.C. Zueco; Jose M. Alvarez, Servicio de Investigacion Agraria (D.G.A.), Apartado 727, Zaragoza, Zaragoza 50080, Spain. Donated by F.V. Nuez, Escuela Tecnica Sup. de Ing. Agronomos, Catedra de Genetica, Univers. Politecnica Camino de Vera S/N, Valencia, Valencia 46022, Spain. Received 08/18/1987.

PI 647234. *Solanum lycopersicum* L.

Cultivated. Morado de Plaza; A-L-21; G 29318. Collected 06/25/1984 in Spain. Latitude 41° 4' N. Longitude 0° 7' W. Elevation 400 m. Collected from flood plain, Alcaniz, Tervel Province. Slight slope, brown soil, medium stoniness. Received through IBPGR, Rome, Italy. Fresh market type. Fruits large, violet.

PI 647235. *Solanum lycopersicum* L.

Cultivated. A-L-22; Corazon de Sadaba; G 29319. Collected 06/25/1984 in Spain. Latitude 42° 17' N. Longitude 1° 15' W. Elevation 454 m. Collected from Sadaba, Zaragoza Province. Plain level, depression site, brown soil. Received through IBPGR, Rome, Italy. Fresh market type. Fruit medium to large. Sown March, transplanted May, harvested August.

PI 647236. *Solanum lycopersicum* L.

Cultivated. A-L-30; AN-L-50; Tomate Cazorla 4; G 29320. Collected 01/15/1985 in Spain. Latitude 37° 52' N. Longitude 3° 0' W. Elevation 930 m. From a farmstore, Cazorla, Jaen Province. Mountainous, slope slight, brown soil, medium stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March (seed bed), harvested August-September. Fresh, fried type. Landrace.

PI 647237. *Solanum lycopersicum* L.

Cultivated. AN-L-51; Tomate Cazorla 3; G 29321. Collected 01/15/1985 in Spain. Latitude 37° 52' N. Longitude 3° 0' W. Elevation 930 m. From a farmstore, Cazorla, Jaen Province. Mountainous, slope slight, brown soil, medium stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March (seed bed), harvested August-September. Fresh, fried type. Landrace.

PI 647238. *Solanum lycopersicum* L.

Landrace. AN-L-52; Tomate Cazorla 2; G 29322. Collected 01/15/1985 in Spain. Latitude 37° 52' N. Longitude 3° 0' W. Elevation 930 m. From a farmstore, Cazorla, Jaen Province. Received through IBPGR, Rome, Italy. Landrace.

PI 647239. *Solanum lycopersicum* L.

Landrace. AN-L-54; Tomate de Badajoz; G 29323. Collected 11/19/1985 in Spain. Latitude 37° 26' N. Longitude 3° 55' W. Elevation 900 m. From farmstore, Alcala la Real (Santa Ana), Jaen Province. Received through IBPGR, Rome, Italy. Landrace. Sown March (seed bed), harvested August-September. Used in salads, fried type.

PI 647240. *Solanum lycopersicum* L.

Landrace. AN-L-55; Tomate Gordo Borondo; G 29324. Collected 11/19/1985 in Spain. Latitude 37° 26' N. Longitude 3° 55' W. Elevation 900 m. From farmstore, Alcala la Real (Santa Ana), Jaen Province. Undulating, slope site, brown and red clay soil, medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Landrace. Sown March (seed bed), harvested August-September. Used in salads, fried type.

- PI 647241. *Solanum lycopersicum* L.**
Landrace. AN-L-56; Tomate Bocondo; G 29325. Collected 11/19/1985 in Spain. Latitude 37° 26' N. Longitude 3° 55' W. Elevation 900 m. From farmstore, Alcala la Real (Santa Ana), Jaen Province. Undulating, slope site, brown and red clay soil, medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Landrace. Sown March (seed bed), harvested August-September. Used in salads, fried type.
- PI 647242. *Solanum lycopersicum* L.**
Landrace. AN-L-57; Tomate Alicantino; G 29326. Collected 11/20/1985 in Spain. Latitude 37° 42' N. Longitude 3° 56' W. Elevation 630 m. From farmstore, 15km from Hartos towards La Ribera, Jaen Province. Hilly, slope site, brown and red silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Landrace. Sown February-March, harvested August-September. Used in salads, fried type.
- PI 647243. *Solanum lycopersicum* L.**
Landrace. AN-L-58; Tomate Negro; G 29327. Collected 11/21/1985 in Spain. Latitude 38° 3' N. Longitude 4° 12' W. Elevation 200 m. From farmstore, Marmolejo, Jaen Province. Undulating, level site, brown and red clay soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Landrace. Sown January (seed bed), harvested June. Used in salads, fried type.
- PI 647244. *Solanum lycopersicum* L.**
Landrace. AN-L-62; Tomate; G 29328. Collected 11/22/1985 in Spain. Latitude 38° 1' N. Longitude 3° 20' W. Elevation 757 m. Undulating, level site, brown clay soil, low stoniness, good drainage, farmstore, Ubeda, Jaen Province. Received through IBPGR, Rome, Italy.
- PI 647245. *Solanum lycopersicum* L.**
Landrace. AN-L-63; Tomate de Secano; G 29329. Collected 11/22/1985 in Spain. Latitude 38° 7' N. Longitude 3° 17' W. Elevation 340 m. From farmstore, Sabiote, Jaen Province. Mountainous, slope site, brown clay soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March, harvested August/September. Salad, fried type.
- PI 647246. *Solanum lycopersicum* L.**
Landrace. AN-L-64; Tomate de Mata Corto; G 29330. Collected 11/22/1985 in Spain. Latitude 38° 7' N. Longitude 3° 17' W. Elevation 340 m. From farmstore, Ubeda, Jaen Province. Mountainous, level site, brown clay soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March (seed bed), harvested August/September. Salad, fried type.
- PI 647247. *Solanum lycopersicum* L.**
Landrace. AN-L-65; G 29331. Collected 11/22/1985 in Spain. Latitude 38° 5' N. Longitude 3° 30' W. Elevation 350 m. From farmstore, Canena, Jaen Province. Undulating, level site, brown clay soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown January (seed bed), harvested July. Salad, fried type.
- PI 647248. *Solanum lycopersicum* L.**
Landrace. AN-L-66; Tomate Gordo; G 29332. Collected 11/22/1985 in Spain. Latitude 38° 5' N. Longitude 3° 30' W. Elevation 550 m. From farmstore, Canena, Jaen Province. Undulating, level site, brown clay

soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown January (seed bed), harvested July. Salad, fried type.

PI 647249. *Solanum lycopersicum* L.

Landrace. AN-L-68; Tomate; G 29334. Collected 11/23/1984 in Spain. Latitude 37° 52' N. Longitude 3° 0' W. Elevation 930 m. Mountainous, slope site, brown soil, medium stoniness, good drainage, farmstore, Cazorla, Jaen Province. Received through IBPGR, Rome, Italy. Sown March, harvested August/September. Salad, fried type.

PI 647250. *Solanum lycopersicum* L.

Landrace. AN-L-70; Tomate Chato; G 29335. Collected 11/02/1984 in Spain. Latitude 37° 9' N. Longitude 3° 26' W. Elevation 1084 m. From farmstore, Guedar Sierra, Granada province. Mountainous, brown soil. Received through IBPGR, Rome, Italy. Sown May, harvested September-October. Fresh market type.

PI 647251. *Solanum lycopersicum* L.

Landrace. AN-L-71; G 29336. Collected 11/02/1984 in Spain. Latitude 37° 9' N. Longitude 3° 26' W. Elevation 1084 m. From farmstore, Guedar Sierra, Granada province. Mountainous, brown soil. Received through IBPGR, Rome, Italy. Sown May, harvested September-October. Fresh market type.

PI 647252. *Solanum lycopersicum* L.

Landrace. AN-L-72; Tomate Huevo de Toro; G 29337. Collected 01/24/1985 in Spain. Latitude 37° 0' N. Longitude 3° 40' W. Elevation 697 m. From farmstore, Gabia, Granada province. Plain level, brown silt soil. Received through IBPGR, Rome, Italy. Sown April, harvested August-September. Fresh market type.

PI 647253. *Solanum lycopersicum* L.

Landrace. AN-L-74; Tomate Kaki; G 29338. Collected 01/25/1985 in Spain. Latitude 37° 11' N. Longitude 3° 42' W. Elevation 580 m. From farmstore, 0.5km from Santa Fe, Granada province. Level site, brown silt soil. Received through IBPGR, Rome, Italy. Sown April, harvested August-September. Fresh market type.

PI 647254. *Solanum lycopersicum* L.

Landrace. AN-L-75; Tomate de Pera; G 29339. Collected 01/25/1985 in Spain. Latitude 37° 11' N. Longitude 3° 42' W. Elevation 580 m. From farmstore, 0.5km from Santa Fe, Granada province. Plain level, brown silt soil. Received through IBPGR, Rome, Italy. Sown April, harvested August-September. Fresh market type.

PI 647255. *Solanum lycopersicum* L.

Landrace. AN-L-76; Tomate Melillero; G 29340. Collected 01/25/1985 in Spain. Latitude 37° 11' N. Longitude 3° 42' W. Elevation 580 m. From farmstore, 0.5km from Santa Fe, Granada province. Plain level, brown silt soil. Received through IBPGR, Rome, Italy. Sown April, harvested August-September. Fresh market type.

PI 647256. *Solanum lycopersicum* L.

Landrace. AN-L-77; Tomate (Monte Bajo); G 29341. Collected 01/25/1985 in Spain. Latitude 37° 11' N. Longitude 3° 42' W. Elevation 580 m. From farmstore, 0.5km from Santa Fe, Granada province. Received through

IBPGR, Rome, Italy. Sown April, harvested August-September. Fresh market type.

PI 647257. *Solanum lycopersicum* L.

Landrace. AN-L-78; Tomate Gordo; G 29342. Collected 01/26/1985 in Spain. Latitude 37° 10' N. Longitude 3° 57' W. Elevation 619 m. From farmstore, Moraleda, Granada province. Hilly, brown clay soil. Received through IBPGR, Rome, Italy. Sown April, harvested August-September. Fresh market type.

PI 647258. *Solanum lycopersicum* L.

Landrace. AN-L-83; Tomate Rosa; G 29343. Collected 11/28/1984 in Spain. Latitude 37° 40' N. Longitude 4° 55' W. Elevation 213 m. From farmstore, La Carlota, Granada province. Undulating, level site, brown soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Salad and fried type.

PI 647259. *Solanum lycopersicum* L.

Landrace. AN-L-86; Tomate Melillero; G 29344. Collected 11/28/1984 in Spain. Latitude 37° 40' N. Longitude 4° 55' W. Elevation 213 m. From farmstore, La Carlota, Granada province. Undulating, level site, brown soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Salad and fried type.

PI 647260. *Solanum lycopersicum* L.

Landrace. AN-L-87; Muchamiel; G 29345. Collected 11/15/1984 in Spain. Latitude 37° 23' N. Longitude 4° 45' W. Elevation 171 m. From farmstore, Puente Genil, Cordoba province. Undulating, depression site, brown silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647261. *Solanum lycopersicum* L.

Landrace. AN-L-88; Gordo del Toreno; G 29346. Collected 11/15/1984 in Spain. Latitude 37° 23' N. Longitude 4° 45' W. Elevation 171 m. From farmstore, Puente Genil, Cordoba province. Undulating, depression site, brown silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647262. *Solanum lycopersicum* L.

Landrace. AN-L-89; Melillero; G 29347. Collected 11/15/1984 in Spain. Latitude 37° 23' N. Longitude 4° 45' W. Elevation 171 m. From farmstore, Puente Genil, Cordoba province. Undulating, depression site, brown silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647263. *Solanum lycopersicum* L.

Landrace. AN-L-90; Pimiento Largo; G 29348. Collected 11/27/1984 in Spain. Latitude 37° 25' N. Longitude 4° 30' W. Elevation 483 m. From farmstore, Jauda, Cordoba province. Undulating, depression site, brown silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647264. *Solanum lycopersicum* L.

Landrace. AN-L-92; De Casta; G 29349. Collected 11/27/1984 in Spain. Latitude 37° 25' N. Longitude 4° 30' W. Elevation 171 m. From farmstore, Jauda, Cordoba province. Undulating, depression site, brown

silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647265. *Solanum lycopersicum* L.

Landrace. AN-L-93; Melillero; G 29350. Collected 11/27/1984 in Spain. Latitude 37° 25' N. Longitude 4° 30' W. Elevation 483 m. From farmstore, Jauda, Cordoba province. Undulating, depression site, brown silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647266. *Solanum lycopersicum* L.

Landrace. AN-L-94; Tomate Carne de Doncella; G 29351. Collected 11/13/1984 in Spain. Latitude 37° 28' N. Longitude 4° 25' W. Elevation 448 m. From farmstore, Cabra, Cordoba province. Undulating, whitish soil. Received through IBPGR, Rome, Italy. Sown February, harvested July. Fried and fresh type.

PI 647267. *Solanum lycopersicum* L.

Landrace. AN-L-97; Grande de Pantones; G 29353. Collected 11/02/1984 in Spain. Latitude 38° 14' N. Longitude 2° 53' W. Elevation 1080 m. Collected from farmland, 2.5km E of Pantones, Jaen Province. Brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested July. Salad type.

PI 647268. *Solanum lycopersicum* L.

Landrace. AN-L-98; Pequeno de Pantones; G 29354. Collected 11/02/1984 in Spain. Latitude 38° 14' N. Longitude 2° 53' W. Elevation 1080 m. Collected from farmland, 2.5km E of Pantones, Jaen Province. Plain level, level site, brown loam soil, low-medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown August, harvested November. Salad , stew type.

PI 647269. *Solanum lycopersicum* L.

Landrace. AN-L-100; Negro de Silex; G 29355. Collected 11/03/1984 in Spain. Latitude 38° 20' N. Longitude 0° 47' W. Elevation 1300 m. Collected from farmland, 6km E of Silex, Jaen Province. Undulating, slope site, brown loam soil, medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown August, harvested November. Salad , stew type.

PI 647270. *Solanum lycopersicum* L.

Landrace. AN-L-102; Tomate; G 29356. Collected 03/04/1985 in Spain. Latitude 37° 20' N. Longitude 6° 59' W. Elevation 60 m. Collected from farmland, Gibraleon, Huelva Province. Plain level, level site, black, clay-silt-highly organic soil, moderate drainage. Received through IBPGR, Rome, Italy. Used for consumption. Plants creeping, high performance. Fruit large.

PI 647271. *Solanum lycopersicum* L.

Landrace. AN-L-103; G 29357. Collected 03/04/1985 in Spain. Latitude 37° 20' N. Longitude 6° 59' W. Elevation 35 m. Collected from farmland, Gibraleon, Huelva Province. Plain level, level site, black, clay-silt-highly organic soil, moderate drainage. Received through IBPGR, Rome, Italy.

- PI 647272. *Solanum lycopersicum* L.**
Landrace. AN-L-110; G 29359. Collected 03/06/1985 in Spain. Latitude 37° 50' N. Longitude 6° 50' W. Elevation 690 m. From a farmstore, Cortegana, Huelva Province. Mountainous, depression site, black and brown loam soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy.
- PI 647273. *Solanum lycopersicum* L.**
Landrace. AN-L-113; G 29360. Collected 03/06/1985 in Spain. Received through IBPGR, Rome, Italy.
- PI 647274. *Solanum lycopersicum* L.**
Landrace. AN-L-114; G 29361. Collected 03/06/1985 in Spain. Latitude 37° 50' N. Longitude 6° 50' W. Elevation 690 m. From a farmstore, Cortegana, Huelva Province. Mountainous, depression site, black and brown loam soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy.
- PI 647275. *Solanum lycopersicum* L.**
Landrace. AN-L-115; G 29362. Collected 03/06/1985 in Spain. Latitude 37° 50' N. Longitude 6° 50' W. Elevation 690 m. From a farmstore, Cortegana, Huelva Province. Mountainous, depression site, black and brown loam soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy.
- PI 647276. *Solanum lycopersicum* L.**
Landrace. AN-L-116; G 29363. Collected 03/06/1985 in Spain. Latitude 37° 50' N. Longitude 6° 50' W. Elevation 690 m. From a farmstore, Cortegana, Huelva Province. Mountainous, depression site, brown loam soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy.
- PI 647277. *Solanum lycopersicum* L.**
Landrace. AN-L-117; G 29364. Collected 03/06/1985 in Spain. Latitude 37° 50' N. Longitude 6° 50' W. Elevation 690 m. From a farmstore, Cortegana, Huelva Province. Mountainous, depression site, brown loam soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy.
- PI 647278. *Solanum lycopersicum* L.**
Landrace. AN-L-118; Tomate; G 29365. Collected 03/06/1985 in Spain. Latitude 37° 50' N. Longitude 6° 50' W. Elevation 690 m. From a farmstore, Cortegana, Huelva Province. Mountainous, depression site, brown loam soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy.
- PI 647279. *Solanum lycopersicum* L.**
Cultivated. B-L-1; Sidereta; G 29366. Collected 06/25/1984 in Spain. Latitude 40° 0' N. Longitude 3° 48' W. Elevation 20 m. From Ciudad de la Menorca, Baleares Province. Received through IBPGR, Rome, Italy.
- PI 647280. *Solanum lycopersicum* L.**
Cultivated. B-L-2; Ferro; G 29367. Collected 06/25/1984 in Spain. Latitude 39° 35' N. Longitude 3° 12' W. Elevation 110 m. From

Manacor (Mallorca), Balears Province. Plain level, red soil. Received through IBPGR, Rome, Italy. Fried, salad type. Fruits rounded, flattened, rosy color.

PI 647281. *Solanum lycopersicum* L.

Cultivated. B-L-3; Banyabufar; G 29368. Collected 06/25/1984 in Spain. Latitude 39° 35' N. Longitude 3° 12' W. Elevation 110 m. From Manacor (Mallorca), Balears Province. Plain level, level site, brown clay soil, medium stoniness, good drainage. Received through IBPGR, Rome, Italy.

PI 647282. *Solanum lycopersicum* L.

Cultivated. B-L-4; Tomate de Pera; G 29369. Collected 06/25/1984 in Spain. From Menorca, Balears Province. Received through IBPGR, Rome, Italy.

PI 647283. *Solanum lycopersicum* L.

Cultivated. B-L-5; G 29370. Collected 06/25/1984 in Spain. From Menorca, Balears Province. Received through IBPGR, Rome, Italy.

PI 647284. *Solanum lycopersicum* L.

Cultivated. B-L-6; Ferro; G 29371. Collected 06/25/1984 in Spain. From Menorca, Balears Province. Received through IBPGR, Rome, Italy.

PI 647285. *Solanum lycopersicum* L.

Cultivated. C-L-30; Poma; G 29372. Collected 12/01/1984 in Spain. Latitude 41° 5' N. Longitude 2° 7' W. Elevation 190 m. From Sabadell, Barcelona Province. Received through IBPGR, Rome, Italy.

PI 647286. *Solanum lycopersicum* L.

Cultivated. C-L-31; C-L-34; Rosa (Montserrat); G 29373. Collected 12/01/1984 in Spain. Latitude 41° 59' N. Longitude 2° 10' W. Elevation 241 m. From Santurenat, Barcelona province. Received through IBPGR, Rome, Italy.

PI 647287. *Solanum lycopersicum* L.

Cultivated. C-L-35; Pometa plecia; G 29374. Collected 12/01/1984 in Spain. Latitude 41° 5' N. Longitude 2° 7' W. Elevation 190 m. From Sabadell, Barcelona Province. Received through IBPGR, Rome, Italy.

PI 647288. *Solanum lycopersicum* L.

Cultivated. C-L-37; Caprollet; G 29375. Collected 12/01/1984 in Spain. Latitude 41° 14' N. Longitude 1° 35' W. Elevation 387 m. From Llaraneres, Barcelona Province. Received through IBPGR, Rome, Italy.

PI 647289. *Solanum lycopersicum* L.

Cultivated. C-L-38; Rosa (Montserrat); G 29376. Collected 12/01/1984 in Spain. Latitude 41° 5' N. Longitude 2° 7' W. Elevation 190 m. From Sabadell, Barcelona Province. Received through IBPGR, Rome, Italy.

PI 647290. *Solanum lycopersicum* L.

Cultivated. C-L-39; Penjar; G 29377. Collected 12/01/1984 in Spain. Latitude 41° 3' N. Longitude 2° 4' W. Elevation 188 m. From Saint Quirze, Barcelona Province. Received through IBPGR, Rome, Italy.

PI 647291. *Solanum lycopersicum* L.

Cultivated. C-L-50; G 29378. Collected 12/01/1984 in Spain. Latitude

41° 8' N. Longitude 2° 10' W. Elevation 130 m. From Palau de Plesamay, Barcelona Province. Received through IBPGR, Rome, Italy.

PI 647292. *Solanum lycopersicum* L.

Cultivated. C-L-54; Tomate de Penjar; G 29379. Collected 02/13/1985 in Spain. Latitude 42° 15' N. Longitude 2° 5' W. Elevation 73 m. From a farmstore, Borrassje, Gerona Province. Plain level, level site, brown soil. Received through IBPGR, Rome, Italy.

PI 647293. *Solanum lycopersicum* L.

Cultivated. C-L-55; Tomate de Penjar; G 29380. Collected 02/13/1985 in Spain. Latitude 42° 15' N. Longitude 2° 50' W. Elevation 73 m. From a farmstore, Borrassje, Gerona Province. Plain level, level site, brown soil. Received through IBPGR, Rome, Italy.

PI 647294. *Solanum lycopersicum* L.

Cultivated. C-L-57; Tomate de Penjar; G 29381. Collected 02/13/1985 in Spain. Latitude 42° 15' N. Longitude 2° 58' W. Elevation 26 m. From a farmstore, Vilabertran, Gerona Province. Plain level, level site, brown soil. Received through IBPGR, Rome, Italy.

PI 647295. *Solanum lycopersicum* L.

Cultivated. C-L-58; Tomate de Penjar; G 29382. Collected 02/13/1985 in Spain. Latitude 42° 15' N. Longitude 2° 58' W. Elevation 26 m. From a farmstore, Vilabertran, Gerona Province. Plain level, level site, brown soil. Received through IBPGR, Rome, Italy. Sown January, harvested June.

PI 647296. *Solanum lycopersicum* L.

Cultivar. C-L-59; Tomate de Penjar; G 29383. Collected 02/13/1985 in Spain. Latitude 42° 15' N. Longitude 2° 58' W. Elevation 26 m. Plain level, level site, brown soil, farmstore, Vilabertran, Gerona Province. Plain level, level site, brown soil. Received through IBPGR, Rome, Italy. Sown January, harvested July.

PI 647297. *Solanum lycopersicum* L.

Cultivar. C-L-63; Tomate de Penjar Rosa; G 29384. Collected 02/13/1985 in Spain. Latitude 42° 3' N. Longitude 3° 8' W. Elevation 31 m. From a farmstore, Torroelle, Gerona Province. Plain level, level site, brown soil. Received through IBPGR, Rome, Italy. Sown January-February, harvested summer/August/September.

PI 647298. *Solanum lycopersicum* L.

Landrace. C-L-66; Tomate de Parra; G 29385. Collected 02/13/1985 in Spain. Latitude 42° 3' N. Longitude 3° 8' W. Elevation 31 m. From a farmstore, Torroelle, Gerona Province. Plain level, level site, brown loam-highly organic soil, good drainage. Received through IBPGR, Rome, Italy. Sown January-February, harvested summer.

PI 647299. *Solanum lycopersicum* L.

Cultivar. C-L-76; Tomate de Penjar; G 29387. Collected 02/11/1985 in Spain. Latitude 41° 50' N. Longitude 2° 40' W. Elevation 142 m. From a farmstore, 6.5km from Santa Coloma de Farnes, Gerona Province. Plain level, depression site, red loam-clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown January, harvested July-August. Fresh market type.

- PI 647300. *Solanum lycopersicum* L.**
Cultivar. C-L-77; Tomate de Penjar; G 29388. Collected 02/11/1985 in Spain. Latitude 41° 50' N. Longitude 2° 40' W. Elevation 142 m. From a village market, Santa Coloma de Farnes, Gerona Province. Plain level, depression site, red loam-clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown January, harvested July-August. Fresh market type.
- PI 647301. *Solanum lycopersicum* L.**
Cultivar. C-L-78; Tomate de Penjar; G 29389. Collected 02/11/1985 in Spain. Latitude 41° 50' N. Longitude 2° 40' W. Elevation 142 m. From a village market, Santa Coloma de Farnes, Gerona Province. Plain level, depression site, red loam-clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown January, harvested July-August. Fresh market type.
- PI 647302. *Solanum lycopersicum* L.**
Cultivar. C-L-79; Tomate de Colgar; G 29390. Collected 03/28/1985 in Spain. Latitude 40° 40' N. Longitude 0° 35' W. Elevation 3 m. From Anposta, Tarragona Province. Plain level, level site, silt soil, poor drainage. Received through IBPGR, Rome, Italy. Sown April, harvested July-August. Used as food.
- PI 647303. *Solanum lycopersicum* L.**
Cultivated. C-L-80; Esquena-Vero-Rosa; G 29391. Collected 06/25/1984 in Spain. Latitude 41° 14' N. Longitude 1° 50' W. Elevation 300 m. From Manresa, Barcelona Province. Brown clay-silt soil, poor drainage. Received through IBPGR, Rome, Italy.
- PI 647304. *Solanum lycopersicum* L.**
Cultivated. C-L-81; Poma; G 29392. Collected 04/25/1984 in Spain. Latitude 41° 14' N. Longitude 1° 50' W. Elevation 300 m. From Manresa, Barcelona Province. Brown clay-silt soil, poor drainage. Received through IBPGR, Rome, Italy.
- PI 647305. *Solanum lycopersicum* L.**
Cultivated. C-L-82; Rosa o Monserrat; G 29393. Collected 06/25/1984 in Spain. Latitude 41° 14' N. Longitude 1° 50' W. Elevation 300 m. From Manresa, Barcelona Province. Brown clay-silt soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy.
- PI 647306. *Solanum lycopersicum* L.**
Cultivated. C-L-83; Palosauto; G 29394. Collected 06/25/1984 in Spain. Received through IBPGR, Rome, Italy.
- PI 647307. *Solanum lycopersicum* L.**
Cultivated. C-L-84; Tannfera; G 29395. Collected 06/25/1984 in Spain. Latitude 41° 47' N. Longitude 0° 48' W. Elevation 200 m. From Balaguer, Lerida Province. Flood plain, brown loam soil, moderate drainage. Received through IBPGR, Rome, Italy. Fruit small.
- PI 647308. *Solanum lycopersicum* L.**
Cultivated. C-L-85; Esquena Verde; G 29396. Collected 06/25/1984 in Spain. Latitude 41° 14' N. Longitude 1° 50' W. Elevation 300 m. From Manresa, Barcelona Province. Summit and depression site, brown soil. Received through IBPGR, Rome, Italy.

- PI 647309. *Solanum lycopersicum* L.**
Cultivated. C-L-86; Rauret; G 29397. Collected 06/25/1984 in Spain. Latitude 41° 47' N. Longitude 0° 48' W. Elevation 200 m. From Balaguer, Lerida Province. Level site, brown loam soil. Received through IBPGR, Rome, Italy.
- PI 647310. *Solanum lycopersicum* L.**
Cultivar. C-L-87; Perleta o Bombilla; G 29398. Collected 06/25/1984 in Spain. Latitude 41° 47' N. Longitude 0° 48' W. Elevation 200 m. From Balaguer, Lerida Province. Flood plain, level site, brown loam soil, moderate drainage. Received through IBPGR, Rome, Italy.
- PI 647311. *Solanum lycopersicum* L.**
Cultivated. C-L-88; Castell Nou; G 29399. Collected 06/25/1984 in Spain. Latitude 41° 14' N. Longitude 1° 50' W. Elevation 300 m. From Manresa, Barcelona Province. Level site, brown clay-silt soil, poor drainage. Received through IBPGR, Rome, Italy.
- PI 647312. *Solanum lycopersicum* L.**
Landrace. C-L-89; Dofolluda; G 29400. Collected 06/25/1984 in Spain. Latitude 41° 47' N. Longitude 0° 48' W. Elevation 200 m. From Balaguer, Lerida Province. Flood plain, level site, brown loam soil, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, transplanted May, harvested August. Salad type.
- PI 647313. *Solanum lycopersicum* L.**
Cultivated. C-L-90; Poma; G 29401. Collected 06/25/1984 in Spain. Latitude 42° 12' N. Longitude 0° 54' W. Elevation 560 m. From Talarn, Lerida Province. Slope site, red clay soil, medium stoniness, good drainage. Received through IBPGR, Rome, Italy. Fruits medium sized, flattened.
- PI 647314. *Solanum lycopersicum* L.**
Cultivated. C-L-91; de Lleida; G 29402. Collected 06/25/1984 in Spain. Latitude 41° 47' N. Longitude 0° 48' W. Elevation 233 m. From Balaguer, Lerida Province. Flood plain, depression site, brown loam soil, good drainage. Received through IBPGR, Rome, Italy. Fresh market type.
- PI 647315. *Solanum lycopersicum* L.**
Cultivated. C-L-92; Carrel; G 29403. Collected 06/25/1984 in Spain. Latitude 42° 12' N. Longitude 0° 54' W. Elevation 562 m. From Talarn, Lerida Province. Plain level, red clay soil, medium stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, transplanted April, harvested July-August.
- PI 647316. *Solanum lycopersicum* L.**
Cultivated. C-L-93; Rosa; G 29404. Collected 06/25/1984 in Spain. Latitude 42° 12' N. Longitude 0° 54' W. Elevation 562 m. From Talarn, Lerida Province. Flood plain, summit site, red clay soil, medium stoniness. Received through IBPGR, Rome, Italy. Fresh market type.
- PI 647317. *Solanum lycopersicum* L.**
Cultivated. CA-L-1; Tomate de Cusalada; G 29405. Collected 04/14/1987 in Spain. Latitude 28° 28' N. Longitude 16° 24' W. Elevation 510 m. From Puerto de la Madera, Tenerife Province. Received through IBPGR, Rome, Italy. Sown April-March, harvested July. Fresh market type.

- PI 647318. *Solanum lycopersicum* L.**
Cultivated. CA-L-2; Tomate Venzolano; G 29406. Collected 04/15/1987 in Spain. Latitude 28° 31' N. Longitude 16° 24' W. Elevation 510 m. From Valle de suerra, Tenerife Province. Received through IBPGR, Rome, Italy. Sown February, transplanted March-April, harvested June. Fruit large, high productivity. Salad type.
- PI 647319. *Solanum lycopersicum* L.**
Cultivated. CA-L-3; G 29407. Collected 04/15/1987 in Spain. Latitude 28° 32' N. Longitude 16° 22' W. Elevation 150 m. From farmland, Tejina de la Laguna, Tenerife Province. Received through IBPGR, Rome, Italy. Plants indeterminate.
- PI 647320. *Solanum lycopersicum* L.**
Cultivated. CA-L-4; Tomate; G 29408. Collected 04/14/1987 in Spain. Latitude 28° 20' N. Longitude 16° 23' W. Elevation 100 m. From farmland, Iguerte de Candelaria, Tenerife Province. Received through IBPGR, Rome, Italy. Sown September-October. Salad type.
- PI 647321. *Solanum lycopersicum* L.**
Landrace. CA-L-9; Tomate; G 29411. Collected 04/16/1987 in Spain. Latitude 28° 10' N. Longitude 17° 20' W. Elevation 230 m. From farmland, Valleheron, Gomera Province. Received through IBPGR, Rome, Italy.
- PI 647322. *Solanum lycopersicum* L.**
Cultivated. CA-L-10; Tomate; G 29412. Collected 04/17/1987 in Spain. Latitude 28° 5' N. Longitude 17° 15' W. Elevation 200 m. From Alajero, Gomera Province (Santa Cruz de Tenerife) Province. Received through IBPGR, Rome, Italy.
- PI 647323. *Solanum lycopersicum* L.**
Cultivated. CA-L-11; Tomate; G 29413. Collected 04/17/1987 in Spain. Latitude 28° 5' N. Longitude 17° 15' W. Elevation 200 m. From Alajero, Gomera Province (Santa Cruz de Tenerife) Province. Received through IBPGR, Rome, Italy. Commercial fresh market type.
- PI 647324. *Solanum lycopersicum* L.**
Cultivated. CA-L-12; Tomate Negro; G 29414. Collected 04/16/1987 in Spain. Latitude 28° 31' N. Longitude 16° 24' W. Elevation 150 m. From Valle Guerra, Tenerife Province. Received through IBPGR, Rome, Italy.
- PI 647325. *Solanum lycopersicum* L.**
Cultivated. CA-L-14; G 29415. Collected 04/18/1987 in Spain. Latitude 28° 7' N. Longitude 14° 16' W. From Tamaraceite, Las Palmas Province. Received through IBPGR, Rome, Italy.
- PI 647326. *Solanum lycopersicum* L.**
Cultivated. CA-L-15; G 29416. Collected 04/18/1987 in Spain. Latitude 28° 7' N. Longitude 14° 16' W. From Tamaraceite, Las Palmas Province. Received through IBPGR, Rome, Italy.
- PI 647327. *Solanum lycopersicum* L.**
Cultivated. CA-L-27; Moscatel; G 29423. Collected 04/18/1987 in Spain. Latitude 16° 28' N. Longitude 28° 28' W. From El Calraccio, Santa

Cruz de Tenerife Province. Received through IBPGR, Rome, Italy.
Volunteed plants.

PI 647328. *Solanum lycopersicum* L.

Cultivated. CA-L-30; Moscateles; G 29424. Collected 04/18/1987 in Spain. Latitude 29° 7' N. Longitude 13° 40' W. Elevation 195 m. From Tinado, Las Palmas (Lanzarota) Province. Received through IBPGR, Rome, Italy. Sown all year.

PI 647329. *Solanum lycopersicum* L.

Cultivated. CA-L-32; Tomate de Manzana Negra; G 29425. Collected 04/18/1987 in Spain. Latitude 28° 55' N. Longitude 13° 40' W. Elevation 240 m. From Montana Blanca, Las Palmas (Lanzarote) Province. Received through IBPGR, Rome, Italy. Fruits rounded, medium-sized.

PI 647330. *Solanum lycopersicum* L.

Cultivated. CA-L-34; Manzana Negra; G 29426. Collected 04/18/1987 in Spain. Latitude 29° 8' N. Longitude 13° 35' W. Elevation 360 m. From Guatize, Las Palmas (Lanzarote) Province. Received through IBPGR, Rome, Italy. Fruits rounded, small.

PI 647331. *Solanum lycopersicum* L.

Cultivated. CA-L-37; Tomate Blanco; G 29427. Collected 04/18/1987 in Spain. Latitude 28° 50' N. Longitude 13° 45' W. From Tios, Las Palmas (Lanzarote) Province. Received through IBPGR, Rome, Italy. Fruits rounded, medium sized. Plants indeterminate.

PI 647332. *Solanum lycopersicum* L.

Cultivated. CA-L-38; Tomate Manzana Negra; G 29428. Collected 04/18/1987 in Spain. Latitude 28° 52' N. Longitude 13° 50' W. Elevation 400 m. From Femes, Lanzarote Province. Received through IBPGR, Rome, Italy. Fruits medium sized.

PI 647333. *Solanum lycopersicum* L.

Cultivated. CA-L-41; Tipo Cherry; G 29431. Collected 04/18/1987 in Spain. Latitude 28° 0' N. Longitude 15° 50' W. Elevation 225 m. From Las Palmas Province. Received through IBPGR, Rome, Italy. Sown September, transplanted October, harvested January. Maturity not uniform.

PI 647334. *Solanum lycopersicum* L.

Landrace. CM-L-8; Tomate del Torreno; G 29433. Collected 02/18/1985 in Spain. Latitude 39° 20' N. Longitude 4° 12' W. Elevation 450 m. From farmland, Villataya, Albacete Province. Undulating, level site, red-clay silt soil, moderate drainage. Received through IBPGR, Rome, Italy. Sown in February, transplanted May, harvested July-August. Fresh market type. Fruit large, up to 1kg.

PI 647335. *Solanum lycopersicum* L.

Landrace. CM-L-10; Tomate Alimonado; G 29435. Collected 02/18/1985 in Spain. Latitude 39° 20' N. Longitude 1° 22' W. From farmland, Villataya, Albacete Province. Undulating, level site, red clay-silt soil, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, transplanted April-May, harvested August. Fresh market type. Fruits rounded, large.

- PI 647336. *Solanum lycopersicum* L.**
Landrace. CM-L-11; Tomate; G 29436. Collected 02/18/1985 in Spain. Latitude 39° 49' N. Longitude 1° 23' W. From farmland, Filanco, Albacete Province. Undulating, level site, orange silt soil, moderate drainage. Received through IBPGR, Rome, Italy. Sown February-April, harvested July-August. Fresh market type. Fruit round, medium-sized.
- PI 647337. *Solanum lycopersicum* L.**
Landrace. CM-L-13; Tomate; G 29437. Collected 02/18/1985 in Spain. Latitude 39° 18' N. Longitude 1° 25' W. Elevation 710 m. From farmland, Alborea, Albacete Province. Undulating, level site, sandy soil, good drainage. Received through IBPGR, Rome, Italy. Sown February-May, harvested August. Fresh market type. Fruit large .
- PI 647338. *Solanum lycopersicum* L.**
Landrace. CM-L-18; Tomate; G 29438. Collected 02/18/1985 in Spain. Latitude 39° 14' N. Longitude 1° 26' W. Elevation 600 m. From farmland, Tolosa, Albacete Province. Hilly, depression site, red clay soil, poor drainage. Received through IBPGR, Rome, Italy. Sown February-May, harvested July. Fresh market type. Fruit large to 0.5kg.
- PI 647339. *Solanum lycopersicum* L.**
Landrace. CM-L-19; Tomate; G 29439. Collected 02/18/1985 in Spain. Latitude 39° 14' N. Longitude 1° 26' W. Elevation 600 m. From Albacete Province. Hilly, depression site, red clay soil, poor drainage. Received through IBPGR, Rome, Italy. Sown February-May, harvested July. Fresh market type.
- PI 647340. *Solanum lycopersicum* L.**
Landrace. CM-L-20; Tomate; G 29440. Collected 02/18/1985 in Spain. Latitude 39° 12' N. Longitude 1° 30' W. Elevation 542 m. From farmland, La Recueja, Albacete Province. Hilly, depression site, red clay soil, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, transplanted May, harvested July. Fresh market type.
- PI 647341. *Solanum lycopersicum* L.**
Landrace. CM-L-29; Tomate; G 29441. Collected 03/11/1985 in Spain. Latitude 40° 13' N. Longitude 2° 8' W. Elevation 900 m. From farmland, Zarzuela, Cuenca Province. Hilly, level site, brown silt soil. low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March, harvested summer. Fresh market type.
- PI 647342. *Solanum lycopersicum* L.**
Landrace. CM-L-32; Tomate Redondo Liso; G 29442. Collected 03/11/1985 in Spain. Latitude 40° 12' N. Longitude 2° 10' W. Elevation 980 m. From a farmstore, Sotos, Cuenca Province. Hilly, level site, brown and red clay soil, medium stoniness, poor drainage. Received through IBPGR, Rome, Italy. Sown March, transplanted May, harvested August. Fresh market type.
- PI 647343. *Solanum lycopersicum* L.**
Landrace. CM-L-38; Tomate; G 29443. Collected 03/13/1985 in Spain. Latitude 40° 8' N. Longitude 2° 3' W. Elevation 1000 m. From a farmstore, La Hoz del Huecar, Cuenca Province. Hilly, level site, brown silt soil, good drainage. Received through IBPGR, Rome, Italy. Sown March, transplanted May, harvested July-August.

- PI 647344. *Solanum lycopersicum* L.**
 Landrace. CM-L-39; Tomate de la Tierra; G 29444. Collected 03/13/1985 in Spain. Latitude 40° 5' N. Longitude 2° 5' W. Elevation 1100 m.
 From a farmstore, Molinos de papel, Cuenca Province. Undulating, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March, transplanted April, harvested August. Fresh market type.
- PI 647345. *Solanum lycopersicum* L.**
 Landrace. CM-L-40; Tomate Tempranillo; G 29445. Collected 03/13/1985 in Spain. Latitude 40° 5' N. Longitude 2° 5' W. Elevation 1100 m.
 From a farmstore, Molinos de papel, Cuenca Province. Undulating, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March, transplanted April, harvested July-August. Fresh market type.
- PI 647346. *Solanum lycopersicum* L.**
 Landrace. CM-L-42; Tomate; G 29446. Collected 03/13/1985 in Spain. Latitude 40° 5' N. Longitude 2° 5' W. Elevation 1100 m. From a farmstore, Molinos de papel, Cuenca Province. Undulating, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Fresh market type.
- PI 647347. *Solanum lycopersicum* L.**
 Landrace. CM-L-45; Enano; G 29447. Collected 06/25/1984 in Spain. Latitude 40° 5' N. Longitude 2° 5' W. Elevation 500 m. From Yuncos, Toledo Province. Flood plain, level site, brown sand-silt soil, moderate drainage. Received through IBPGR, Rome, Italy.
- PI 647348. *Solanum lycopersicum* L.**
 Cultivated. CM-L-46; Moruno; G 29448. Collected 06/25/1984 in Spain. Latitude 40° 5' N. Longitude 4° 8' W. Elevation 500 m. From Camarena, Toledo Province. Flood plain, level site, brown sand-loam soil, good drainage. Received through IBPGR, Rome, Italy.
- PI 647349. *Solanum lycopersicum* L.**
 Cultivated. CM-L-47; Andaluz; G 29449. Collected 06/25/1984 in Spain. Latitude 40° 7' N. Longitude 3° 33' W. Elevation 650 m. From Chinchon, Madrid Province. Slope and summit site, brown soil, low stoniness. Received through IBPGR, Rome, Italy.
- PI 647350. *Solanum lycopersicum* L.**
 Cultivated. CM-L-48; Enano; G 29450. Collected 06/25/1984 in Spain. Latitude 40° 7' N. Longitude 3° 33' W. Elevation 753 m. From Chinchon, Madrid Province. Summit and depression site, brown soil, medium stoniness. Received through IBPGR, Rome, Italy. Plants determinate. Fruits round, flat, very fleshy.
- PI 647351. *Solanum lycopersicum* L.**
 Cultivated. CM-L-49; Rubio; G 29451. Collected 06/25/1984 in Spain. Latitude 40° 52' N. Longitude 6° 46' W. Elevation 485 m. From Villamiel, Toledo Province. Flood plain, depression site, brown sandy soil, good drainage. Received through IBPGR, Rome, Italy.

- PI 647352. *Solanum lycopersicum* L.**
Cultivated. CM-L-50; Tempranillo; G 29452. Collected 06/25/1984 in Spain. Latitude 40° 14' N. Longitude 4° 25' W. Elevation 533 m. From Almorox, Toledo Province. Received through IBPGR, Rome, Italy.
- PI 647353. *Solanum lycopersicum* L.**
Cultivated. CM-L-51; Moruno; G 29453. Collected 06/25/1984 in Spain. Latitude 40° 14' N. Longitude 4° 25' W. Elevation 533 m. From Almorox, Toledo. Received through IBPGR, Rome, Italy.
- PI 647354. *Solanum lycopersicum* L.**
Cultivated. "Del Pais"; CM-L-52; G 29454. Collected 06/25/1984 in Spain. Latitude 38° 42' N. Longitude 4° 9' W. Elevation 670 m. From Almodovar del Campo, Ciudad Real. Received through IBPGR, Rome, Italy.
- PI 647355. *Solanum lycopersicum* L.**
Cultivated. CM-L-53; Gordo Mingoso; G 29455. Collected 06/25/1984 in Spain. Latitude 39° 41' N. Longitude 4° 17' W. Elevation 712 m. From Galvez, Toledo Province. Received through IBPGR, Rome, Italy.
- PI 647356. *Solanum lycopersicum* L.**
Landrace. E-L-1; Tomate gordo indeterminado; G 29456. Collected 08/23/1984 in Spain. Latitude 40° 4' N. Longitude 6° 0' W. Elevation 700 m. From farmland, Hervas, Caceres Province. Hilly, depression site, brown sand-highly organic soil, medium stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested August. Fresh, fries type.
- PI 647357. *Solanum lycopersicum* L.**
Landrace. E-L-22; Rosa; G 29457. Collected 06/26/1984 in Spain. Latitude 38° 15' N. Longitude 5° 35' W. Elevation 560 m. From Cardenchose de Azuaga, Badajoz Province. Received through IBPGR, Rome, Italy. Home usage.
- PI 647358. *Solanum lycopersicum* L.**
Cultivated. "Del pais"; E-L-23; G 29458. Collected 06/26/1984 in Spain. Received through IBPGR, Rome, Italy.
- PI 647359. *Solanum lycopersicum* L.**
Cultivated. E-L-24; Melillero; G 29459. Collected 06/25/1984 in Spain. Latitude 38° 15' N. Longitude 5° 35' W. Elevation 560 m. From Cardenchose de Azuaga, Badajoz Province. Level site, brown soil, good drainage. Received through IBPGR, Rome, Italy. Sown December, transplanted April, harvested July-August.
- PI 647360. *Solanum lycopersicum* L.**
Cultivated. E-L-25; Tomate de Cuelba o colguines; Tomate de cuelga o colguines; G 29460. Collected 06/25/1984 in Spain. Latitude 38° 57' N. Longitude 5° 56' W. Elevation 251 m. From Medellin, Badajoz Province. Flood plain, depression site, brown loam soil, good drainage. Received from IBPGR, Rome, Italy. Used as decoration.
- PI 647361. *Solanum lycopersicum* L.**
Landrace. MU-L-1; Florbaladre; Flor baladre; G 29461. Collected 09/13/1984 in Spain. Received from IBPGR, Rome, Italy. Sown January-February, harvested June-July. Fresh, fried type.

- PI 647362. *Solanum lycopersicum* L.**
 Landrace. MU-L-6; Redondo murciano; G 29462. Collected 09/13/1984 in Spain. Latitude 38° 0' N. Longitude 1° 5' W. Elevation 40 m.
 From a farmstore, Llano de Brojas, Murcia Province. Received from IBPGR, Rome, Italy. Sown February, harvested May-June-July. Used for cooking and salads. Associated crops watermelon, pepper, cabbage, and pumpkin.
- PI 647363. *Solanum lycopersicum* L.**
 Landrace. MU-L-7; Tomate sperado; G 29463. Collected 09/13/1984 in Spain . Latitude 38° 4' N. Longitude 1° 7' W. Elevation 35 m. From farmland, La Cueves, Murcia Province. Plain level, level site, brown sandy loam soil. Received through IBPGR, Rome, Italy. Sown March-July, harvested August-September. Used for cooking and salads.
- PI 647364. *Solanum lycopersicum* L.**
 Landrace. MU-L-10; Tomate alargado; G 29464. Collected 09/15/1984 in Spain. Latitude 37° 58' N. Longitude 1° 9' W. Elevation 43 m.
 From farmland, Patino, Murcia Province. Plain level, slope site, brown clay soil, medium stoniness, moderate drainage. Received from IBPGR, Rome, Italy. Sown February-March, harvested May-September. Used for cooking and salads. Associated crops melon, cabbage, pumpkin, and cucumber.
- PI 647365. *Solanum lycopersicum* L.**
 Landrace. MU-L-14; Gordo redondo; G 29465. Collected 09/15/1984 in Spain. Latitude 37° 59' N. Longitude 1° 4' W. Elevation 60 m. From a farmstore, Torreajuera, Murcia Province. Plain level, level site, brown clay soil, medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested June-October. Used for cooking and salads. Associated crops melon, cabbage, and pepper.
- PI 647366. *Solanum lycopersicum* L.**
 Landrace. MU-L-15; Tomate pera; G 29466. Collected 09/16/1984 in Spain. Latitude 37° 59' N. Longitude 1° 11' W. Elevation 48 m. From farmland, Rinrou de Seca, Murcia Province. Plain level, level site, brown clay soil, low stoniness, moderate-good drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested May-September. Used for cooking and salads. Associated crops melon, eggplant, pumpkin, and pepper.
- PI 647367. *Solanum lycopersicum* L.**
 Landrace. MU-L-18; Redondo colorado; G 29467. Collected 09/16/1984 in Spain. Latitude 37° 58' N. Longitude 1° 15' W. Elevation 67 m.
 From a farmstore, Alcantarilla, Murcia Province. Plain level, level site, brown silt soil, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-August. Used for cooking and salads. Associated crops melon, pepper, cucumber, and watermelons.
- PI 647368. *Solanum lycopersicum* L.**
 Landrace. MU-L-19; De pera; G 29468. Collected 09/16/1984 in Spain. Latitude 37° 53' N. Longitude 1° 22' W. Elevation 167 m. From a farmstore, Librilla, Murcia Province. Plain level, level site, brown clay-silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown March, harvested June-October. Used for cooking and salads. Associated crops melon, pepper, eggplant, and cucumber.

- PI 647369. *Solanum lycopersicum* L.**
 Landrace. MU-L-22; De epra grueso; G 29469. Collected 09/20/1984 in Spain. Latitude 37° 59' N. Longitude 1° 12' W. Elevation 72 m. From farmland, 3km SE of Guadalupe, Murcia province. Plain level, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-September. Used for cooking and salads. Associated crops pepper, melon, eggplant, and cucumber.
- PI 647370. *Solanum lycopersicum* L.**
 Landrace. MU-L-26; Grueso; G 29471. Collected 09/21/1984 in Spain. Latitude 38° 3' N. Longitude 1° 14' W. Elevation 86 m. From a farmstore, Alguazas, Murcia Province. Plain level, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-September. Used for cooking and salads. Associated crops watermelon, eggplant, and pepper.
- PI 647371. *Solanum lycopersicum* L.**
 Landrace. MU-L-27; Pera gruesa; G 29472. Collected 09/21/1984 in Spain. Latitude 38° 4' N. Longitude 1° 15' W. Elevation 36 m. From a farmstore, Ceuh, Murcia Province. Plain level, level site, orange and yellow clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-September. Used for cooking and salads. Associated crops melon, pepper, pumpkin, and cucumber.
- PI 647372. *Solanum lycopersicum* L.**
 Landrace. MU-L-29; G 29473. Collected 09/22/1984 in Spain. Latitude 37° 49' N. Longitude 1° 26' W. Elevation 210 m. From a farmstore, Alhama (Los Payos), Murcia Province. Plain level, level site, brown clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested May-September. Salad type. Associated crops, melon, pepper, pumpkin, and cucumber.
- PI 647373. *Solanum lycopersicum* L.**
 Landrace. MU-L-30; G 29474. Collected 09/22/1984 in Spain. Latitude 37° 45' N. Longitude 1° 27' W. Elevation 220 m. From a farmstore, Totana (La Norica), Murcia Province. Plain level, level site, brown clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Salad type. Associated crops melon, pepper, eggplant, and pumpkin.
- PI 647374. *Solanum lycopersicum* L.**
 Landrace. MU-L-31; Muchamiel; G 29475. Collected 09/27/1984 in Spain. Latitude 37° 39' N. Longitude 1° 28' W. Elevation 350 m. From a farmstore, Lorca (Campillo), Murcia province. Plain level, level site, orange clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested May-September. Salad type. Associated crops melon, eggplant, pepper, and cucumber.
- PI 647375. *Solanum lycopersicum* L.**
 Landrace. MU-L-33; Muchamiel; G 29476. Collected 09/27/1984 in Spain. Latitude 37° 30' N. Longitude 1° 47' W. Elevation 280 m. From a farmstore, Almendricos, Murcia Province. Plain level, undulating, level site, orange clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-September. Stew and salad type. Associated crops pepper, melon, pumpkin, and eggplant.

- PI 647376. *Solanum lycopersicum* L.**
Landrace. MU-L-34; Muchamiel; G 29477. Collected 09/28/1984 in Spain. Latitude 37° 30' N. Longitude 1° 30' W. Elevation 85 m. From farmland, Hazarron (Morato), Murcia Province. Undulating, slope site, orange clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Stew and salad type. Associated crops melon, pumpkin, watermelon, and pepper.
- PI 647377. *Solanum lycopersicum* L.**
Cultivated. MU-L-39; Flor de Baladre; G 29478. Collected 06/25/1984 in Spain. Latitude 37° 5' N. Longitude 1° 17' W. Elevation 91 m. From Mazarron, Murcia Province. Swamp, level site, sand, yellow soil, good drainage. Received through IBPGR, Rome, Italy. Fruits elongated, large.
- PI 647378. *Solanum lycopersicum* L.**
Landrace. V-L-15; Tomate; G 29479. Collected 01/01/1984 in Spain. Received through IBPGR, Rome, Italy. Sown April, harvested September. Fresh market type.
- PI 647379. *Solanum lycopersicum* L.**
Cultivated. V-L-119; Tomate de Colgar; G 29480. Collected 01/21/1985 in Spain. Latitude 40° 17' N. Longitude 0° 2' W. Elevation 779 m. From Valencia province. Mountainous, slope site, clay, rocky. Received through IBPGR, Rome, Italy. Sown April, harvested October. Used in preserving and fresh market.
- PI 647380. *Solanum lycopersicum* L.**
Landrace. V-L-120; Tomate; G 29481. Collected 03/04/1985 in Spain. Latitude 39° 50' N. Longitude 1° 4' W. Elevation 720 m. From farmland, Titaguas, Valencia Province. Received through IBPGR, Rome, Italy. Sown March-May, harvested July.
- PI 647381. *Solanum lycopersicum* L.**
Landrace. V-L-121; Tomate Valenciano; G 29482. Collected 03/04/1985 in Spain. Latitude 39° 38' N. Longitude 0° 38' W. Elevation 164 m. From farmland, Liria, Valencia Province. Plain level, level site, brown silt soil, good drainage. Received through IBPGR, Rome, Italy. Sown February, transplanted April, harvested June-July. Salad type, self market.
- PI 647382. *Solanum lycopersicum* L.**
Cultivated. V-L-122; G 29483. Collected 03/04/1985 in Spain. Latitude 39° 38' N. Longitude 0° 38' W. Elevation 164 m. From Liria, Valencia Province. Plain level, level site, brown silt soil, good drainage. Received through IBPGR, Rome, Italy. Sown February, transplanted April, harvested June-July.
- PI 647383. *Solanum lycopersicum* L.**
Landrace. V-L-123; Tomate; G 29484. Collected 03/04/1985 in Spain. Latitude 39° 55' N. Longitude 1° 9' W. Elevation 936 m. From Aras de Alpuente, Valencia province. Plain level, level site, red clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested July. Fresh market type.

- PI 647384. *Solanum lycopersicum* L.**
Landrace. V-L-124; Primerenco; G 29485. Collected 03/04/1985 in Spain. Latitude 39° 55' N. Longitude 1° 9' W. Elevation 936 m. From farmland, Aras de Alpuente, Valencia Province. Plain level, level site, red clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown March, harvested July. Used at home and fresh market.
- PI 647385. *Solanum lycopersicum* L.**
Landrace. V-L-125; Tomate; G 29486. Collected 03/04/1985 in Spain. Latitude 39° 55' N. Longitude 1° 9' W. Elevation 936 m. From farmland, Aras de Alpuente, Valencia Province. Plain level, level site, red clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown March, harvested July-August. Used at home.
- PI 647386. *Solanum lycopersicum* L.**
Landrace. V-L-127; Tomate Morado; G 29487. Collected 03/04/1985 in Spain. Latitude 39° 55' N. Longitude 1° 9' W. Elevation 936 m. From farmland, Aras de Alpuente, Valencia Province. Plain level, level site, red clay soil, good drainage. Received through IBPGR, Rome, Italy. Sown March, harvested July. Used at home. Salad type.
- PI 647387. *Solanum lycopersicum* L.**
Landrace. V-L-128; Tomate gordo; G 29488. Collected 03/04/1985 in Spain. Latitude 39° 29' N. Longitude 0° 45' W. Elevation 340 m. From farmland, Chiva, Valencia Province. Plain level, level site, red clay soil, good drainage. Received through IBPGR, Rome, Italy.
- PI 647388. *Solanum lycopersicum* L.**
Landrace. V-L-129; Tomate; G 29489. Collected 01/01/1984 in Spain. Received through IBPGR, Rome, Italy. Sown March, harvested August.
- PI 647389. *Solanum lycopersicum* L.**
Landrace. V-L-130; Alargado; G 29490. Collected 09/29/1984 in Spain. Latitude 38° 5' N. Longitude 0° 59' W. Elevation 30 m. From farmland, Orihuela, Alicante Province. Plain level, level site, brown silt soil, good drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested May-October. Salad type, high rounded shape. Associated crop melon, pepper, eggplant, and pumpkin.
- PI 647390. *Solanum lycopersicum* L.**
Landrace. V-L-131; De La Luerta; G 29491. Collected 09/29/1984 in Spain. Latitude 38° 3' N. Longitude 0° 50' W. Elevation 15 m. From farmland, Benejuzar, Alicante Province. Plain level, level site, brown clay-silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Salad type.
- PI 647391. *Solanum lycopersicum* L.**
Landrace. V-L-132; Redondo de plara; G 29492. Collected 10/04/1984 in Spain. Latitude 38° 3' N. Longitude 0° 56' W. Elevation 28 m. From a farmstore, Hurchillo, Alicante Province. Plain level, level site, brown clay-silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Salad type. Associated crops melon, pepper, cucumber, and pumpkin.
- PI 647392. *Solanum lycopersicum* L.**
Landrace. V-L-133; Grueso; G 29493. Collected 10/04/1984 in Spain. Latitude 38° 7' N. Longitude 0° 44' W. Elevation 19 m. From

farmland, Almoradi, Alicante Province. Plain level, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Salad type. Associated crops peppers, melon, and pumpkin.

PI 647393. *Solanum lycopersicum* L.

Landrace. V-L-134; Alicantino; G 29494. Collected 10/04/1984 in Spain. Latitude 38° 8' N. Longitude 0° 48' W. Elevation 18 m. From a farmstore, Dolores, Alicante Province. Plain level, level site, brown clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Salad type. Associated crops pepper, cucumber, and pumpkin.

PI 647394. *Solanum lycopersicum* L.

Landrace. V-L-135; Cuarenton; G 29495. Collected 10/05/1984 in Spain. Received through IBPGR, Rome, Italy. Sown August, harvested October-November. Salad type. Associated crops, melon, cucumber, and pumpkin.

PI 647395. *Solanum lycopersicum* L.

Landrace. V-L-136; De San Juan; G 29496. Collected 10/05/1984 in Spain. Latitude 38° 7' N. Longitude 0° 43' W. Elevation 14 m. From a farmstore, 0.7km S of San Fulsencio, Alicante Province. Plain level, level site, brown silt soil, low stoniness, good drainage. Received through IBPGR, Rome, Italy. Sown July-August, harvested October-January. Salad type. Associated crops cucumber, melon, and pumpkin.

PI 647396. *Solanum lycopersicum* L.

Landrace. V-L-137; De Albatera; G 29497. Collected 10/06/1984 in Spain. Latitude 37° 11' N. Longitude 0° 54' W. Elevation 34 m. From farmland, 4km NE of Albatera, Alicante Province. Plain level, level site, brown clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-October. Salad type. Associated crops pepper, melon, and cucumber.

PI 647397. *Solanum lycopersicum* L.

Landrace. V-L-138; Pera Gruesa; G 29498. Collected 10/06/1984 in Spain. Latitude 38° 15' N. Longitude 0° 51' W. Elevation 36 m. From farmland-farmstore, 4.5km NW of Grevillente, Alicante Province. Plain level, level site, brown clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown August-February, harvested November-January-May. Salad type. Associated crops pepper, watermelon, and pumpkin.

PI 647398. *Solanum lycopersicum* L.

Landrace. V-L-139; Redondo de Elx; G 29499. Collected 10/25/1984 in Spain. Latitude 38° 16' N. Longitude 0° 44' W. Elevation 24 m. From a farmstore, 3km S of Elche, Alicante Province. Plain level, level site, orange and yellow loam-clay soil, medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown August, harvested November-January. Salad type.

PI 647399. *Solanum lycopersicum* L.

Landrace. V-L-141; Del pais; G 29501. Collected 10/25/1984 in Spain. Latitude 38° 23' N. Longitude 0° 48' W. Elevation 43 m. From a farmstore, 4km S of Novelda, Alicante Province. Plain level, level site, brown clay soil, low-medium stoniness, moderate drainage. Received

through IBPGR, Rome, Italy. Sown July-August, harvested October-January. Salad type. Associated crops pepper, watermelon, and cucumber.

PI 647400. *Solanum lycopersicum* L.

Landrace. V-L-142; De Elda; G 29502. Collected 10/25/1984 in Spain. Latitude 38° 28' N. Longitude 0° 50' W. Elevation 43 m. From farmland, 2km N of Elda, Alicante Province. Undulating, slope site, orange loam-clay soil, medium stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February, harvested May-September-October. Salad type. Associated crops pepper, melon, and cucumber.

PI 647401. *Solanum lycopersicum* L.

Landrace. V-L-143; De San Juan; G 29503. Collected 10/26/1984 in Spain. Latitude 38° 35' N. Longitude 0° 26' W. Elevation 3 m. From farmland, 3km S of San Juan, Alicante Province. Plain level, level site, brown silt soil, low stoniness, good-moderate drainage. Received through IBPGR, Rome, Italy. Sown February and July, harvested May and October. Salad type. Associated crops cucumber and melon.

PI 647402. *Solanum lycopersicum* L.

Landrace. V-L-144; Muchamiel; G 29504. Collected 10/26/1984 in Spain. Latitude 38° 25' N. Longitude 0° 26' W. Elevation 3 m. From a farmstore, 4km NW of San Juan, Alicante Province. Plain level, level site, orange and yellow clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown July-August, harvested September-October. Salad type. Associated crops melon, cucumber, and pepper.

PI 647403. *Solanum lycopersicum* L.

Landrace. V-L-145; Muchamiel del terreno; G 29505. Collected 10/26/1984 in Spain. Latitude 38° 26' N. Longitude 0° 24' W. Elevation 3 m. From a farmstore, 1.3km E of Campello, Alicante Province. Plain level, level site, orange clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown July, harvested October-November. Salad type. Associated crops melon and pepper.

PI 647404. *Solanum lycopersicum* L.

Landrace. V-L-146; Muchamiel; G 29506. Collected 10/26/1984 in Spain. Latitude 38° 23' N. Longitude 0° 44' W. Elevation 6 m. From a farmstore, 3km N of Muchamiel, Alicante province. Plain level, level site, brown and orange clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown July-August, harvested October-November. Salad type. Associated crops melon, pumpkin, and pepper.

PI 647405. *Solanum lycopersicum* L.

Landrace. V-L-147; De pera; G 29507. Collected 10/26/1984 in Spain. Latitude 38° 24' N. Longitude 0° 43' W. Elevation 8 m. From farmland, 6km SE of Villafruguera, Alicante province. Plain level, level site, red and orange clay soil, low stoniness, moderate drainage. Received through IBPGR, Rome, Italy. Sown February-March, harvested May-October. Salad type. Associated crops pepper, melon, and cucumber.

PI 647406. *Solanum lycopersicum* L.

Landrace. V-L-148; Muchamiel; G 29508. Collected 06/25/1984 in Spain. Latitude 38° 25' N. Longitude 0° 42' W. Elevation 50 m. From San

Juan, Alicante Province. Level site, brown soil, good drainage. Received through IBPGR, Rome, Italy. Sown March, transplanted April, harvested August.

PI 647407. *Solanum lycopersicum* L.

Uncertain. V-L-149; G 29509. Collected 06/25/1984 in Spain. Received through IBPGR, Rome, Italy.

The following were donated by T. Badra, National Horticultural Research Institute, (NIHORT), FAO, Ibadan, Oyo, Nigeria; T. Badra, National Horticultural Research Institute, (NIHORT), FAO, Ibadan, Oyo, Nigeria. Received 04/24/1990.

PI 647408. *Solanum lycopersicum* L.

Uncertain. "TE81/50"; TE B1/50; G 29549. Collected 03/02/1981 in Nigeria. Latitude 8° 30' N. Longitude 4° 26' E. Jebba, Kwara State. Days to 50 flowering 70.7. Stem flexible. Leaf attitude semi-erect. Foliage cover good. Fruit small, flattend, with strong ribbing at calyx, medium firmness, medium radial cracking, no concentric cracking. Medium fasciation. Blossom end indented. Pedical are slightly to moderately depressed. Pedical scar stellate. Weight 33.1gm. Skin yellow, flesh yellow and red and of medium intensity. Days to first and last harvest 106 and 130. Yield 14.78Mg. in 8.3 harvests. Highly tolerant to wilt, bacterial rot, leaf mold and blossom end rot. Susceptible to virus diseases and leaf spot.

PI 647409. *Solanum lycopersicum* L.

Uncertain. "TE81/63"; TE B1/63; G 29554. Collected 03/25/1981 in Nigeria. Latitude 8° 30' N. Longitude 4° 26' E. Ilorin, Kwara State. Fruit tiny, light red, flattend, corrugated, with light red shoulder.

PI 647410. *Solanum lycopersicum* L.

Uncertain. "TE81/75"; TE B1/75; G 29559. Collected 03/26/1981 in Nigeria. Latitude 8° 16' N. Longitude 4° 50' E. Ajese Ipo, Kwara State. Fruit medium, light red, greenish shoulder, flattened, corrugated, firm, with blind end.

PI 647411. *Solanum lycopersicum* L.

Uncertain. "TB82/836"; TB 82/836; G 29566. Collected 05/01/1982 in Nigeria. Latitude 8° 10' N. Longitude 4° 13' E. Ogbomosho, Oyo State. Days to 50% flowering 60. Stem type both. Leaf attitude horizontal. Foliage cover fair. Fruit very small, flattened, with strong ribbing at calyx end, medium firmness, slight radial and concentric cracking, slight fasciation, blossom end pointed, pedical area strongly depressed, pedical scar irregular. Weight 63gm. Skin yellow, flesh yellow and red, and of medium intensity. Days to first and last harvest 93 and 127. Yield 8.61Mg in 9 harvests. Highly tolerant to virus diseases, wilt, bacterial rot, leaf mold and blossom end rot, Highly susceptible to leaf spot and blight.

PI 647412. *Solanum lycopersicum* L.

Uncertain. "TB82/998"; TB 82/998-2; G 29575. Collected 01/25/1982 in Nigeria. Latitude 8° 3' N. Longitude 4° 10' E. Odo-oba, Oyo State. Days to 50% flowering 61.5. Stem both. Leaf attitude horizontal. Foliage cover good. Fruit small, slightly flattened, strong ribbing at calyx end, medium firmness, slight radial and concentric cracking.

Fasciation slight. Blossom end indented. Pedical area strongly depressed. Pedical scar irregular. Weight 40gm. Skin color yellow. Flesh tangerine and red and of medium intensity. Days to first and last harvest 91.5 and 130.5. Yield 20.87Mg in 9 harvests. Highly tolerant to wilt, bacterial rot, leaf mold and blossom end rot. Highly susceptible to blight.

PI 647413. *Solanum lycopersicum* L.

Uncertain. "TB82/998"; TB 82/998; G 29576. Collected 01/25/1982 in Nigeria. Latitude 8° 3' N. Longitude 4° 10' E. Odo-oba, Oyo State. Fruit large, fasciated, uneven ripening. Average weight 151gm.

PI 647414. *Solanum lycopersicum* L.

Uncertain. "TB82/1215"; TB 82/1215; G 29589. Collected 03/16/1982 in Nigeria. Latitude 7° 13' N. Longitude 3° 52' E. Abanla, Oyo State. Fruit elongate, light red, smooth skin, firm flesh, pointed or round ends. Average weight 95gm.

PI 647415. *Solanum lycopersicum* L.

Uncertain. "TB82/1217"; TB 82/1217; G 29591. Collected 03/16/1982 in Nigeria. Latitude 6° 54' N. Longitude 3° 40' E. Iperu, Ogun State. Days to 50% flowering 63.5. Stem type both. Leaf attitude horizontal. Foliage cover good. Fruit very small, flattened, slight ribbing at calyx end, medium firmness. Radial cracking medium, slight concentric cracking. Fasciation slight. Blossom end indented. Pedical area slightly to moderately depressed. Pedical scar stellate. Weight 34gm. Skin yellow. Flesh tangerine and red, of medium intensity. Days to first and last harvest 75.5 and 132. Yield 9.19 Mg in 8.8 harvests. Highly tolerant to virus diseases, wilt, leaf mold, bacterial rot and blossom end rot.

PI 647416. *Solanum lycopersicum* L.

Uncertain. TB 82/1392; CL 2729-0-2-1-2; G 29598. Collected 03/16/1982 in Taiwan. AVRDC, Tainan, Taiwan. Days to 50% flowering 68.5. Stem flexible. Leaf attitude semi-erect. Foliage cover fair. Fruit very small, firm, heart-shaped. No ribbing at calyx end. No radial or concentric cracking. Fasciation slight. Blossom end pointed. Pedical area flat, pedical dot shaped. Weight 37.2gm. Skin yellow. Flesh tangerine and of light intensity. Days to first and last harvest 99 and 116.5. Yield 5.89 Mg in 4.5 harvests. Highly tolerant to wilt, bacterial rot, leaf mold, and blossom end rot. Tolerant to blight. Highly susceptible to leaf spot. Moderately susceptible to virus diseases.

PI 647417. *Solanum lycopersicum* L.

Uncertain. TB 82/1392-1; CL 2729-0-2-1-2; G 29599. Collected 03/16/1982 in Taiwan. AVRDC, Tainan, Taiwan. Stem type flexible. 57 days to 50% flowering. Leaf attitude semi-erect. Foliage cover fair. Fruit very small, flattened, heart-shaped, with medium ribbing at calyx end. No radial cracking, slight concentric cracking. Fasciation slight. Blossom end indented. Pedical area slightly to moderately depressed. Pedical stellate. Weight 33.2 gm. Skin yellow. Flesh red with dark intensity. Days to first and last harvest 79.8 and 130.5. Yield 27.11Mg in 8.8 harvests. Highly tolerant to virus diseases, wilt, bacterial rot, leaf mold and blossom end rot. Susceptible to leaf spot and.

- PI 647418. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2431"; TB 82/2431; G 29603. Collected 11/08/1984 in Nigeria. Latitude 7° 10' N. Longitude 3° 21' E. Abeokuta, Ogun State. Fruit length 10 cm, circumfrunce 26cm. Average weight 125gm.
- PI 647419. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2433"; TB 82/2433; G 29604. Collected 11/08/1984 in Nigeria. Latitude 7° 10' N. Longitude 3° 21' E. Abeokuta, Ogun State. Fruit length 12 cm, circumfrunce 21cm. Average weight 90gm.
- PI 647420. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2551"; TB 82/2551; G 29605. Collected 11/08/1984 in Nigeria. Latitude 7° 9' N. Longitude 3° 40' E. Olodo, Ogun State. Fruit length 10 cm, circumfrunce 26cm. Average weight 160gm.
- PI 647421. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2562"; TB 82/2562; G 29606. Collected 11/08/1984 in Nigeria. Latitude 7° 9' N. Longitude 3° 40' E. Olodo, Ogun State. Fruit length 11.5 cm, circumference 26cm. Average weight 175gm.
- PI 647422. *Solanum lycopersicum* L.**
 Uncertain. 7-7-1; G 29607. Collected in Nigeria. NIHORT, Ibadan. Days to 50% flowering 65. Stem flexible. Leaf attitude horizontal. Foliage good. Fruit small, flattened, strong ribbing at calyx end, firm, no cracking at radial end, slight concentract cracking, fasciated, blossom end indented. Pedical area strongly depressed, pedical scar stellate. Weight 80.3 gm. Skin yellow. Flesh yellow and red. of medium intensity. Days to first and last harvest 95.8 and 130.5. Yield 18.03 in 8.5 harvests. Highly tolerant to virus diseases, wilt, leaf mold and blossom end rot. Highly susceptible to leaf spot, blight, and bacterial rot.
- PI 647423. *Solanum lycopersicum* L.**
 Uncertain. 7-7-1-2 (84); G 29608. Collected in Nigeria. NIHORT, Ibadan. Days to 50% flowering 60.3. Stem type flexible. Leaf attitude horizontal. Foliage cover good. Fruit small, flattened, strong ribbing at calyx end and firm. Radial cracking slight. No concentric cracking. Fasciated. Blossom end flat. Pedical area strongly depressed. Pedical scar linear. Weight 86 gm. Skin yellow. Flesh tangerine and red, and of medium intensity. Days to first and last harvest 97.8 and 129. Yield 20.36 Mg in 9 harvests. Highly tolerant to virus diseases, wilt, bacterial rot, leaf mold and blossom end rot. Highly susceptible to leaf spot. Tolerant to blight.
- PI 647424. *Solanum lycopersicum* L.**
 Uncertain. 7-7-1-3 (84); G 29609. Collected in Nigeria. NIHORT, Ibadan. Days to 50% flowering 58.3. Stem type both. Leaf attitude horizontal. Folage cover good. Fruit small, flattened. Strong ribbing at calyx end. Medium firmness. No radial or concentric cracking. Slight fasciation. Pedical area flat. Pedical scar stellate. Average weight 84.2. Skin yellow. Flesh tangerine and red of medium intensity. Days to first and last harvest 92 and 132. Yield 10.89 Mg in 9.5 harvests. Highly tolerant to virus diseases, wilt, bacterial rot, leaf mold, and blossom end rot, Susceptible to leaf spot and blight.
- PI 647425. *Solanum lycopersicum* L.**
 Uncertain. AS-83; G 29610.

- PI 647426. *Solanum lycopersicum* L.**
 Uncertain. IFE 1; G 29611. Collected in Nigeria. IAR & T, Ibadan. Days to 50% flowering 58.5. Stem type both. Leaf attitude horizontal. Foliage cover good, Fruit small, flattened, with strong ribbing at calyx. Flesh firm with no radial or concentric cracking. Fasciation medium. Blossom end indented. Pedical area strongly depressed. Pedical scar irregular. Average weight 91.9 gm. Skin yellow. Interior flesh yellow and red and of medium intensity. Days to first and last harvest 87 and 124.5. Yield 2.65 Mg in 8 harvests. Highly tolerant to wilt, bacterial rot, leaf mold and blossom end rot. Susceptible to virus diseases, leaf spot.
- PI 647427. *Solanum lycopersicum* L.**
 Uncertain. IFE 1-2 (84); G 29612. Days to 50% flowering 63.7. Stem flexible. Leaf attitude semi-erect. Foliage cover fair, Fruit small, slightly flattened, medium ribbing at calyx end, medium firm, no radial or concentric cracking, slight fasciation, blossom end flat, pedical area strongly depressed, pedical scar dot shaped. Average fruit 76.2 gm. Skin color yellow. Interior flesh red and of medium intensity. Days to first and last harvest 80.7 and 121.7. Yield 5.51 Mg. in 6.7 harvests. Highly tolerant to virus diseases, wilt, bacterial rot, leaf mold and blossom end rot.
- PI 647428. *Solanum lycopersicum* L.**
 Uncertain. "NHLE 158-3"; NH Le 158-3; G 29613.
- PI 647429. *Solanum lycopersicum* L.**
 Uncertain. 30-2-1-8; G 29614. Collected in Nigeria. NIHORT, Ibadan. Days to 50% flowering 63.5. Stem flexible. Leaf attitude semi-erect. Foliage cover good. Fruit small, fattened, with strong ribbing at calyx, firm, no radial cracking, slight concentric cracking, fasciated, indented at blossom end, pedical scar stellate. Average weight 80.3 gm. Skin yellow, interior flesh yellow and red, of medium intensity. Days to first and last harvest 99 and 130.5. Yield 12.23 Mg. in 8.8 harvests. Moderately susceptible to virus disease. Highly tolerant to wilt, leaf mold and blossom end rot. Highly susceptible to leaf spot, blight, and bacterial rot.
- PI 647430. *Solanum lycopersicum* L.**
 Uncertain. Ibadan Local; G 29615.
- PI 647431. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2202"; TB 84/2202; G 29618. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit large yellowish red, flattened, very deeply and fasciated. Circumference latitude 20.2 cm. Average yield 132 cm.
- PI 647432. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2203"; TB 84/2203; G 29619. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit large, yellowish red, flattened, deeply lobed with cat face. Circumference latitude 15 cm, longitude 19.5 cm. Average yield 128 gm.
- PI 647433. *Solanum lycopersicum* L.**
 Uncertain. "TB84/2204"; TB 84/2204; G 29620. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo

State. Fruit medium, red, flattened, yellowish shoulder, slightly fasciated, and distinct cracking. Circumference latitude range 13 cm to 19 cm. Average yield 78 gm.

PI 647434. *Solanum lycopersicum* L.

Uncertain. "TB84/2205"; TB 84/2205; G 29621. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit medium, red, flattened, moderately fasciated, Circumference latitude 13.5 to 14.0 cm. Average weight 52.3 gm.

PI 647435. *Solanum lycopersicum* L.

Uncertain. "TB84/2206"; TB 84/2206; G 29622. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit very large, red, flattened, slightly fasciated. Circumference latitude 19.0 cm. Average weight 160 gm.

PI 647436. *Solanum lycopersicum* L.

Uncertain. "TB84/2207"; TB 84/2207; G 29623. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit medium, red, flattened, light red shoulder, slightly fasciated. Circumference latitude 17.8 cm. Average yield 114.8 gm.

PI 647437. *Solanum lycopersicum* L.

Uncertain. "TB84/2304"; TB 84/2304; G 29624. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit large, rich red color, flattened, lobed, Length 11 cm. Circumference latitude 23 cm. Average weight 100gm. yield 114.8 gm.

PI 647438. *Solanum lycopersicum* L.

Uncertain. "TB84/2305"; TB 84/2305; G 29625. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Ibadan, Oyo State. Fruit medium, light red color, flattened, slightly cracking, Length 9 cm. Circumference latitude 20 cm. Average weight 80 gm.

PI 647439. *Solanum lycopersicum* L.

Uncertain. "TB84/2428"; TB 84/2428; G 29626. Collected 09/29/1984 in Nigeria. Latitude 7° 22' N. Longitude 3° 51' E. Abeokuta, Ogun State. Fruit length 5cm., circumference 12.5 cm. Average weight 13.3 gm.

PI 647440. *Solanum lycopersicum* L.

Uncertain. "TB84/2432"; TB 84/2432; G 29627. Collected 11/08/1984 in Nigeria. Latitude 7° 10' N. Longitude 3° 21' E. Abeokuta, Ogun State. Fruit length 5.5 cm., circumference 11 cm. Average weight 13.8 gm.

PI 647441. *Solanum lycopersicum* L.

Uncertain. TB 84/2547; G 29629. Collected 11/08/1984 in Nigeria. Latitude 7° 10' N. Longitude 3° 21' E. Olodo, Ogun Province. Fruit length 9 cm., circumference 24 cm. Average weight 120 gm.

The following were collected by David E. Williams, New York Botanical Garden, Institute of Economic Botany, Bronx, New York, United States. Received 06/19/1990.

PI 647442. *Solanum lycopersicum* L. var. *lycopersicum*

Uncertain. DEW 1030; G 29839. Collected 01/01/1990 in Bolivia.

The following were donated by Shu De Lee, Chinese Academy of Agricultural Sciences, 30 Baishigiao Rd., Beijing, Beijing 100094, China. Received 08/07/1990.

PI 647443. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Hongza No. 16"; G 29881. High solid, determinate processor.

PI 647444. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Hongza No. 20"; G 29882. High solid, indeterminate processor.

PI 647445. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Zhongza No. 4"; G 29883. TMV resistant, CMV tolerant.

PI 647446. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Zhongshu No. 4"; G 29884. TMV resistant, CMV tolerant.

The following were collected by David E. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 400, BARC-West, Beltsville, Maryland 20705-2350, United States. Donated by David E. Williams, New York Botanical Garden, Institute of Economic Botany, Bronx, New York, United States. Received 11/01/1989.

PI 647447. *Solanum lycopersicum* L.

Cultivated. 828; Tomate del lugar; G 29886. Collected 11/13/1988 in Bolivia. Latitude 11° 0' S. Longitude 68° 45' W. Elevation 200 m. From a market, Cobija, Pando Department, Nicolas Suarez province. Fruit a slightly flattened sphere, 5cm in diameter, red, firm outer flesh.

PI 647448. *Solanum lycopersicum* L.

Cultivated. 829; Tomate brasileiro; G 29887. Collected 11/13/1988 in Bolivia. Latitude 11° 0' S. Longitude 68° 45' W. Elevation 200 m. From a market, Cobija, Pando Department, Nicolas Suarez province. Fruit egg-shaped, to 8cm long, with very thick, firm flesh. Cultivated locally.

PI 647449. *Solanum lycopersicum* L.

Cultivated. 849; Tomate churiqui; G 29888. Collected 11/18/1988 in Bolivia. Latitude 11° 1' S. Longitude 66° 8' W. Elevation 135 m. From a market at the Puerto de la Capitauia, Riberalta, Beni Department, Vaca Diez Province. Fruits irregular, ribbed, often with sunken pedicel insertion, dark pink, to 8cm diameter. Many carpelled, fleshy pulp. Cultivated locally.

PI 647450. *Solanum lycopersicum* L.

Cultivated. 716; Tomate criollo; G 29889. Collected 10/01/1988 in Bolivia. Latitude 14° 45' S. Longitude 66° 40' W. Elevation 135 m. From Comunidad Totaizal, 50km NE of Sn. Borja on road to San Ignacio, Beni Dept., Yacuma Province. Fruits pink, semi-spherical, somewhat flattened, and ribbed. Cultivated locally by colonists.

PI 647451. *Solanum lycopersicum* L.

Cultivated. 750; Tomate del lugar; G 29890. Collected 10/15/1988 in Bolivia. Latitude 14° 30' S. Longitude 67° 30' W. Elevation 320 m. From Carmen Florida, small hamlet approx. 5km upriver from Rurrenabaque on R bank of Rio Beni, Beni Dept., Ballivian Province. Fruits dark pink, spherical, 3cm in diameter. Plant vining along ground in chacos. Cultivated for sale in local market.

PI 647452. *Solanum lycopersicum* L.

Cultivated. 775; Tomate Criollo; Tomate crillo; G 29891. Collected 10/24/1988 in Bolivia. Latitude 14° 15' S. Longitude 68° 10' W. Elevation 630 m. From dooryard gardens, San Jose de Uchupiamonas, Tacana and Quechua Indian town 35km W of Tumupasa on foot trail, on bench above Rio Tuichi, La Paz Dept., Iturralde Province. Herb, vining along ground. Flowers yellow, fruits globose, pink, to 2.5 cm in diameter. Casually cultivated in chacos and dooryard gardens by Indians.

The following were donated by George A. White, USDA-ARS, Beltsville Agricultural Research Ctr., Bldg. 001, 3rd Floor, Barc-West, Beltsville, Maryland 20705, United States; Datcho P. Shamov, Institute of Introduction and Plant Genetic Resources, Sadovo, Plovdiv 4122, Bulgaria. Received 12/18/1990.

PI 647453. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Ideal"; Temno E6968; ISN 381; G 29958.

PI 647454. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Kezkemet 815"; Temno KN2075; ISN 382; G 29959.

PI 647455. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Preslav"; Temno 88602042; ISN 384; G 29961.

PI 647456. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Yubiley"; ISN 385; Temno 88602043; G 29962.

PI 647457. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. Temno 82602131; ISN 387; ST 23; G 29964.

PI 647458. *Solanum lycopersicum* L. var. *lycopersicum*

Landrace. Temno E6734; ISN 388; G 29965; A. Kosta Perchev, Vidin.

PI 647459. *Solanum lycopersicum* L. var. *lycopersicum*

Landrace. Temno 83E2170; ISN 389; G 29966; S. Klave, Blagoevgrad.

PI 647460. *Solanum lycopersicum* L. var. *lycopersicum*

Landrace. Temno 83E1104; ISN 390; G 29967; S. Milanovo, Shumen.

PI 647461. *Solanum lycopersicum* L. var. *lycopersicum*

Landrace. Temno 83E2235; ISN 391; G 29968; S. Maritza, Sofia.

PI 647462. *Solanum lycopersicum* L. var. *lycopersicum*

Landrace. Temno 83E1217; ISN 392; G 29969; S. Prilep, Burgas.

PI 647463. *Solanum lycopersicum* L. var. *lycopersicum*

Landrace. ISN 393; Temno 83E2118; G 29970; S. Samilovo, Blagoevgrad.

The following were developed by Richard W. Robinson, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456, United States. Received 03/05/1991.

PI 647464. *Solanum lycopersicum* L. var. *lycopersicum*

Breeding. NY 402; G 30047. Pedigree - New Yorker x *L. pimpinellifolium*. Shows crack resistance and good flavor Shows crack resistance and good flavor.

The following were donated by Native Seeds Search, 2509 N. Campbell Ave. #325, Tucson, Arizona 85719, United States. Received 08/20/1991.

PI 647465. *Solanum lycopersicum* var. *cerasiforme* (Alef.) Fosberg

Cultivated. G 30149. Collected in Mexico. Dooryard gardens in Ciudad Victoria, Tamaulipas, Mexico. Small round, sweet, late fruit Small round, sweet, late fruit.

PI 647466. *Solanum lycopersicum* var. *cerasiforme* (Alef.) Fosberg

Wild. G 30150. Collected in Mexico. From southern Mexico. Chiapis Wild Tomato Chiapis Wild Tomato.

The following were donated by F.L. Payne, Cincinnati Board of Park Commissioners, 950 Eden Park Drive, Cincinnati, Ohio 45202, United States. Received 09/09/1991.

PI 647467. *Solanum lycopersicum* L. var. *lycopersicum*

Cultivar. "Mortgage Lifter"; G 30200. Also called the Purple Tomato because of its purplish red color. Fruit commonly 5" in diameter. Grows best in a clay loam soil. Produces best when nights are warm.

The following were donated by American Takii, Inc., United States. Received 11/20/1991.

PI 647468. *Solanum lycopersicum* L.

Cultivar. "Bestom F1"; G 30373.

PI 647469. *Solanum lycopersicum* L.

Cultivar. "Golden Tomboy F1"; G 30374.

PI 647470. *Solanum lycopersicum* L.

Cultivar. "Palace F1"; G 30375.

PI 647471. *Solanum lycopersicum* L.

Cultivar. "Tomboy F1"; G 30376.

PI 647472. *Solanum lycopersicum* L.

Cultivar. "Tough Boy F1"; G 30377.

The following were donated by Beijing Vegetable Research Centre, Beijing, Beijing, China. Received 12/02/1991.

- PI 647473. *Solanum lycopersicum* L.**
Cultivar. 3; G 30500; No. 1. large fruit, resistant to TMV large fruit,
resistant to TMV.
- PI 647474. *Solanum lycopersicum* L.**
Cultivar. 4; G 30501; No. 2. large fruit, resistant to TMV large fruit,
resistant to TMV.
- PI 647475. *Solanum lycopersicum* L.**
Cultivar. 5; G 30502; No. 10. large fruit, resistant to TMV large fruit,
resistant to TMV.

The following were collected by A.T. Whittimore, Kazakh Academy of Sciences,
Alma-Ata, Alma-Ata, Kazakhstan. Received 02/27/1992.

- PI 647476. *Solanum lycopersicum* L.**
Uncertain. G 30602. Collected 01/01/1992 in Alma-Ata, Kazakhstan.
Government store, Alma Ata Market, Kazakhstan.
- PI 647477. *Solanum lycopersicum* L.**
Cultivar. "Raketa"; G 30603. Collected 01/01/1992 in Alma-Ata,
Kazakhstan. Government store, Alma Ata Market, Kazakhstan.
- PI 647478. *Solanum lycopersicum* L.**
Cultivar. "Torch"; G 30604. Collected 01/01/1992 in Alma-Ata, Kazakhstan
. Government store, Alma Ata Market, Kazakhstan.
- PI 647479. *Solanum lycopersicum* L.**
Cultivar. "New Tomato"; G 30605. Collected 01/01/1992 in Alma-Ata,
Kazakhstan. Government store, Alma Ata Market, Kazakhstan.
- PI 647480. *Solanum lycopersicum* L.**
Cultivar. "BF 134"; G 30606. Collected 01/01/1992 in Alma-Ata,
Kazakhstan. Government store, Alma Ata Market, Kazakhstan.
- PI 647481. *Solanum lycopersicum* L.**
Cultivar. K-31B; G 30607. Collected 01/01/1992 in Alma-Ata, Kazakhstan.
Government store, Alma Ata Market, Kazakhstan.
- PI 647482. *Solanum lycopersicum* L.**
Cultivar. "Volgagtad"; G 30609. Collected 01/01/1992 in Alma-Ata,
Kazakhstan. Government store, Alma Ata Market, Kazakhstan.
- PI 647483. *Solanum lycopersicum* L.**
Uncertain. G 30610. Collected 01/01/1992 in Alma-Ata, Kazakhstan.
Government store, Alma Ata Market, Kazakhstan. Collective farm tomato.
- PI 647484. *Solanum lycopersicum* L.**
Uncertain. G 30611. Collected 01/01/1992 in Alma-Ata, Kazakhstan.
Government store, Alma Ata Market, Kazakhstan. A private vendor tomato.

The following were donated by Fratelli Ingegnoli, Corso Buenos Aires, 54,
Milano, Lombardy 20124, Italy. Received 04/21/1992.

- PI 647485. *Solanum lycopersicum* L.**
Cultivar. "Pomodoro Gioia Della Mensa"; G 30626. Collected in Italy.
Italian cultivar. A private vendor tomato.
- PI 647486. *Solanum lycopersicum* L.**
Cultivar. "Pomodoro Superselezione di Marmande"; G 30627. Collected in Italy.
Italian cultivar. A private vendor tomato.
- PI 647487. *Solanum lycopersicum* L.**
Cultivar. "Pomodoro San Marzano-Lampadina"; G 30628. Collected in Italy.
Italian cultivar. A private vendor tomato.
- PI 647488. *Solanum lycopersicum* L.**
Cultivar. "Pomodoro Ingegnoli Gigante Liscio"; G 30629. Collected in Italy.
Italian cultivar. A private vendor tomato.
- PI 647489. *Solanum lycopersicum* L.**
Cultivar. "Pomodoro Palla di Fuoco"; G 30630. Collected in Italy.
Italian cultivar. A private vendor tomato.
- PI 647490. *Solanum lycopersicum* L.**
Cultivar. "Pomodoro Principe Borghese"; G 30631. Collected in Italy.
Italian cultivar. A private vendor tomato.

The following were donated by Fare E. Zgjedhur, Rr. Skender Kosturi, Tirana, Albania. Received 04/21/1992.

- PI 647491. *Solanum lycopersicum* L.**
Cultivar. G 30632; IO-3324. Collected in Albania. Albanian cultivar. A private vendor tomato.
- PI 647492. *Solanum lycopersicum* L.**
Cultivar. G 30633. Collected in Albania. Pedigree - 16 X 31. Albanian cultivar. A private vendor tomato.
- PI 647493. *Solanum lycopersicum* L.**
Cultivar. G 30634; KA-651. Collected in Albania. Albanian cultivar. A private vendor tomato.
- PI 647494. *Solanum lycopersicum* L.**
Cultivar. "Fitore B"; G 30635. Collected in Albania. Albanian cultivar. A private vendor tomato.
- PI 647495. *Solanum lycopersicum* L.**
Cultivar. G 30636; 16/88. Collected in Albania. Albanian cultivar. A private vendor tomato.

The following were collected by G.F Govarova, Krymsk Plant Breeding Station, Krymsk-4, Krasnodar, Krasnodar 353330, Russian Federation. Donated by Fare E. Zgjedhur, Rr. Skender Kosturi, Tirana, Albania. Received 09/28/1992.

- PI 647496. *Solanum lycopersicum* L.**
Cultivar. "Bodarok 105"; G 30645. Collected in Kazakhstan.

The following were donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 06/18/1992.

PI 647497. *Solanum lycopersicum* L.
Cultivar. "UC134-1-1"; PC851014; G 31125.

Unknown source. Received 05/10/1993.

PI 647498. *Solanum lycopersicum* L.
Wild. G 31138.

The following were donated by Roger T. Chetelat, University of California, C.M. Rick Tomato Genetic Resources Center, Department of Vegetable Crops, Davis, California 95616, United States; P. Pasko, Germplasm Bank, Zaragoza, Spain. Received 03/28/1994.

PI 647499. *Solanum lycopersicum* L.
Cultivar. "Libohova"; LA 3146; G 31826. Collected in Albania. lge sp., lgs flat oblate, good flavor.

PI 647500. *Solanum lycopersicum* L.
Cultivar. "Saniollas"; LA 3147; G 31827. Collected in Albania. lge sp.

PI 647501. *Solanum lycopersicum* L.
Cultivar. "Zemer Kau"; LA 3148; G 31828. pink, oxheart, originally from Italy.

The following were donated by George A. White, USDA-ARS, Beltsville Agricultural Research Ctr., Bldg. 001, 3rd Floor, Barc-West, Beltsville, Maryland 20705, United States; Vegetable and Potato Research Institute, Tirana, Albania. Received 12/06/1994.

PI 647502. *Solanum lycopersicum* L.
Uncertain. "Agimi"; G 31932.

PI 647503. *Solanum lycopersicum* L.
Uncertain. "Bilishti A"; G 31933.

PI 647504. *Solanum lycopersicum* L.
Uncertain. "Bilishti B"; G 31934.

PI 647505. *Solanum lycopersicum* L.
Uncertain. "Sarreke"; G 31937.

PI 647506. *Solanum lycopersicum* L.
Uncertain. "Tirana"; G 31938.

PI 647507. *Solanum lycopersicum* L.
Uncertain. "V-93 F1 Hybrid"; G 31939.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; USDA, ARS, NCGRP, National Center for Genetic

Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States. Received 02/1992.

PI 647508. *Solanum lycopersicum* L.

Uncertain. "Peach Blow Sutton"; NSL 259719; G 31971.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1967.

PI 647509. *Solanum lycopersicum* L.

Uncertain. "Fordhook First"; NSL 27592; G 31972. Burpee's 1935 catalog.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; Charles M. Rick, University of California, Department of Vegetable Crops, Davis, California 95616, United States. Received 1985.

PI 647510. *Solanum lycopersicum* L.

Uncertain. NSL 196544; LA0652; G 31975; Chartreuse Mutant.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1971.

PI 647511. *Solanum lycopersicum* L.

Uncertain. "Large Red"; NSL 27071; NSL 27526; G 31976. Collected in Netherlands. Cheyenne Hort. Field Sta. Notes.

PI 647512. *Solanum lycopersicum* L.

Uncertain. "Bonny Best"; NSL 26900; G 31979. Burgess 1960 catalog.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 05/24/1995.

PI 647513. *Solanum lycopersicum* L.

Uncertain. "Red Pear"; 062 182 1002; G 32046.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1963.

PI 647514. *Solanum lycopersicum* L.

Cultivar. "Paradeis Treib Wunder"; NSL 27133; G 32169. Cheyenne Hort. Field Sta. Notes.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States. Received 01/17/1995.

PI 647515. *Solanum lycopersicum* L.

Cultivar. "Pomona"; NSL 27154; G 32170.

PI 647516. *Solanum lycopersicum* L.

Cultivar. "Livingston's Beauty"; NSL 27378; G 32172.

PI 647517. *Solanum lycopersicum* L.

Cultivar. "Marketeer"; NSL 27385; G 32173.

PI 647518. *Solanum lycopersicum* L.

Cultivar. "Golden Queen"; NSL 27015; G 32176.

PI 647519. *Solanum lycopersicum* L.

Cultivar. "Rosana #4"; NSL 230625; G 32177.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; Seed Research Specialists, California, United States. Received 1962.

PI 647520. *Solanum lycopersicum* L.

Uncertain. "VF 36"; NSL 20160; G 32187. SRS Commercial Growers Guide, Vol.6, p.33.

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States; USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 1963.

PI 647521. *Solanum lycopersicum* L.

Uncertain. "Gregory"; NSL 27023; G 32188. Cheyenne Hort. Field Sta. Notes.

The following were donated by Charles M. Rick, University of California, Department of Vegetable Crops, Davis, California 95616, United States. Received 1984.

PI 647522. *Solanum lycopersicum* var. *cerasiforme* (Alef.) Fosberg

Uncertain. NSL 186962; LA0337; G 32190; Cal Red Cherry.

The following were donated by Loren Wiesner, USDA, ARS, National Center for Genetic Resources Preservation, Fort Collins, Colorado 80521-4500, United States. Received 05/20/1996.

PI 647523. *Solanum lycopersicum* L.

Uncertain. "VFNT Cherry"; NSL 180621; G 32195.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 04/08/1996.

PI 647524. *Solanum lycopersicum* L.

Uncertain. "Apex 2000"; NSL 180750; G 32255.

The following were donated by Totally Tomatoes, P.O. Box 1626, Augusta, Georgia 30903, United States. Received 04/07/1997.

PI 647525. *Solanum lycopersicum* L.

Uncertain. "Banana Leaf"; Cat# 1444-00; G 32271. 75 days to maturity. Very prolific and long-lasting. The bright yellow, pointed, banana-shaped fruits, 4 inches long by 1 1/2 inches in diameter, are meaty and low in acid, making them especially good for slicing into salads. Determinate.

PI 647526. *Solanum lycopersicum* L.

Uncertain. "Brandywine"; Cat# 1230-00; G 32272. 90-100 days to maturity. This heirloom Amish variety, dating back to 1885, is generally considered to be the world's best-flavored tomato. Features extremely fine-flavored fruits with a creamy texture that are a gourmet's delight. Very vigorous, potato-leaf plants, with prolific yields of extra-large, firm, clear-skinned, light rosy pink fruits. Scrumptious fruits weigh up to 1 1/2 lbs. Indeterminate.

PI 647527. *Solanum lycopersicum* L.

Uncertain. "Liberty Bell"; Cat# 1257-00; G 32273. 80 days to maturity. The perfect tomato for gourmet stuffers, green to red in color, and shaped quite like common sweet peppers. Thick-walled fruits with low acidity hide a small seed core that is easily removed. Medium-sized, sprawling bushes yield bountiful batches of 4 to 5 oz. fruits until frost. Determinate.

PI 647528. *Solanum lycopersicum* L.

Uncertain. "Old German"; Cat# 1360-00; G 32274. 75 days to maturity. An old heirloom originally grown by the Mennonite community of Virginia and one of the best ever for slicing. Fruits are huge, often weighing 1 1/2 to 2 lbs., with an unusual boat shape. Color is golden-yellow with red to pink stripes going through to the core. Striping varies, fruit to fruit. Indeterminate; should be staked.

PI 647529. *Solanum lycopersicum* L.

Uncertain. "Pink Cherry"; Cat# 1237-00; G 32275. 85 days to maturity. Heirloom variety, featuring small, round, smooth, pinkish-red fruits, only 3/4 inch in diameter. Plants begin bearing early and produce good yields all season. It's especially good for salads and pickles. Indeterminate.

PI 647530. *Solanum lycopersicum* L.

Uncertain. "Plum Lemon"; Cat# 1361-00; G 32276. Collected in Russian Federation. 95 days to maturity. A new introduction from the St. Petersburg region of Russia, producing extremely heavy yields of bright yellow fruits, shaped like a lemon, weighing 4 to 6 oz. Unique, citrus-flavor. Indeterminate.

PI 647531. *Solanum lycopersicum* L.

Uncertain. "Riesentrabe"; Cat# 1407-00; G 32279. Collected in Germany. 70 days to maturity. An extremely unusual, German Heirloom variety which may have been grown in this country by the Pennsylvania Dutch as early as 1855. The name, which literally translates as "giant bunch of grapes", aptly describes its astounding number of flowers per cluster - as many as 350! These transform into bunches of red fruits weighing about 3/4 oz each, with a distinctive pear shape and sharp pointed end. Excellent, full-bodied flavor similar to a beefsteak, packed into fruits barely 1 1/2 inches across. Compact vines, strongly branched, with good foliage cover. Indeterminate.

PI 647532. *Solanum lycopersicum* L.

Uncertain. "Ruffled Yellow"; Cat# 1261-00; G 32280. 75-85 days to maturity. Yellow, accordion-shaped fruits, perfect for halving, hollowing out and using as salad or dessert ups. Medium to large, slightly flattened, thin-skinned fruits have excellent flavor for a variety of uses. Vigorous, sprawling vines. Indeterminate.

PI 647533. *Solanum lycopersicum* L.

Uncertain. "Sausage"; Cat# 1218-00; G 32281. 75 days to maturity. Unusually shaped tomatoes, up to 6 inches long, like huge red banana peppers. Prolific paste tomato. Fine-flavored meat excellent for catsup or sauces. Indeterminate.

PI 647534. *Solanum lycopersicum* L.

Uncertain. "Yellow Cherry"; Cat# 1248-00; G 32282. 70 days to maturity. Produces plenty of small (1/2 inch) pretty yellow fruits. Strong vines produce high yields of these yellow jewels, preferred by taste-tasters about the same percentage as for Super Sweet 100. Indeterminate.

The following were developed by Charles M. Rick, University of California, Department of Vegetable Crops, Davis, California 95616, United States. Received 04/28/1997.

PI 647535. *Solanum lycopersicum* L.

Breeding. SF; 2-311; G 32283. Pedigree - 89L2563 (SIBB).

PI 647536. *Solanum lycopersicum* L.

Breeding. F2 +/CCF; 3-805; G 32284. Pedigree - 94L0677-90P.

PI 647537. *Solanum lycopersicum* L.

Breeding. Cavern Stuffing; 89Lac; G 32285. Pedigree - 89LAC.

PI 647538. *Solanum lycopersicum* L.

Breeding. "Long John"; LA 791; G 32289. Pedigree - 93L9021 (SIBB).

PI 647539. *Solanum lycopersicum* L.

Breeding. Nicaragua; LA 1213; G 32290. Pedigree - 90L3572 MASS (SIBB).

PI 647540. *Solanum lycopersicum* L.

Breeding. Large Plum WLT; LA 3203; G 32291. Pedigree - 93L8709 MASS (SIBB).

PI 647541. *Solanum lycopersicum* L.

Breeding. EL (NIL in Ailsa Craig); LA 3738; G 32292. Pedigree - 96LAC.

The following were collected by Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States; Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 1996.

PI 647542. *Solanum lycopersicum* L.
G 32328. Collected 1996 in Albania.

PI 647543. *Solanum lycopersicum* L.
G 32329. Collected 1996 in Albania.

PI 647544. *Solanum lycopersicum* L.
G 32330. Collected 1996 in Albania.

PI 647545. *Solanum lycopersicum* L.
G 32331. Collected 1996 in Albania.

The following were developed by Clark Nicklow, Nicklow's Vegetables, Inc., P.O. Box 457, Ashland, Massachusetts 01721-0457, United States. Donated by Edward D. Cobb, Cornell University, Dept. of Plant Breeding and Biometry, 252 Emerson Hall, Ithaca, New York 14853-1902, United States. Received 11/17/1998.

PI 647546. *Solanum lycopersicum* L.
Clark Nicklow; 98-42; G 32352. Collected in Massachusetts, United States. Latitude 42° 15' N. Longitude 71° 27' W. Ashland, Massachusetts.

The following were developed by Henry M. Munger, Cornell University, Department of Plant Breeding, 252 Emerson Hall, Ithaca, New York 14853, United States. Donated by Edward D. Cobb, Cornell University, Dept. of Plant Breeding and Biometry, 252 Emerson Hall, Ithaca, New York 14853-1902, United States. Received 11/17/1998.

PI 647547. *Solanum lycopersicum* L.
"VF Gardener"; 96-1; G 32353. Pedigree - G 14227, 'Gardener'. Isogenic line of 'Gardener'. Best tasting tomato that can be grown in the Ithaca area. The fruit softens upon ripening; does not ship well. Resistant to *Verticillium* and *Fusarium* race 1.

The following were donated by Gavriush Seed Breeding Company, 2-d Hutorskaya Str. 11/1, Moscow, Moscow 103287, Russian Federation. Received 11/24/1998.

PI 647548. *Solanum lycopersicum* L.
"Blagovest"; G 32354. The best determinate hybrid for the glass and plastic houses. Maturity on 100-105 days after seedlings emergence. Plant height is 150-180 cm. First inflorescence is over (above) the 7-8 leaf; next ones - over every 1-2 leaves. Every inflorescence contains 6-8 round, smooth, even colored fruits, 100-110 grams each. Yield of one

plant is 5.0-5.5 kg. It should be planted 2.8-3.0 plants per square meter. Plants are resistant to tobacco mosaic virus, cladosporios (race 5), and fusarium (race 2).

The following were collected by J.C. Zueco; Jose M. Alvarez, Servicio de Investigacion Agraria (D.G.A.), Apartado 727, Zaragoza, Zaragoza 50080, Spain . Donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States; Fernando Nuez, Universidad Politecnica, Banco de Germoplasma, Escuela Tecnica Superior de Ingenieros Agronomos, Valencia, Valencia 46071, Spain. Received 10/04/1999.

PI 647549. *Solanum lycopersicum* L.

G 32372; G 29450. Collected 06/25/1984 in Madrid, Spain. Latitude 40° 7' N. Longitude 3° 33' W. Elevation 753 m. From Chinchon, Madrid Province. Summit and depression site, brown soil, medium stoniness. Pedigree - G 29450 90GI. Split from G 29450. Fruit is plum shaped.

PI 647550. *Solanum lycopersicum* L.

G 32373; G 29490. Collected 09/29/1999 in Alicante, Spain. Latitude 38° 5' N. Longitude 0° 59' W. Elevation 30 m. From farmland, Orihuela, Alicante Province. Plain level, level site, brown silt soil, good drainage. Pedigree - G 29490 84UO. Split from G 29490. Fruit is round.

The following were collected by H.L. Blood, Utah AES in coop. with BPI, USDA, Logan, Utah, United States. Donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States; H.L. Blood, Bureau of Plant Industry, Beltsville, Maryland, United States. Received 10/04/1999.

PI 647551. *Solanum lycopersicum* L.

PI 126913; G 32374. Collected 12/19/1937 in Peru. Latitude 7° 23' S. Longitude 79° 34' W. From the market at Pacasmayo. Pedigree - PI 126913 43OI. Split from PI 126913. Fruit is round shape.

The following were collected by Walter N. Koelz, USDA-Bureau of Plant Industry, Horticultural Crops Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350, United States. Donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States; Walter N. Koelz, USDA-Bureau of Plant Industry, Horticultural Crops Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350, United States. Received 10/04/1999.

PI 647552. *Solanum lycopersicum* L.

PI 164541; G 32375. Collected 01/01/1948 in India. Pedigree - PI 164541 49AI. Split from PI 164541. Fruit small, round (cherry).

The following were donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Nikolaos Stavropoulos, National Agricultural

Research Foundation, Agri. Res. Centre of Makedonia & Thrraki, Greek Gene Bank, Thermi, Thessaly 57001, Greece. Received 09/20/1999.

PI 647553. *Solanum lycopersicum* L.

G041; GPS 133; G 32378. Simi dwarf, round, red.

Unknown source. Received 05/01/1997.

PI 647554. *Solanum lycopersicum* L.

Landrace. Rev. Morrow's Peach; G 32401.

The following were collected by Lazar Aladzajkov, Faculty of Agricultural Research Council, University of Skopje, Skopje, Macedonia. Donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States; Lazar Aladzajkov, Faculty of Agricultural Research Council, University of Skopje, Skopje, Macedonia. Received 10/04/1999.

PI 647555. *Solanum lycopersicum* var. *cerasiforme* (Alef.) Fosberg

Uncertain. G 32402; PI 379394; Siten. Collected 01/01/1972 in Macedonia. Latitude 41° 33' 15" N. Longitude 21° 25' 51" E. Elevation 710 m. Gostirazni, Yugoslavia. Pedigree - PI 379394 740I. Split from PI 379394. Fruit is small, round (cherry) shaped.

The following were collected by Francis T. Zee, USDA, ARS, Pacific Basin Tropical Plant Genetic, Resources Management Unit, Hilo, Hawaii 96720-4487, United States. Received 05/03/2001.

PI 647556. *Solanum lycopersicum* L.

Uncertain. Tainun #6; AVRDC #6; G 32403. Collected 02/01/2001 in Taiwan. Tainan Agri. Exp. Sta., Taiwan. Grape sized fruit, similiar to 'Thomson Seedless'. Vines are tall, about 6 feet with support.

The following were donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States. Received 10/30/2000.

PI 647557. *Solanum lycopersicum* L.

PI 272941; G 32404. Collected in Guatemala. Chichicastenago. Pedigree - PI 272941 67AI. Split from PI 272941 with round fruit. This accession has small plum-shaped fruit.

Unknown source. Received 04/24/2002.

PI 647558. *Solanum lycopersicum* L.

G 32406.

Unknown source. Received 04/24/2002.

PI 647559. *Solanum lycopersicum* L.

G 32407.

Unknown source. Received 04/24/2002.

PI 647560. *Solanum lycopersicum* L.
G 32408.

Unknown source. Received 04/24/2002.

PI 647561. *Solanum lycopersicum* L.
G 32409.

Unknown source. Received 04/24/2002.

PI 647562. *Solanum lycopersicum* L.
G 32410.

Unknown source. Received 04/24/2002.

PI 647563. *Solanum lycopersicum* L.
G 32411.

Unknown source. Received 04/24/2002.

PI 647564. *Solanum lycopersicum* L.
G 32412.

Unknown source. Received 04/24/2002.

PI 647565. *Solanum lycopersicum* L.
G 32413.

Unknown source. Received 05/03/2002.

PI 647566. *Solanum lycopersicum* L.
G 32414.

Unknown source. Received 05/03/2002.

PI 647567. *Solanum lycopersicum* L.
G 32415.

Unknown source. Received 05/03/2002.

PI 647568. *Solanum lycopersicum* L.
G 32416.

The following were developed by Richard W. Robinson, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456, United States. Received 10/11/2002.

PI 647569. *Solanum lycopersicum* L.
Breeding. 02-01; G 32417.

PI 647570. *Solanum lycopersicum* L.
Breeding. 02-03; G 32418.

PI 647571. *Solanum lycopersicum* L.
Breeding. 02-05; G 32419.

PI 647572. *Solanum lycopersicum* L.
Breeding. 02-09; G 32420.

PI 647573. *Solanum lycopersicum* L.
Breeding. 02-16; G 32421.

Unknown source. Received 10/11/2002.

PI 647574. *Solanum lycopersicum* L.
Breeding. 02-17; G 32422. Developed in United States.

The following were developed by Richard W. Robinson, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456, United States. Received 10/11/2002.

PI 647575. *Solanum lycopersicum* L.
Breeding. 02-21; G 32423.

PI 647576. *Solanum lycopersicum* L.
Breeding. 02-22; G 32424.

PI 647577. *Solanum lycopersicum* L.
Breeding. 02-26; G 32425.

PI 647578. *Solanum lycopersicum* L.
Breeding. 02-30; G 32426.

PI 647579. *Solanum lycopersicum* L.
Breeding. 02-31; G 32427.

PI 647580. *Solanum lycopersicum* L.
Breeding. 02-36; G 32428.

PI 647581. *Solanum lycopersicum* L.
Breeding. 02-37; G 32429.

PI 647582. *Solanum lycopersicum* L.
Breeding. 02-41; G 32430.

PI 647583. *Solanum lycopersicum* L.
Breeding. 02-48; G 32431.

PI 647584. *Solanum lycopersicum* L.

Breeding. 02-51; G 32432.

The following were donated by G. A. Kemp, Canada Department of Agriculture, Lethbridge Research Station, Plant Science Section, Lethbridge, Alberta T1J 4B1, Canada; University of Missouri, Missouri Agr. Exp Sta., Columbia, Missouri 65201, United States; Dallas Kessler, Plant Gene Resources of Canada, Agriculture & Agri-Food Canada, 107 Science Place, Saskatoon, Saskatchewan S7N 0X2, Canada. Received 10/06/2003.

PI 647585. *Solanum lycopersicum* L.

Cultivar. "Tuckers Forcing"; I-66-1564; CN 566; G 32433. Reproductive uniformity: Pureline.

The following were donated by G. A. Kemp, Canada Department of Agriculture, Lethbridge Research Station, Plant Science Section, Lethbridge, Alberta T1J 4B1, Canada; Dallas Kessler, Plant Gene Resources of Canada, Agriculture & Agri-Food Canada, 107 Science Place, Saskatoon, Saskatchewan S7N 0X2, Canada. Received 10/06/2003.

PI 647586. *Solanum lycopersicum* L.

Cultivar. "Danmark"; CN 1348; G 32434. Reproductive uniformity: Pureline.

The following were donated by J.G. Metcalf, Smithfield Experimental Farm, Trenton, Ontario, Canada; Dallas Kessler, Plant Gene Resources of Canada, Agriculture & Agri-Food Canada, 107 Science Place, Saskatoon, Saskatchewan S7N 0X2, Canada. Received 10/06/2003.

PI 647587. *Solanum lycopersicum* L.

Cultivar. "Oahu"; CN 17683; G 32435. Reproductive uniformity: Pureline.

Unknown source. Received 01/14/1982.

PI 647588. *Fagopyrum esculentum* Moench

Cifa 3; PA 003. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647589. *Fagopyrum esculentum* Moench

Cifa 4; PA 010. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647590. *Fagopyrum esculentum* Moench

Cifa 5; PA 013. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647591. *Fagopyrum esculentum* Moench
Cifa 6; PA 014. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647592. *Fagopyrum esculentum* Moench
Cifa 7; PA 015. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647593. *Fagopyrum esculentum* Moench
Cifa 9; PA 019. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647594. *Fagopyrum esculentum* Moench
Cifa 10; Tokyo/PA 011. Collected in Canada.

Unknown source. Received 01/14/1982.

PI 647595. *Fagopyrum esculentum* Moench
Cifa 12. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647596. *Fagopyrum esculentum* Moench
Cultivar. "Pennquad"; PA 84; Cifa 16. CV-1. Collected in Pennsylvania,
United States.

Unknown source. Received 01/14/1982.

PI 647597. *Fagopyrum esculentum* Moench
Cifa 17; Takan/PA 149. Collected in Taiwan.

Unknown source. Received 01/14/1982.

PI 647598. *Fagopyrum esculentum* Moench
Cifa 18; Pulawska/PA 054. Collected in Poland.

Unknown source. Received 01/14/1982.

PI 647599. *Fagopyrum esculentum* Moench
Cifa 19; PA 056. Collected in Switzerland.

Unknown source. Received 01/14/1982.

PI 647600. Fagopyrum esculentum Moench
Cifa 20; Iwatezairai/PA 083. Collected in Japan.

Unknown source. Received 01/14/1982.

PI 647601. Fagopyrum esculentum Moench
Cifa 21; Nostrano. Collected in Italy.

Unknown source. Received 01/14/1982.

PI 647602. Fagopyrum esculentum Moench
Cifa 22; PA 144. Collected in United States.

Unknown source. Received 01/14/1982.

PI 647603. Fagopyrum esculentum Moench
Cifa 24; Sarrasin du Pays/PA 030. Collected in France.

The following were donated by Pennsylvania State University, Pennsylvania
Agricultural Experiment Station, State College, Pennsylvania, United States.
Received 01/14/1982.

PI 647604. Fagopyrum esculentum Moench
Cifa 27; PA 133.

PI 647605. Fagopyrum esculentum Moench
Cifa 28; PA 134.

PI 647606. Fagopyrum esculentum Moench
Cifa 29; PA 135.

Unknown source. Received 01/14/1982.

PI 647607. Fagopyrum esculentum Moench
Cifa 31.

Unknown source. Received 01/14/1982.

PI 647608. Fagopyrum esculentum Moench
Cifa 32.

Unknown source. Received 01/14/1982.

PI 647609. Fagopyrum esculentum Moench
Cifa 34.

Unknown source. Received 01/14/1982.

PI 647610. Fagopyrum esculentum Moench
Cifa 35.

Unknown source. Received 01/14/1982.

PI 647611. Fagopyrum esculentum Moench
Cifa 37.

Unknown source. Received 01/14/1982.

PI 647612. Fagopyrum esculentum Moench
Cifa 38.

Unknown source. Received 01/14/1982.

PI 647613. Fagopyrum esculentum Moench
Cifa 39.

Unknown source. Received 01/14/1982.

PI 647614. Fagopyrum esculentum Moench
Cifa 41.

Unknown source. Received 01/14/1982.

PI 647615. Fagopyrum esculentum Moench
Breeding. Pennline 18; PAI18; Cifa 52. PL-1. Collected in Pennsylvania,
United States.

The following were donated by Pennsylvania State University, Pennsylvania
Agricultural Experiment Station, State College, Pennsylvania, United States.
Received 1965.

PI 647616. Fagopyrum esculentum Moench
NSL 42857; Tokyo/PA 011.

The following were donated by Agriculture Canada, Agricultural Research
Station, Regina, Saskatchewan, Canada. Received 1966.

PI 647617. Fagopyrum esculentum Moench
NSL 52519; Tokyo.

The following were donated by Agriculture Canada, Research Branch, Research
Station, Unit 100-101 Route 100, Morden, Manitoba R6M 1Y5, Canada. Received
1971.

PI 647618. *Fagopyrum esculentum* Moench
NSL 80389; Tempest.

The following were donated by Agriculture Canada, Plant Science Research Institute, Central Experiment Farm, Ottawa, Ontario, Canada. Received 1972.

PI 647619. *Fagopyrum esculentum* Moench
NSL 81105; MC 033. Collected in Poland.

PI 647620. *Fagopyrum esculentum* Moench
NSL 81106; MC 034. Collected in Poland.

PI 647621. *Fagopyrum esculentum* Moench
NSL 81107; MC 035.

PI 647622. *Fagopyrum esculentum* Moench
NSL 81108; MC 036. Collected in Poland.

PI 647623. *Fagopyrum esculentum* Moench
NSL 81109; MC 037. Collected in Poland.

PI 647624. *Fagopyrum esculentum* Moench
NSL 81110; MC 038.

PI 647625. *Fagopyrum esculentum* Moench
NSL 81111; MC 039. Collected in Poland.

PI 647626. *Fagopyrum esculentum* Moench
NSL 81112; MC 042. Collected in Poland.

PI 647627. *Fagopyrum esculentum* Moench
NSL 81113; MC 043. Collected in Poland.

PI 647628. *Fagopyrum esculentum* Moench
NSL 81114; MC 044. Collected in Poland.

PI 647629. *Fagopyrum esculentum* Moench
NSL 81115; MC 045. Collected in Poland.

PI 647630. *Fagopyrum esculentum* Moench
NSL 81116; MC 046. Collected in Poland.

PI 647631. *Fagopyrum esculentum* Moench
NSL 81117; MC 047. Collected in Poland.

PI 647632. *Fagopyrum esculentum* Moench
NSL 81118; MC 048. Collected in Poland.

PI 647633. *Fagopyrum esculentum* Moench
NSL 81119; MC 049. Collected in Poland.

PI 647634. *Fagopyrum esculentum* Moench
NSL 81120; MC 174. Collected in United States.

PI 647635. *Fagopyrum esculentum* Moench
NSL 81121; MC 258. Collected in Poland.

- PI 647636. *Fagopyrum esculentum* Moench
NSL 81122; MC 052. Collected in Former Soviet Union.
- PI 647637. *Fagopyrum esculentum* Moench
NSL 81123; MC 054. Collected in Former Soviet Union.
- PI 647638. *Fagopyrum esculentum* Moench
NSL 81126; MC 060. Collected in Former Soviet Union.
- PI 647639. *Fagopyrum esculentum* Moench
NSL 81332; CD 6183.
- PI 647640. *Fagopyrum esculentum* Moench
NSL 81333; CD 7272. Collected in Czechoslovakia.
- PI 647641. *Fagopyrum esculentum* Moench
NSL 81334; CD 8217. Collected in Former Soviet Union.
- PI 647642. *Fagopyrum esculentum* Moench
NSL 81335; Aomori. Collected in Japan.
- PI 647643. *Fagopyrum esculentum* Moench
NSL 81336; Gunma Prefectura. Collected in Japan.
- PI 647644. *Fagopyrum esculentum* Moench
NSL 81337; Kanada. Collected in Japan.
- PI 647645. *Fagopyrum esculentum* Moench
NSL 81338; Japanese B+0 IR-13. Collected in Japan.
- PI 647646. *Fagopyrum esculentum* Moench
NSL 81339; Japanese B+0 IR-5.
- PI 647647. *Fagopyrum esculentum* Moench
NSL 83108; MC 040. Collected in Poland.
- PI 647648. *Fagopyrum esculentum* Moench
NSL 83109; MC 041. Collected in Poland.
- PI 647649. *Fagopyrum esculentum* Moench
NSL 83110; MC 059. Collected in Former Soviet Union.
- PI 647650. *Fagopyrum esculentum* Moench
NSL 83111; MC 256. Collected in United States.
- PI 647651. *Fagopyrum esculentum* Moench
NSL 83112; MC 257. Collected in United States.
- PI 647652. *Fagopyrum esculentum* Moench
NSL 83113; MC 259. Collected in Poland.
- PI 647653. *Fagopyrum esculentum* Moench
MC62/MOB14; NSL 83114; CD 5866. Collected in United States.
- PI 647654. *Fagopyrum esculentum* Moench
NSL 83115; CD 7273. Collected in Czechoslovakia.

- PI 647655. *Fagopyrum esculentum* Moench
NSL 83116; Chinese.
- PI 647656. *Fagopyrum esculentum* Moench
NSL 83117; Hiroshima. Collected in Japan.
- PI 647657. *Fagopyrum esculentum* Moench
NSL 83118; Iwai Zumi Zaira.
- PI 647658. *Fagopyrum esculentum* Moench
NSL 83119; Japanese.
- PI 647659. *Fagopyrum esculentum* Moench
NSL 83120; Japanese B+0-61-10.
- PI 647660. *Fagopyrum esculentum* Moench
NSL 83121; K-3401. Collected in Former Soviet Union.
- PI 647661. *Fagopyrum esculentum* Moench
NSL 83122; K-3466. Collected in Former Soviet Union.
- PI 647662. *Fagopyrum esculentum* Moench
NSL 83123; Kasho-2. Collected in Japan.
- PI 647663. *Fagopyrum esculentum* Moench
NSL 83124; Southern Chinese.
- PI 647664. *Fagopyrum esculentum* Moench
NSL 83125; Sweden-1. Collected in Sweden.
- PI 647665. *Fagopyrum esculentum* Moench
NSL 83126; Sweden-2. Collected in Sweden.
- PI 647666. *Fagopyrum esculentum* Moench
NSL 83127; Tohno Zairai.
- PI 647667. *Fagopyrum esculentum* Moench
NSL 86501; CD 1374-61-2-1-1. Collected in Former Soviet Union.
- PI 647668. *Fagopyrum esculentum* Moench
NSL 86502; CD 1374-61-4-2-5. Collected in Former Soviet Union.
- PI 647669. *Fagopyrum esculentum* Moench
NSL 86503; CD 1374-61-6-2-2. Collected in Former Soviet Union.
- PI 647670. *Fagopyrum esculentum* Moench
NSL 86504; CD 1374-61-2. Collected in Former Soviet Union.
- PI 647671. *Fagopyrum esculentum* Moench
NSL 86505; CD 7464. Collected in Former Soviet Union.
- PI 647672. *Fagopyrum esculentum* Moench
NSL 86506; K 2940. Collected in Former Soviet Union.
- PI 647673. *Fagopyrum esculentum* Moench
NSL 86507; Gornosorskaya. Collected in Former Soviet Union.

- PI 647674. *Fagopyrum esculentum* Moench**
NSL 86508; Satilovskaya 4. Collected in Former Soviet Union.
- PI 647675. *Fagopyrum esculentum* Moench**
NSL 86509; Odesskaya. Collected in Former Soviet Union.
- PI 647676. *Fagopyrum esculentum* Moench**
NSL 86510; Kesho-2. Collected in Japan.
- PI 647677. *Fagopyrum esculentum* Moench**
NSL 86511; Silverhull 24.
- PI 647678. *Fagopyrum esculentum* Moench**
NSL 86512; MB 1.
- PI 647679. *Fagopyrum esculentum* Moench**
NSL 86513; Chitinskaya. Collected in Former Soviet Union.
- PI 647680. *Fagopyrum esculentum* Moench**
NSL 86514; Amurskaya. Collected in Former Soviet Union.
- PI 647681. *Fagopyrum esculentum* Moench**
NSL 86515; Slavyanka. Collected in Former Soviet Union.
- PI 647682. *Fagopyrum esculentum* Moench**
NSL 86516; Bolchevik. Collected in Former Soviet Union.
- PI 647683. *Fagopyrum esculentum* Moench**
NSL 86517; Mesteaja Olginskaja. Collected in Former Soviet Union.
- PI 647684. *Fagopyrum esculentum* Moench**
NSL 86518; Japanese. Collected in Japan.
- PI 647685. *Fagopyrum esculentum* Moench**
NSL 86519; S-1.
- PI 647686. *Fagopyrum esculentum* Moench**
NSL 86520; S-2.
- PI 647687. *Fagopyrum esculentum* Moench**
NSL 86521; S-3.

The following were donated by Pennsylvania State University, Pennsylvania Agricultural Experiment Station, State College, Pennsylvania, United States. Received 1974.

- PI 647688. *Fagopyrum esculentum* Moench**
Breeding. Pennline 10; NSL 86700. GP-1.

The following were donated by Agriculture Canada, Plant Science Research Institute, Central Experiment Farm, Ottawa, Ontario, Canada. Received 1975.

- PI 647689. *Fagopyrum esculentum* Moench**
NSL 90192; CM-116. Collected in Former Soviet Union.

- PI 647690. *Fagopyrum esculentum* Moench
NSL 90193; CM-5. Collected in Former Soviet Union.
- PI 647691. *Fagopyrum esculentum* Moench
NSL 90194; CM-4. Collected in Former Soviet Union.
- PI 647692. *Fagopyrum esculentum* Moench
NSL 90195; CM-18. Collected in Czechoslovakia.
- PI 647693. *Fagopyrum esculentum* Moench
NSL 90196; CM-152. Collected in Former Soviet Union.
- PI 647694. *Fagopyrum esculentum* Moench
NSL 90197; CM-149. Collected in Former Soviet Union.
- PI 647695. *Fagopyrum esculentum* Moench
NSL 90198; CM-151. Collected in Former Soviet Union.
- PI 647696. *Fagopyrum esculentum* Moench
NSL 90199; CM-122. Collected in Japan.
- PI 647697. *Fagopyrum esculentum* Moench
NSL 90200; CM-112. Collected in Former Soviet Union.
- PI 647698. *Fagopyrum esculentum* Moench
NSL 90201; CM-27. Collected in Japan.
- PI 647699. *Fagopyrum esculentum* Moench
NSL 90202; CM-17. Collected in Czechoslovakia.
- PI 647700. *Fagopyrum esculentum* Moench
NSL 90203; CM-131.

The following were donated by C. Campbell, Agriculture Canada Research Sta., Box 3001, Winnipeg, Manitoba, Canada. Received 1986.

- PI 647701. *Fagopyrum esculentum* Moench
Breeding. CM 221; Cifa 30; NSL 202848. GP-2.

The following were donated by USDA, ARS Tropical Agriculture Research Station, 2200 Pedro Albizu Campos Ave. Ste. 201, Mayaguez, Puerto Rico. Received 1966.

- PI 647702. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1167; NSL 50450; 65I 1208. Collected in Zambia.
- PI 647703. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3175; NSL 50455; 65I 1213. Collected in Ghana.
- PI 647704. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6713; NSL 50486; 65I 1244. Collected in Burkina Faso.
- PI 647705. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6737; NSL 50506; 65I 1264. Collected in Burkina Faso.

- PI 647706. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6743; NSL 50510; 65I 1268. Collected in Burkina Faso.
- PI 647707. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6745; NSL 50511; 65I 1269. Collected in Burkina Faso.
- PI 647708. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6779; NSL 50524; 65I 1282. Collected in Burkina Faso.
- PI 647709. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6784; NSL 50527; 65I 1285. Collected in Burkina Faso.
- PI 647710. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6792; NSL 50531; 65I 1289. Collected in Burkina Faso.
- PI 647711. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6821; NSL 50541; 65I 1299. Collected in Burkina Faso.
- PI 647712. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6822; NSL 50542; 65I 1300. Collected in Burkina Faso.
- PI 647713. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6829; NSL 50547; 65I 1305. Collected in Burkina Faso.
- PI 647714. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6831; NSL 50549; 65I 1307. Collected in Burkina Faso.
- PI 647715. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6833; NSL 50551; 65I 1309. Collected in Burkina Faso.
- PI 647716. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7421; NSL 50597; 65I 1355. Collected in Nigeria.
- PI 647717. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7443; NSL 50608; 65I 1366. Collected in Nigeria.
- PI 647718. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7165; NSL 50872; 65I 1630. Collected in Ghana.
- PI 647719. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7181; NSL 50881; 65I 1639. Collected in Gambia.
- PI 647720. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8174; NSL 50922; 65I 1680. Collected in Uganda.
- PI 647721. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3424; NSL 50998; 65I 1758. Collected in Senegal.
- PI 647722. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8257; NSL 51355; 65I 2123. Collected in Uganda.
- PI 647723. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8138; NSL 51696; 65I 2463. Collected in Uganda.
- PI 647724. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1318; NSL 51735; 65I 2503. Collected in Zambia.

- PI 647725. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8176; NSL 51738; 65I 2506. Collected in Uganda.
- PI 647726. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7100; NSL 51786; 65I 2554. Collected in Central African Republic.
- PI 647727. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7124; NSL 51907; 65I 2675. Collected in Somalia.
- PI 647728. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7101; NSL 51931; 65I 2699. Collected in Central African Republic.
- PI 647729. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7519; NSL 51966; 65I 2734. Collected in Nigeria.
- PI 647730. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7091; NSL 52117; 65I 2887. Collected in Central African Republic.
- PI 647731. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7497; NSL 52210; 65I 2982. Collected in Nigeria.
- PI 647732. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3425; NSL 52238; 65I 1005. Collected in Senegal.
- PI 647733. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3955; NSL 52240; 65I 1007. Collected in Nepal.
- PI 647734. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3956; NSL 52241; 65I 1008. Collected in Nepal.
- PI 647735. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3957; NSL 52242; 65I 1009. Collected in Nepal.
- PI 647736. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3959; NSL 52243; 65I 1010. Collected in Nepal.
- PI 647737. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3960; NSL 52244; 65I 1011. Collected in Nepal.
- PI 647738. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3786; NSL 52248; 65I 1015. Collected in Thailand.
- PI 647739. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 5166; NSL 52253; 65I 1020. Collected in Andhra Pradesh, India.
- PI 647740. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1183; NSL 52317; 65I 1084. Collected in Zambia.
- PI 647741. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 5259; NSL 52330; 65I 1098. Collected in Andhra Pradesh, India.
- PI 647742. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 5299; NSL 52331; 65I 1099. Collected in Orissa, India.
- PI 647743. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7182; 5199; NSL 54120; 66I 3017. Collected in Egypt.

- PI 647744. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7164; NSL 54247; 66I 3150. Collected in Ghana.
- PI 647745. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6710; NSL 54430; 66I 3333. Collected in Senegal.
- PI 647746. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3570; NSL 54475; 66I 3378. Collected in Sudan.
- PI 647747. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8337; NSL 54491; 66I 3394. Collected in Pakistan.
- PI 647748. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2723; NSL 54538; 66I 3440. Collected in Uganda.
- PI 647749. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7168; NSL 54575; 66I 3478. Collected in Chad.
- PI 647750. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8346; NSL 55198; 66I 4109. Collected in Pakistan.
- PI 647751. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1317; NSL 55261; 66I 4174. Collected in Tanzania.
- PI 647752. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4490; NSL 55366; 66I 4287. Collected in Madhya Pradesh, India.
- PI 647753. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8578; NSL 55979; 66I 4935. Collected in Swaziland.
- PI 647754. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8572; NSL 56025; 66I 4984. Collected in Tanzania.
- PI 647755. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8776; NSL 56027; 66I 4986. Collected in South Africa.
- PI 647756. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8950; NSL 56050; 66I 5009. Collected in Kenya.
- PI 647757. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8960; NSL 56073; 66I 5032. Collected in Kenya.
- PI 647758. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8789; NSL 56184; 66I 5145. Collected in Tanzania.
- PI 647759. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8690; NSL 56234; 66I 5196. Collected in Yemen.
- PI 647760. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9178; NSL 56248; 66I 5211. Collected in Tanzania.
- PI 647761. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8963; NSL 56290; 66I 5253. Collected in Kenya.
- PI 647762. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9051; NSL 56300; 66I 5263. Collected in Kenya.

- PI 647763. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9466; NSL 76462; 69I 6770. Collected in South Africa.
- PI 647764. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9588; NSL 76562; 69I 6887. Collected in Niger.
- PI 647765. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9590; NSL 76564; 69I 6889. Collected in Niger.
- PI 647766. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9597; 5552; NSL 76569; 69I 6896. Collected in Niger.
- PI 647767. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9890; NSL 76817; 69I 7171. Collected in Sudan.
- PI 647768. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10011; NSL 76911; 69I 7277. Collected in Ethiopia.
- PI 647769. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10234; NSL 76946; 69I 7318. Collected in Central African Republic.
- PI 647770. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10302; NSL 76973; 69I 7374. Collected in Thailand.
- PI 647771. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10328; NSL 76991; 69I 7400. Collected in Nigeria.
- PI 647772. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10396; 5701; NSL 77032; 69I 7468/IS 10396B. Collected in Uganda.
- PI 647773. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10676; NSL 77167; 69I 7709/IS 10676B. Collected in China.
- PI 647774. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10700; 5736; NSL 77182; 69I 7732. Collected in Nigeria.
- PI 647775. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10733; NSL 77206; 69I 7762. Collected in Chad.
- PI 647776. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10736; NSL 77209; 69I 7765. Collected in Chad.
- PI 647777. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10737; NSL 77210; 69I 7766. Collected in Chad.
- PI 647778. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10738; NSL 77211; 69I 7767. Collected in Chad.
- PI 647779. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10749; 5748; NSL 77219; 69I 7778. Collected in Chad.
- PI 647780. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10761; NSL 77230; 69I 7791. Collected in Chad.
- PI 647781. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10772; NSL 77241; 69I 7802. Collected in Chad.

- PI 647782. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10815; NSL 77277; 69I 7845. Collected in Chad.
- PI 647783. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10822; NSL 77281; 69I 7852. Collected in Chad.
- PI 647784. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10839; NSL 77296; 69I 7869. Collected in Chad.
- PI 647785. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 16414; NSL 82416; PURDUE NO 50633. Collected in Cameroon.
- PI 647786. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 16305; NSL 83404; PURDUE NO 50520. Collected in Cameroon.
- PI 647787. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14844; NSL 83572; PURDUE NO 49072. Collected in Cameroon.
- PI 647788. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14856; NSL 83575; PURDUE NO 49084. Collected in Cameroon.
- PI 647789. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14905; NSL 83590; PURDUE NO 49137. Collected in Cameroon.
- PI 647790. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14935; NSL 83598; PURDUE NO 49156. Collected in Cameroon.
- PI 647791. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15408; NSL 83757; PURDUE NO 49620. Collected in Cameroon.
- PI 647792. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15602; NSL 83828; PURDUE NO 49825. Collected in Cameroon.
- PI 647793. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15734; NSL 83888; PURDUE NO 49953. Collected in Cameroon.
- PI 647794. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 16157; NSL 84004; PURDUE NO 50375. Collected in Cameroon.
- PI 647795. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 237; NSL 84171; ISABELA NO 9952. Collected in China.
- PI 647796. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1331; NSL 84242; ISABELA NO 10198. Collected in Nigeria.
- PI 647797. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3433; NSL 86840; 74I 10629. Collected in Senegal.
- PI 647798. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3440; NSL 86842; 74I 10631. Collected in Sudan.
- PI 647799. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3958; NSL 86957; 74I 10765. Collected in Nepal.
- PI 647800. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 5220; NSL 87398; 74I 11342. Collected in Andhra Pradesh, India.

- PI 647801. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 5292; NSL 87409; 74I 11361. Collected in Orissa, India.
- PI 647802. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 5301; NSL 87413; 74I 11365. Collected in Orissa, India.
- PI 647803. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6741; NSL 87628; 74L 11822. Collected in Burkina Faso.
- PI 647804. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6788; NSL 87636; 74L 11839. Collected in Burkina Faso.
- PI 647805. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7158; NSL 87671; 74L 11929. Collected in Zimbabwe.
- PI 647806. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7163; NSL 87672; 74L 11930. Collected in Ghana.
- PI 647807. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7381; NSL 87692; 74L 11963. Collected in Nigeria.
- PI 647808. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8347; NSL 87783; 74L 12164. Collected in Pakistan.
- PI 647809. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8647; NSL 87802; 74L 12193. Collected in Uganda.
- PI 647810. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8732; NSL 87807; 74L 12199. Collected in Kenya.
- PI 647811. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8733; NSL 87808; 74L 12200. Collected in Kenya.
- PI 647812. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8791; NSL 87816; 74L 12211. Collected in Zimbabwe.
- PI 647813. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8956; NSL 87838; 74L 12238. Collected in Kenya.
- PI 647814. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8962; NSL 87839; 74L 12239. Collected in Kenya.
- PI 647815. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8964; NSL 87840; 74L 12240. Collected in Kenya.
- PI 647816. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8976; NSL 87842; 74L 12242. Collected in Kenya.
- PI 647817. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8980; NSL 87844; 74L 12244. Collected in Kenya.
- PI 647818. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9170; NSL 87883; 74L 12301. Collected in Kenya.
- PI 647819. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9188; NSL 87886; 74L 12305. Collected in Somalia.

- PI 647820. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14982; NSL 87939; PURDUE NO 49203. Collected in Cameroon.
- PI 647821. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15009; NSL 87943; PURDUE NO 49230. Collected in Cameroon.
- PI 647822. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15589; NSL 88050; PURDUE NO 49812. Collected in Cameroon.
- PI 647823. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15981; NSL 88107; PURDUE NO 50155. Collected in Cameroon.
- PI 647824. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 17077; NSL 92034; N-487. Collected in Nigeria.
- PI 647825. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 17080; NSL 92037; N-490. Collected in Nigeria.
- PI 647826. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14306; ILLINOIS NO 2047; NSL 92366; HD-035. Collected in South Africa.
- PI 647827. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14316; ILLINOIS NO 2057; NSL 92369; HD-041. Collected in Swaziland.
- PI 647828. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14317; ILLINOIS NO 2058; NSL 92370; HD-042. Collected in Swaziland.
- PI 647829. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14331; ILLINOIS NO 2982; NSL 92377; HD-051. Collected in South Africa.
- PI 647830. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14333; ILLINOIS NO 2094; NSL 92379; HD-053. Collected in South Africa.
- PI 647831. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14339; ILLINOIS NO 2180; NSL 92382; HD-056. Collected in Malawi.
- PI 647832. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14342; ILLINOIS NO 2183; NSL 92383; HD-058. Collected in Malawi.
- PI 647833. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14345; ILLINOIS NO 2186; NSL 92384; HD-059. Collected in Malawi.
- PI 647834. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14380; ILLINOIS NO 2224; NSL 92396; HD-071. Collected in Zimbabwe.
- PI 647835. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14397; ILLINOIS NO 2262; NSL 92401; HD-076. Collected in Malawi.
- PI 647836. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14417; ILLINOIS NO 2282; NSL 92408; HD-086. Collected in Malawi.
- PI 647837. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14418; ILLINOIS NO 2283; NSL 92409; HD-087. Collected in Malawi.

- PI 647838. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14550; ILLINOIS NO 2482; NSL 92448; HD-153. Collected in Ethiopia.
- PI 647839. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14327; NSL 93823; HD-050. Collected in Botswana.
- PI 647840. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14416; NSL 93826; HD-085. Collected in Malawi.
- PI 647841. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14445; NSL 93831; HD-106. Collected in Sudan.
- PI 647842. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14906; NSL 93995; PURDUE NO 49138. Collected in Cameroon.
- PI 647843. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15792; NSL 94037; PURDUE NO 50022. Collected in Cameroon.
- PI 647844. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 16198; NSL 94078; PURDUE NO 50416. Collected in Cameroon.

The following were donated by Albert J. Oakes, USDA-ARS, Germplasm Resources Laboratory, Bldg. 001, Beltsville, Maryland, United States. Received 01/01/1973.

- PI 647845. *Alysicarpus vaginalis* (L.) DC.
FC 40584; NSL 448130.
- PI 647846. *Desmodium tortuosum* (Sw.) DC.
FC 40570; NSL 448131.
- PI 647847. *Mucuna* sp.
"EARLY SPECKLED"; FC 40837; NSL 448133.

The following were developed by David Cavagnaro. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

- PI 647848. *Amaranthus cruentus* L.
Breeding. "Dark Wine-Red Strain"; RRC 548; Ames 5329. The seeds are white, flowers red, leaves rufescent. The RRC class type is: Mexican. It was late maturing with severe lygus damage. In the green house is was very uniform. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. Dark wine-red strain. From one self pollinated plant. 1977 seed crop (field tested true, 1978).

The following were donated by Rockefeller Foundation, Indian Agricultural Programs, New Delhi, Delhi, India. Received 03/1981.

- PI 647849. *Echinochloa colona* (L.) Link
Wild. I.Pmr. 229; I.Ec. 229; Separation from PI 463631; Ames 26308.
Collected in Uttar Pradesh, India.

Unknown source. Received 09/02/1971.

PI 647850. *Echinochloa esculenta* (A. Braun) H. Scholz
Uncertain. Ames 5820. Pedigree - This accession was separated from Ames 5819 in about 1971, perhaps as part of a quarantine grow-out. Documented on the original seed packet. Seed received per letter from T.G. Darling, Agricultural Quarantine Inspection Division, dated 8-27-71. Import permit #53030. First seed increase was made in greenhouse under quarantine and later released by letter from D.S. Campbell 4-24-74.

The following were donated by Rockefeller Foundation, Indian Agricultural Programs, New Delhi, Delhi, India. Received 03/1981.

PI 647851. *Echinochloa picta* (J. Koenig) P. W. Michael
Uncertain. I.Pmr. 145; I.Ec. 145; Separation from PI 463576; Ames 26341. Collected in Madhya Pradesh, India.

The following were collected by Maia Akhalkatsi, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia. Received 08/15/2001.

PI 647852. *Spinacia oleracea* L.
Landrace. 3.1; Ames 26363. Collected 07/09/2001 in Georgia. Latitude 41° 25' 12" N. Longitude 45° 10' 21" E. Elevation 280 m. Vill. Kesalo, Gardabani District, Caucasus. House garden. Meadow chernozem like soil.

PI 647853. *Spinacia oleracea* L.
Landrace. 4.1; Ames 26364. Collected 07/11/2001 in Georgia. Latitude 41° 37' 10" N. Longitude 44° 52' 8" E. Elevation 370 m. Vill. Soganlugi, Gardabani District, Caucasus. House garden. Meadow chernozem like soil.

PI 647854. *Spinacia oleracea* L.
Landrace. 5.1; Ames 26365. Collected 07/17/2001 in Georgia. Latitude 42° 15' 43" N. Longitude 42° 38' 12" E. Elevation 120 m. Kutaisi, Kutaisi District, Caucasus. House garden. Meadow chernozem like soil.

PI 647855. *Spinacia oleracea* L.
Landrace. 6.1; Ames 26366. Collected 07/24/2001 in Georgia. Latitude 41° 59' 57" N. Longitude 45° 42' 40" E. Elevation 503 m. Vill. Shilda, Kvareli District, Caucasus. House garden. Meadow chernozem like soil.

PI 647856. *Spinacia oleracea* L.
Landrace. 6.2; Ames 26367. Collected 07/24/2001 in Georgia. Latitude 41° 59' 57" N. Longitude 45° 42' 40" E. Elevation 503 m. Vill. Shilda, Kvareli District, Caucasus. House garden. Meadow chernozem like soil.

PI 647857. *Spinacia oleracea* L.

Landrace. 6.3; Ames 26368. Collected 07/24/2001 in Georgia. Latitude 41° 59' 57" N. Longitude 45° 42' 40" E. Elevation 503 m. Vill. Shilda, Kvareli District, Caucasus. House garden. Meadow chernozem like soil.

PI 647858. *Spinacia oleracea* L.

Landrace. 7.1; Ames 26369. Collected 07/27/2001 in Georgia. Latitude 41° 44' 27" N. Longitude 44° 49' 34" E. Elevation 443 m. Vill. Digomi, Mtskheta District, Caucasus. House garden. Meadow chernozem like soil.

PI 647859. *Spinacia tetrandra* Steven ex M. Bieb.

Wild. 1.2; Ames 26357. Collected 05/29/2001 in Georgia. Latitude 41° 21' 38" N. Longitude 45° 3' 1" E. Elevation 337 m. Riv. Khrami gorge, Marneuli District, Caucasus. Valley with sediments. 7 degrees of slope with an eastern exposure. Meadow chernozem like soil with 10% stoniness and good drainage. 145 plants found irregularly distributed in occasional abundance over 80 square meters. Plants 20-40 cm in height.

PI 647860. *Spinacia tetrandra* Steven ex M. Bieb.

Wild. 1.3; Ames 26358. Collected 05/30/2001 in Georgia. Latitude 41° 21' 5" N. Longitude 45° 2' 55" E. Elevation 310 m. Riv. Khrami gorge, Marneuli District, Caucasus. Roadside, near hills with sediments. 32 degrees of slope with a south-southeastern exposure. Saline soil with 7% stoniness and good drainage. 58 plants found irregularly distributed in rare abundance over 50 square meters. Plants 40-50 cm in height.

PI 647861. *Spinacia tetrandra* Steven ex M. Bieb.

Wild. 1.4; Ames 26359. Collected 05/30/2001 in Georgia. Latitude 41° 20' 58" N. Longitude 45° 2' 55" E. Elevation 284 m. Riv. Khrami gorge, near Vill. Damgasho, Marneuli District, Caucasus. Side of a hill, near a livestock farm with sediments. 22 degrees of slope with a southeastern exposure. Saline soil with 10% stoniness and good drainage. 240 plants found irregularly distributed in frequent abundance over 100 square meters. Plants 15-50 cm in height.

The following were collected by Muhamet Durikov, Ministry of Nature Protection of Turkmenistan, National Institute of Deserts, Flora, and Fauna, 15, Bitarap Turkmenistan Street, Ashkhabad, Ahal 744000, Turkmenistan; K. Mamedov, Ministry of Nature Protection of Turkmenistan, National Institute of Deserts, Flora, and Fauna, 15, Bitarap Turkmenistan Street, Ashkhabad, Ahal 744000, Turkmenistan. Received 10/04/2000.

PI 647862. *Spinacia turkestanica* Iljin

Wild. 1.1; Ames 26097. Collected 07/06/2000 in Ahal, Turkmenistan. Latitude 38° 23' 20" N. Longitude 57° 1' 32" E. Elevation 1257 m. Inside the village of Garavul. Weed in a house garden. 5 square meter site with a 2% slope. Well drained, serozem soil with 20% stoniness. Growing between trees of *Morus nigra*. Plants were 30-40 cm in height.

PI 647863. *Spinacia turkestanica* Iljin
Wild. 1.3; Ames 26099. Collected 07/09/2000 in Ahal, Turkmenistan.
Latitude 38° 23' 3" N. Longitude 56° 58' 36" E. Elevation 1417
m. Konegumbez. West side of a hill. 80 square meter site with a 12%
slope. Well drained serozem soil with 30% stoniness. Growing between
semishrubs of *Artemisia*. Plants were 20-25 cm in height.

PI 647864. *Spinacia turkestanica* Iljin
Wild. 1.4; Ames 26100. Collected 07/09/2000 in Ahal, Turkmenistan.
Latitude 38° 24' 7" N. Longitude 56° 59' 27" E. Elevation 1460
m. Konegumbez. North side of a hill. 65 square meter site with a 10%
slope. Well drained serozem soil with 25% stoniness. Growing between
semishrubs of *Artemisia*. Plants were 25-30 cm in height.

PI 647865. *Spinacia turkestanica* Iljin
Wild. 1.6; Ames 26102. Collected 07/11/2000 in Ahal, Turkmenistan.
Latitude 38° 26' 7" N. Longitude 57° 2' 19" E. Elevation 1343 m.
Between Garavul and Nohur. Top of a hill. 55 square meter site with a
7% slope. Serozem soil with good drainage and 2% stoniness. Near a
previously cultivated area of wheat. Plants were 30-35 cm in height.

PI 647866. *Spinacia turkestanica* Iljin
Wild. 2.1; Ames 26103. Collected 06/24/2000 in Ahal, Turkmenistan.
Latitude 37° 56' 14" N. Longitude 58° 14' 21" E. Elevation 348
m. Bagir/Yanbash. Irrigated area. 85 square meter site with a 2% slope.
Serozem soil with good drainage and 0-5% stoniness. Near a cultivated
area of wheat. Plants were 25-35 cm in height.

The following were developed by Berlin D. Nelson, North Dakota State University, Department of Plant Pathology, Walster Hall 306, PO Box 5012, Fargo, North Dakota 58105-5012, United States; Theodore C. Helms, North Dakota State University, Dept. of Plant Science, Rm 166 Loftsgard Hall, Fargo, North Dakota 58105-5051, United States; Robert Jay Goos, North Dakota State University, Soil Science Dept, 127 Walster Hall, Fargo, North Dakota 58105, United States. Received 03/21/2007.

PI 647867. *Glycine max* (L.) Merr.
Cultivar. Pureline. "SHEYENNE"; ND01-3906. CV-494; PVP 200700352; REST 647867. Pedigree - Pioneer 9071*A96-492041. Sheyenne has resistance to Race 3 and is heterogeneous for resistance to Race 4 of *Phytophthora sojae* [M.J. Kauuffmann & J.W. Gerdemann]. Sheyenne has purple flower color, gray pubescence, yellow hila with dull seed coat luster and indeterminate growth habit. Sheyenne is a 0.8 maturity cultivar with moderate resistance to iron-deficiency chlorosis and good yield for its maturity. It has good lodging resistance and is a non-GMO cultivar.

The following were developed by Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States; D.W. Wichman, Montana State University, Central Agric. Research Center, Moccasin, Montana 59462, United States; Kevin E. McPhee, Washington State University, Crop & Soil Science Department, Johnson 305, Pullman, Washington 99164-6420, United States; C.C. Chen, Montana State University, Central Agriculture Research Center, Moccasin, Montana 59462, United States. Received 03/23/2007.

PI 647868. *Pisum sativum* L.

Cultivar. Pureline. "WINDHAM"; PS9830S358. CV-27. Pedigree - CAH-61/D258-1-3//CAH-61/B686-320-0/3/D258-1-2. Flowers at the 18th node, reaches 50% bloom approximately 21 days prior to traditional spring sown types and matures earlier than the spring types. Has a dwarf plant habit and an average height of 57 cm. Has semi-leafless leaf morphology and coupled with the dwarf plant habit, it is generally erect throughout the growth period with an average plant height index of 0.92 (1.00 indicates perfect erectness at maturity). One thousand seed weight is 150 gm (3027 seeds/lb). Resistant to Fusarium wilt race 1 (caused by *Fusarium oxysporum*), but lacks resistance to Fusarium wilt race 2, pea enation mosaic virus and powdery mildew (caused by *Erysiphe polygoni*).

The following were developed by Sakata Seed Corporation, Morgan Hill, California 95037, United States. Received 03/22/2007.

PI 647869 PVPO. *Zinnia* hybrid

Cultivar. "Profusion Coral Pink". PVP 200700128.

PI 647870 PVPO. *Zinnia* hybrid

Cultivar. "Profusion Deep Apricot". PVP 200700129.

PI 647871 PVPO. *Zinnia* hybrid

Cultivar. "Profusion Double Cherry". PVP 200700130.

PI 647872 PVPO. *Zinnia* hybrid

Cultivar. "Profusion Knee High Red". PVP 200700131.

PI 647873 PVPO. *Zinnia* hybrid

Cultivar. "Profusion Knee High White". PVP 200700132.

The following were collected by Doug Lammer, Washington State University, Dept of Crop and Soil Science, Winter Wheat Breeding, Pullman, Washington 99164-6420, United States; Gulnara Sitpaeva, Institute of Botany, Department of Plan Resources, Almaty, Kazakhstan; M. Yessimbekova, Genetic Resources Unit, Scientific Production Center of Farming and Crop Research, Almaty, Kazakhstan; I. Husainova, Institute of Botany and Phytointroduction, Department of Plan Resources, Almaty, Alma-Ata, Kazakhstan. Received 11/23/2005.

PI 647874. *Polypogon maritimus* Willd.

coll 99; Q 44628. Collected in Kazakhstan.

The following were collected by Jeff V. Krans, Mississippi State University, Department of Plant & Soil Sciences, Box 9555, Mississippi State, Mississippi 39762, United States. Received 08/13/1999.

PI 647875. *Cynodon dactylon* (L.) Pers.

Cultivar. 34; Q 40402; Grif 15152. Collected 08/01/1999 in Australia. Wellington Golf Club.

PI 647876. *Cynodon dactylon* (L.) Pers.

Cultivar. 42; Q 40405; Grif 15154. Collected 08/02/1999 in Australia. Jerilderie Golf Club.

- PI 647877. *Cynodon dactylon*** (L.) Pers.
Cultivar. 45; Q 40406; Grif 15155. Collected 08/02/1999 in Australia.
Sandy area off 39 Hwy near Murray River.
- PI 647878. *Cynodon transvaalensis*** Burt Davy
Cultivar. 6; Q 40408; Grif 15156. Collected 07/30/1999 in Australia. New
South Wales Golf Club, Sydney.
- PI 647879. *Cynodon transvaalensis*** Burt Davy
Cultivar. 23; Q 40411; Grif 15157. Collected 08/01/1999 in Australia.
Bathurst Golf Club.
- PI 647880. *Cynodon transvaalensis*** Burt Davy
Cultivar. 37; Q 40416; Grif 15158. Collected 08/02/1999 in Australia.
Forbes Golf Club.
- PI 647881. *Cynodon transvaalensis*** Burt Davy
Cultivar. 40; Q 40418; Grif 15159. Collected 08/02/1999 in Australia.
Jerilderi Golf Club.

The following were donated by Milton C. Engelke, Texas A&M University,
Research and Extension Center, 17360 Coit Road, Dallas, Texas 75252, United
States. Received 09/14/1993.

- PI 647882. *Eremochloa ophiuroides*** (Munro) Hack.
15; BE-5897; Q 32584; Grif 12620. Collected in China.
- PI 647883. *Eremochloa ophiuroides*** (Munro) Hack.
13; BE-5897; Q 32585; Grif 12621. Collected in China.
- PI 647884. *Eremochloa zeylanica*** Hack.
14; BE-5897; Q 32587; Grif 12623. Collected in China.

The following were collected by Ronny R. Duncan, University of Georgia,
Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences,
Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

- PI 647885. *Paspalum hybrid***
Clone. Hyb 5; Grif 15187.
- PI 647886. *Paspalum hybrid***
Clone. Hyb 7; Grif 15188.

The following were donated by Ronny R. Duncan, University of Georgia, Georgia
Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin,
Georgia 30223-1797, United States. Received 06/09/2003.

- PI 647887. *Paspalum lividum*** Trin. ex Schltl.
Clone. Tropic Lalo; Grif 15199.

The following were donated by Gad Ron, Greenfield Lawn Ind. Ltd.,
Kefar-Yehzekel, Israel. Received 05/23/1996.

PI 647888. *Paspalum* sp.
Q 36315; Grif 14035.

The following were donated by Camilo Quarin, Universidad Nacional del Nordeste, Facultad de Ciencias Agrarias, Sargento Cabral 2131 C.C. 209, Corrientes, Argentina. Received 01/18/2002.

PI 647889. *Paspalum* sp.
Cultivar. "Q4188"; Q 43733; Grif 15147.

PI 647890. *Paspalum* sp.
Cultivar. "Q3664"; Q 43734; Grif 15148.

The following were donated by Gad Ron, Greenfield Lawn Ind. Ltd., Kefar-Yehezkel, Israel. Received 05/23/1996.

PI 647891. *Paspalum vaginatum* Sw.
"EIN KHUDRA"; Q 36313; Grif 14034.

The following were collected by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647892. *Paspalum vaginatum* Sw.
Clone. Mauna Key; Grif 15166. Collected in Hawaii, United States.

PI 647893. *Paspalum vaginatum* Sw.
Clone. HI 10; Grif 15167. Collected in Hawaii, United States.

PI 647894. *Paspalum vaginatum* Sw.
Clone. HI 14; Grif 15168. Collected in Hawaii, United States.

PI 647895. *Paspalum vaginatum* Sw.
Clone. HI 26; Grif 15169. Collected in Hawaii, United States.

PI 647896. *Paspalum vaginatum* Sw.
Clone. HI 32; Grif 15170. Collected in Hawaii, United States.

PI 647897. *Paspalum vaginatum* Sw.
Clone. HI 33; Grif 15171. Collected in Hawaii, United States.

PI 647898. *Paspalum vaginatum* Sw.
Clone. HI 36; Grif 15172. Collected in Hawaii, United States.

PI 647899. *Paspalum vaginatum* Sw.
Clone. HI 39; Grif 15173. Collected in Hawaii, United States.

The following were donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 12/01/1993.

PI 647900. *Paspalum vaginatum* Sw.

Cultivar. BE-5009; Q 32710; Grif 15174. Collected in Thailand.

PI 647901. *Paspalum vaginatum* Sw.

Clone. MANGILAO GC; Q 37086; Grif 15175.

The following were collected by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647902. *Paspalum vaginatum* Sw.

Cultivar. "Adalayd"; Grif 15176. Collected in Australia.

PI 647903. *Paspalum vaginatum* Sw.

Clone. Taylor 1; Grif 15177. Collected in North Carolina, United States. Outer Banks.

PI 647904. *Paspalum vaginatum* Sw.

Clone. Taylor 2; Grif 15178. Collected in North Carolina, United States. Outer Banks.

PI 647905. *Paspalum vaginatum* Sw.

Cultivar. "Excalibur"; Grif 15179. Collected in Australia.

The following were collected by Byron L. Burson, USDA, ARS, Texas A&M University, Department of Soil and Crop Science, College Station, Texas 77843-2474, United States. Donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647906. *Paspalum vaginatum* Sw.

Clone. 310-79; Grif 15180. Collected in Argentina.

PI 647907. *Paspalum vaginatum* Sw.

Clone. 561-79; Grif 15181. Collected in Argentina.

The following were collected by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647908. *Paspalum vaginatum* Sw.

Clone. AM3554; Grif 15182. Collected in Georgia, United States. Tybee Island.

The following were collected by Byron L. Burson, USDA, ARS, Texas A&M University, Department of Soil and Crop Science, College Station, Texas 77843-2474, United States. Donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647909. *Paspalum vaginatum* Sw.

Clone. Temple 1; Grif 15183. Collected in Texas, United States. Coastal.

PI 647910. *Paspalum vaginatum* Sw.

Clone. Temple 2; Grif 15184. Collected in Texas, United States. Coastal.

The following were collected by A. E. Dudeck, University of Florida, Department of Environmental Horticulture, 1545 W. M. Fifield Hall, Gainesville, Florida 32611-0670, United States. Donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647911. *Paspalum vaginatum* Sw.

Clone. FSP1; Grif 15186. Collected in Georgia, United States. Sea Island

The following were collected by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647912. *Paspalum vaginatum* Sw.

Clone. SIPV 28-1; Grif 15189. Collected in Georgia, United States. Sea Island.

The following were donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647913. *Paspalum vaginatum* Sw.

Clone. Grif 15190. Pedigree - Selection from PI 509018.

PI 647914. *Paspalum vaginatum* Sw.

Clone. Grif 15191. Pedigree - Selection from PI 509018.

The following were collected by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 06/09/2003.

PI 647915. *Paspalum vaginatum* Sw.

Clone. Laredo; Grif 15192. Collected in Texas, United States.

PI 647916. *Paspalum vaginatum* Sw.

Clone. TFP 3-5; Grif 15193. Collected in Georgia, United States. Tybee Island, Ft. Pulaski, Georgia.

PI 647917. *Paspalum vaginatum* Sw.

Clone. Sanibel 3; Grif 15194. Collected in Florida, United States.

PI 647918. *Paspalum vaginatum* Sw.

Clone. Marco 4; Grif 15195. Collected in Florida, United States.

PI 647919. *Paspalum vaginatum* Sw.

Clone. Kunia 1; Grif 15196. Collected in Hawaii, United States.

PI 647920. *Paspalum vaginatum* Sw.

Clone. PICC (LA); Grif 15197. Collected in Louisiana, United States. New Iberia.

PI 647921. *Paspalum vaginatum* Sw.

Clone. Sanctuary; Grif 15198. Collected in Florida, United States. Sanibel Island.

The following were donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 08/06/1997.

PI 647922. *Paspalum vaginatum* Sw.

"ADE-2"; Q 37090. Seashore *Paspalum*, saltwater couch. From Adelaide home lawn, Nic McNichol. Swarz selection from Australia July 1997.

PI 647923. *Paspalum vaginatum* Sw.

"PERTH1"; Q 37092. Outside Mandurah, Wa., Falcon Bay Beach.

The following were donated by Milton C. Engelke, Texas A&M University, Research and Extension Center, 17360 Coit Road, Dallas, Texas 75252, United States. Received 09/14/1993.

PI 647924. *Stenotaphrum* sp.

19; BE-5897; Q 32594; Grif 12625. Collected in China.

PI 647925. *Stenotaphrum* sp.

12; BE-5897; Q 32595; Grif 12626. Collected in China.

The following were collected by Jeff V. Krans, Mississippi State University, Department of Plant & Soil Sciences, Box 9555, Mississippi State, Mississippi 39762, United States. Received 08/13/1999.

PI 647926. *Zoysia* sp.

Cultivar. 13; Q 40433; Grif 14993. Collected in Australia.

Unknown source. Received 03/14/1997.

PI 647927. *Arundinaria chino* (Franch. & Sav.) Makino

Clone. Grif 13932.

Unknown source. Received 1995.

PI 647928. *Arundinaria funghomii* McClure

Clone. Grif 12473.

Unknown source. Received 03/14/1997.

PI 647929. *Arundinaria funghomii* McClure

Clone. Grif 13921; TARS 16463; TRS-2501.

Unknown source. Received 03/14/1997.

PI 647930. *Arundinaria oleosa* (T. H. Wen) Demoly
Clone. Grif 13934.

Unknown source. Received 03/14/1997.

PI 647931. *Arundinaria pygmaea* var. *disticha* (Mitford) C. S. Chao & Renvoize
Clone. Grif 13933.

Unknown source. Received 1995.

PI 647932. *Bambusa multiplex* (Lour.) Raeusch. ex Schult. & Schult. f.
Clone. Grif 12468.

Unknown source. Received 1995.

PI 647933. *Bambusa multiplex* (Lour.) Raeusch. ex Schult. & Schult. f.
Clone. Grif 12469; Tiny Fern.

Unknown source. Received 03/14/1997.

PI 647934. *Bambusa multiplex* (Lour.) Raeusch. ex Schult. & Schult. f.
Clone. Grif 13922; TARS 16490; SILVERSTRIPE.

Unknown source. Received 03/14/1997.

PI 647935. *Bambusa multiplex* (Lour.) Raeusch. ex Schult. & Schult. f.
Clone. Grif 13923; Golden Goddess.

Unknown source. Received 03/14/1997.

PI 647936. *Brachystachyum densiflorum* (Rendle) Keng
Clone. Grif 13924.

Unknown source. Received 03/14/1997.

PI 647937. *Hibanobambusa tranquillans* (Koidz.) Maruy. & H. Okamura
Clone. Grif 13926; Shiroshima.

Unknown source. Received 03/14/1997.

PI 647938. *Indocalamus solidus* C. D. Chu & C. S. Chao
Clone. Grif 13927.

Unknown source. Received 03/14/1997.

PI 647939. *Phyllostachys aureosulcata* McClure
Clone. BL-1; Yellowgroove; Grif 13928; TARS 16494.

Unknown source. Received 03/14/1997.

PI 647940. *Phyllostachys aureosulcata* McClure
Clone. S-2765; Grif 13929; TARS 16464.

Unknown source. Received 03/14/1997.

PI 647941. *Phyllostachys aureosulcata* McClure
Clone. "Spectabilis"; Grif 13930.

Unknown source. Received 1997.

PI 647942. *Phyllostachys bambusoides* Siebold & Zucc.
Clone. Grif 13908; Castillon.

Unknown source. Received 1997.

PI 647943. *Phyllostachys bambusoides* Siebold & Zucc.
Clone. Grif 13909; Allgold.

Unknown source. Received 03/17/1997.

PI 647944. *Phyllostachys bambusoides* Siebold & Zucc.
Clone. Grif 13944.

Unknown source. Received 03/17/1997.

PI 647945. *Phyllostachys bambusoides* Siebold & Zucc.
Clone. Grif 13945.

The following were donated by Michael Turner, Marietta, South Carolina,
United States. Received 04/08/1997.

PI 647946. *Phyllostachys edulis* (Carriere) J. Houz.
Clone. Grif 13948. Moso bamboo, 75 foot maximum height, 7 inch culm
diameter, running, cold hardy to -5 degrees Fahrenheit. Culms have dense
hairs (pubescence). Leaves larger than old clone from Anderson, SC (PI
80034).

Unknown source. Received 03/14/1997.

PI 647947. *Phyllostachys nigra* (Lodd. ex Lindl.) Munro
Clone. S-2702; Grif 13931; TARS 16443; Hale.

Unknown source. Received 03/17/1997.

PI 647948. *Phyllostachys rubromarginata* McClure
Clone. Grif 13946.

Unknown source. Received 2003.

PI 647949. *Pseudosasa amabilis* (McClure) Keng f. ex S. L. Chen et al.
Clone. Grif 15161. Pedigree - Selection from PI 110509. Selection made
in the 1980's at the U.S. Plant Introduction Station, Savannah, Georgia.
Exhibited more vigorous growth than PI 110509.

Unknown source. Received 03/14/1997.

PI 647950. *Sasa masamuneana* (Makino) C. S. Chao & Renvoize
Clone. Grif 13936.

Unknown source. Received 03/14/1997.

PI 647951. *Sasa senanensis* (Franch. & Sav.) Rehder
Clone. Grif 13935.

Unknown source. Received 03/14/1997.

PI 647952. *Shibataea chinensis* Nakai
Clone. Grif 13937.

Unknown source. Received 03/17/1997.

PI 647953. *Shibataea lanceifolia* C. H. Hu
Clone. Q89-017; Grif 13938.

Unknown source. Received 03/17/1997.

PI 647954. *Shibataea lanceifolia* C. H. Hu
Clone. E004; NUH; Grif 13939.

Unknown source. Received 03/17/1997.

PI 647955. *Sinobambusa* sp.
Clone. TRS 2523; Grif 13940; TARS 16503.

Unknown source. Received 03/17/1997.

PI 647956. *Sinobambusa* sp.
Clone. TRS 2527; Grif 13941; TARS 16504.

Unknown source. Received 03/17/1997.

PI 647957. *Sinobambusa* sp.

Clone. TRS 2524; Grif 13942; TARS 16462.

Unknown source. Received 03/17/1997.

PI 647958. *Sinobambusa* sp.

Clone. Grif 13943.

The following were developed by Jimmie H. Hatchett, USDA-ARS, Dept of Entomology, Waters Hall, Manhattan, Kansas 66506-4004, United States; Robert A. Graybosch, USDA-ARS, University of Nebraska, 314 Biochem Hall, Lincoln, Nebraska 68583, United States; P. Stephen Baenziger, University of Nebraska, Department of Agronomy, 362D Plant Science Bldg., Lincoln, Nebraska 68583-0915, United States; David D. Baltensperger, University of Nebraska, Panhandle Research, & Extension Center, Scottsbluff, Nebraska 69361-4939, United States; John E. Watkins, University of Nebraska, Dept. of Plant Pathology, Lincoln, Nebraska 68583, United States; Lenis A. Nelson, University of Nebraska, Department of Agronomy, 342 Keim Hall - E. Campus, Lincoln, Nebraska 68583, United States; Ming-Shun Chen, USDA-ARS-GMPRC-PSERU, Wheat Insect Genetics Lab, 4008 Throckmorton Hall, Manhattan, Kansas 66506, United States; Amir Ibrahim, South Dakota State University, Plant Sciences Department, Brookings, South Dakota 57007, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; B. Beecher, University of Nebraska, Dept. of Agronomy and Horticulture, Lincoln, Nebraska 68583, United States; Guihua Bai, USDA-ARS, 4008 Throckmorton Hall, Kansas State University, Manhattan, Kansas 66506, United States; Stephen Wegulo, University of Nebraska, Department of Plant Pathology, Lincoln, Nebraska 68583, United States. Received 04/13/2007.

PI 647959. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. NE01643; NSGC 18381. CV-1020. Pedigree - Millennium sib//Seward/Archer. Released 2007. Hard red winter wheat. Superior adaptation to rainfed wheat production systems in Nebraska, South Dakota, and adjacent areas in the northern Great Plains.

The following were developed by Thomas R. Sinclair, USDA-ARS, University of Florida, Agronomy Physiology Laboratory, Gainesville, Florida 32611-0965, United States; Larry Purcell, University of Arkansas, Department of Crop, Soils and, Environmental Sciences, Fayetteville, Arkansas 72704, United States; Clay H. Sneller, Ohio State University, O.A.R.D.C., 1680 Madison Avenue, Wooster, Ohio 44691, United States; Pengyin Chen, University of Arkansas, Department of Crop, Soil & Environmental Sciences, Soybean Breeding and Genetics, Fayetteville, Arkansas 72701, United States; C.A. King, University of Arkansas, Dept. of Crop, Soil, and Environmental Sciences, 1366 W. Altheimer Dr., Fayetteville, Arkansas 72704, United States; T. Ishibashi, University of Arkansas, Dept. of Crop, Soil and Environmental Sciences, 115 Plant Science, Fayetteville, Arkansas 72701, United States. Received 04/04/2007.

PI 647960. *Glycine max* (L.) Merr.

Breeding. Pureline. R01-416F. GP-356. Pedigree - Originated as an F9 plant selection from the cross 'Jackson' x 'KS 4895'. Relative maturity

of R01-416F is 5.2. Mature plant height of R01-416F is approximately 60 cm. R01-416F has purple flower, gray pubescence, and determinate growth habit. Seeds of R01-416F have yellow cotyledons with dull yellow seed coats and mixed hila (imperfect black and buff). Seed size of R01-416F is 13.8 g 100 seeds⁻¹. Protein and oil concentration of R01-416F is 39.6% and 22.9%, respectively, on dry-weight basis. R01-416F has good resistance to lodging (score of 1.2) and shattering (score of 1.0). Disease resistance or susceptibility of R01-416F is not determined. The amount of nitrogen accumulated in the shoot under water deficit condition was 115 mg plant⁻¹ as compared with Jackson (75 mg plant⁻¹) and KS 4895 (91 mg plant⁻¹). In a flow-through acetylene reduction assay, the soil moisture content at which nitrogen fixation activity began to decline was 22% less for R01-416F as compared to KS 4895. Average seed yield of R01-416F was 3232 kg ha⁻¹ over 16 irrigated environments and 1883 kg ha⁻¹ over four non-irrigated environments in Arkansas.

PI 647961. *Glycine max* (L.) Merr.

Breeding. Pureline. R01-581F. GP-357. Pedigree - Originated as an F9 plant selection from the cross 'Jackson' x 'KS 4895'. Relative maturity of R01-581F is 5.2. Mature plant height of R01-581F is approximately 68 cm. R01-581F has purple flower, gray pubescence, and determinate growth habit. Seeds of R01-581F have yellow cotyledons with dull yellow seed coats and mixed hila (imperfect black and buff). Seed size of R01-581F is 13.2 g 100 seeds⁻¹. Protein and oil concentration of R01-416F is 39.9% and 22.2%, respectively, on dry-weight basis. R01-581F has good resistance to lodging (score of 1.5) and shattering (score of 1.0). Disease resistance or susceptibility of R01-581F is not determined. The amount of nitrogen accumulated in the shoot under water deficit condition was 115 mg plant⁻¹ as compared with Jackson (75 mg plant⁻¹) and KS 4895 (91 mg plant⁻¹). In a flow-through acetylene reduction assay, the soil moisture content at which nitrogen fixation activity began to decline was 6% less for R01-581F as compared to KS 4895. Average seed yield of R01-581F was 3351 kg ha⁻¹ over 24 irrigated environments and 2100 kg ha⁻¹ over four non-irrigated environments in Arkansas.

The following were developed by Clay H. Sneller, Ohio State University, O.A.R.D.C., 1680 Madison Avenue, Wooster, Ohio 44691, United States; Brian Cornelious, University of Arkansas, CSES Department, 115 Plant Science, Fayetteville, Arkansas 72701, United States; Pengyin Chen, University of Arkansas, Department of Crop, Soil & Environmental Sciences, Soybean Breeding and Genetics, Fayetteville, Arkansas 72701, United States; T. Ishibashi, University of Arkansas, Dept. of Crop, Soil and Environmental Sciences, 115 Plant Science, Fayetteville, Arkansas 72701, United States. Received 04/04/2007.

PI 647962. *Glycine max* (L.) Merr.

Breeding. Pureline. R95-1705. GP-358. Pedigree - Originated from an F5 plant selection from the cross of 'Hutchison' x BARC-7. Relative maturity of R95-1705 is 5.5. Mature plant height of R95-1705 is approximately 70 cm. R95-1705 has white flower, gray pubescence, and determinate growth habit. Seeds of R95-1705 have yellow cotyledons with dull yellow seed coats and buff hila. Seed size of R01-581F is 14.7 g 100 seeds⁻¹. Protein and oil concentration of R95-1705 is 46.7% and 17.8%, respectively, on dry-weight basis. R95-1705 has good resistance

to lodging (score of 1.5) and shattering (score of 1.0). R95-1705 is resistant to southern stem canker [caused by *Diaporthe phaseolorum* (Cooke & Ellis) Sacc. f. sp. *meridionalis* Morgan-Jones] and susceptible to soybean cyst nematode [*Heterodera glycines* Ichinohe]. Average seed yield of R95-1705 was 3067 kg ha⁻¹ over 43 irrigated environments in Arkansas.

The following were developed by James L. Brewbaker, University of Hawaii, Dept. of Horticulture, 3190 Maile Way, Honolulu, Hawaii 96822, United States. Received 04/12/2007.

PI 647963. *Leucaena* hybrid

Cultivar. Population. "KX2-HAWAII"; KX2. CV-281. Pedigree - (*Leucaena leucocephala* cv.K8 x *L. pallida* cv. K376) #5 (five cycles of recurrent selection). Open pollinated population representing 5 cycles of recurrent selection from hybrids made in 1976. KX2 hybrids were extremely vigorous vegetatively, with the large leaves and smaller leaflets of the *pallida* parent. For each of the 5 cycles of selection, ~1500 trees were planted and coppiced repeatedly to allow selection based on the following major criteria: psyllid tolerance, forage regrowth vigor and self-incompatibility. Seediness is an undesirable trait associated with the highly self-fertile common variety of *L. leucocephala*, and led to our emphasis on self-sterility. Approximately 120 trees were selected each cycle to serve as seed parents, and panmixia can be assumed. Seeds of cycle 3 of selection were distributed internationally after 1991 to confirm the durability of psyllid tolerance. Seed production of the selected progenies from cycle 5 was completed in 2003 and current seed is derived from two seed orchards at the Waimanalo Research Station on Oahu, Hawaii.

The following were developed by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States; James R. Steadman, University of Nebraska, Department of Plant Pathology, 406 Plant Science Hall, Lincoln, Nebraska 68583, United States; Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States; Marcial Pastor-Corrales, USDA, ARS, Vegetable Laboratory, Building 010A, Room 240, BARC-West, Beltsville, Maryland 20705-2350, United States; A.K. Vidaver, University of Nebraska, Dept. of Plant Pathology, Lincoln, Nebraska 68583, United States; D. Lindgren, University of Nebraska, Dept. of Agronomy and Horticulture, Lincoln, Nebraska 68583, United States; J. Reiser, University of Nebraska, Dept. of Agronomy and Horticulture, Lincoln, Nebraska 68583, United States; Carlos A. Urrea, University of Nebraska, Panhandle Research & Extension Center, 4502 Avenue I, Scottsbluff, Nebraska 69361, United States; N. Mutlu, Bati Akdeniz Agricultural Research institute, Antalya, Turkey. Received 04/05/2007.

PI 647964. *Phaseolus vulgaris* L.

Breeding. Pureline. ABC-WeiHING. GP-246. Pedigree - Great Northern BC5F3:6 line obtained from 5 backcrosses ('WeiHING'*5//'Chase'/XAN 159). First cross was made in spring 1997. Only BCnF1 plants resistant to *Xanthomonas campestris* isolates Dominican Republic DR-7 and Nebraska SC4A as determined by multiple needle leaf inoculation tests in the greenhouse were used for successive backcrossing. In addition to phenotypic selection for CBB resistance, marker-assisted selection for

the resistant QTL-linked markers SU91 and SAP6 was conducted in the BC1 F1 and BC2F1. Bred specifically for enhanced resistance to common bacterial blight (CBB), a major seed borne disease of common bean caused by the bacteria *Xanthomonas campestris* pv. *phaseoli* [Syn. *X. axonopodis* pv. *phaseoli*] (*Xcp*) and the brown-pigmented variant *X. campestris* pv. *pahseoli* var. *fuscans* [Syn. *X. axonopodis* pv. *pahseoli* var. *fuscans*]. First great northern to combine the XAN 159 and great northern Montana No. 5 sources of CBB resistance. Combined high levels of resistance was confirmed by the presence of previously developed SCAR markers SU91 and SAP6 tightly linked with quantitative trait loci (QTL) from XAN 159 and Montana No. 5, respectively. Carries the single dominant hypersensitive I gene that provides resistance to all non-necrotic strains of the Bean common mosaic virus (BCMV), but is hypersensitive to the temperature-dependent, necrosis-inducing strains of BCMV and to the temperature-independent, necrosis inducing NL3, NL5, and NL8 strains of the Bean common mosaic necrosis virus. Has partial avoidance to white mold [*Sclerotinia sclerotiorum*] due to its semi-upright plant architecture. Will be useful for improving resistance to common bacterial blight in great northern and pinto bean market classes while maintaining rust and bean common mosaic resistance, seed quality and yield potential.

The following were developed by Monsanto Technology L.L.C., Waterman, Illinois 60556, United States. Received 03/30/2007.

PI 647965 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "CV211902". PVP 200700186.

PI 647966 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I015022". PVP 200700187.

PI 647967 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I054029". PVP 200700188.

PI 647968 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I059952". PVP 200700189.

PI 647969 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I174086". PVP 200700190.

PI 647970 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I208993". PVP 200700191.

PI 647971 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I211906". PVP 200700192.

PI 647972 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I249526". PVP 200700193.

PI 647973 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I282610". PVP 200700194.

PI 647974 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I283669". PVP 200700195.

- PI 647975 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I285282". PVP 200700196.
- PI 647976 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I285295". PVP 200700197.
- PI 647977 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I286375". PVP 200700198.
- PI 647978 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I286394". PVP 200700199.
- PI 647979 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I291859". PVP 200700200.
- PI 647980 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I354076". PVP 200700201.
- PI 647981 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I539440". PVP 200700202.
- PI 647982 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I576433". PVP 200700203.
- PI 647983 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I686684". PVP 200700204.
- PI 647984 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I815979". PVP 200700205.

The following were developed by Monsanto Company, St. Louis, Missouri 63167, United States. Received 04/04/2007.

- PI 647985 PVPO. *Glycine max* (L.) Merr.
Cultivar. "0330738". PVP 200700133.
- PI 647986 PVPO. *Glycine max* (L.) Merr.
Cultivar. "0358232". PVP 200700134.
- PI 647987 PVPO. *Glycine max* (L.) Merr.
Cultivar. "0385457". PVP 200700135.
- PI 647988 PVPO. *Glycine max* (L.) Merr.
Cultivar. "0387907". PVP 200700136.
- PI 647989 PVPO. *Glycine max* (L.) Merr.
Cultivar. "0437973". PVP 200700137.
- PI 647990 PVPO. *Glycine max* (L.) Merr.
Cultivar. "0457028". PVP 200700138.
- PI 647991 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4010165". PVP 200700139.
- PI 647992 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4175567". PVP 200700141.

- PI 647993 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4219527". PVP 200700142.
- PI 647994 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4247825". PVP 200700143.
- PI 647995 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4309194". PVP 200700144.
- PI 647996 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4353363". PVP 200700145.
- PI 647997 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4559808". PVP 200700147.
- PI 647998 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4599695". PVP 200700148.
- PI 647999 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4684181". PVP 200700149.
- PI 648000 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4782157". PVP 200700150.
- PI 648001 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4788561". PVP 200700151.
- PI 648002 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4958786". PVP 200700152.
- PI 648003 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4440685". PVP 200700251.

The following were developed by Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 04/03/2007.

- PI 648004 PVPO. *Festuca arundinacea* Schreb.
Cultivar. "CORONADO TDH". PVP 200700169.
- PI 648005 PVPO. *Festuca arundinacea* Schreb.
Cultivar. "VIRTUE II". PVP 200700170.

The following were developed by Plant Research Ltd., Caterburg, New Zealand. Received 04/03/2007.

- PI 648006 PVPO. *Pisum sativum* L.
Cultivar. "ARAGORN". PVP 200700171.

The following were developed by WestBred LLC, Haven, Kansas, United States. Received 04/03/2007.

- PI 648007 PVPO. *Triticum aestivum* L. **subsp. aestivum**
Cultivar. "KEOTA". PVP 200700172. Pedigree - OK88767-11/Jagger.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 04/03/2007.

PI 648008 PVPO. *Gossypium hirsutum* L.
Cultivar. "PM 3535 BG/RR". PVP 200700175.

The following were developed by Cotton Seed Int'l. Proprietary Limited, Wee Waa, Australia; Bayer CropScience GMBH, Germany. Received 04/03/2007.

PI 648009 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 9060F". PVP 200700176.

The following were developed by Kansas Agricultural Experiment Station - Manhattan, Manhattan, Kansas, United States. Received 04/03/2007.

PI 648010 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "DANBY". PVP 200700177. Pedigree - Trego/KS84063-9-39-3-8W.

The following were developed by Cotton Seed Int'l. Proprietary Limited, Wee Waa, Australia; Bayer CropScience GMBH, Germany. Received 04/03/2007.

PI 648011 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 9063B2F". PVP 200700178.

The following were developed by Bayer CropScience, Lubbock, Texas, United States. Received 04/03/2007.

PI 648012 PVPO. *Gossypium hirsutum* L.
Cultivar. "AFD 5064F". PVP 200700179.

PI 648013 PVPO. *Gossypium hirsutum* L.
Cultivar. "AFD 5062LL". PVP 200700180.

PI 648014 PVPO. *Gossypium hirsutum* L.
Cultivar. "AFD 5065B2F". PVP 200700181.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 04/03/2007.

PI 648015. *Lactuca sativa* L.
Cultivar. "PACKMASTER". PVP 200700182.

The following were developed by Cotton Seed Int'l. Proprietary Limited, Wee Waa, Australia; Bayer CropScience GMBH, Germany. Received 04/03/2007.

PI 648016 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 9058F". PVP 200700206.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 04/03/2007.

PI 648017 PVPO. *Gossypium hirsutum* L.
Cultivar. "PM 2140 B2RF". PVP 200700210.

The following were developed by Holland-Select B.V., Netherlands. Received 04/03/2004.

PI 648018 PVPO. *Phaseolus vulgaris* L.
Cultivar. "ORIENT". PVP 200700242.

PI 648019 PVPO. *Phaseolus vulgaris* L.
Cultivar. "STANLEY". PVP 200700243.

The following were developed by Kansas Agricultural Experiment Station - Manhattan, Manhattan, Kansas, United States. Received 04/03/2007.

PI 648020 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "RonL". PVP 200700244. Pedigree - Trego/CO960293.

The following were developed by Syngenta Seeds, Inc., Junction City, Kansas, United States. Received 04/03/2007.

PI 648021 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "KUNTZ"; 98S0127-06. PVP 200700245. Pedigree - N97-0214/3/N93-0338//Sumai 3/Dalen = Norlander/Kulm/4/Telemark/Wheaton//Norseman/Coteau/3/Sumai 3/Dalen. Hard red spring wheat.

PI 648022 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "AP604 CL"; 01III27-20-1. PVP 200700246. Pedigree - AP601 CL(Ivan//Butte 86*4/FS4/3/Russ)/AP602 CL. Hard red spring wheat.

PI 648023 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "PALOMINO"; W96-359W. PVP 200700247. Pedigree - WI90-008(Mesa/Abilene/W91-040[Roazon/Wrangler//Vona/W76-1141(NAdadores 63/CO652643//Centurk)]. Hard white winter wheat.

The following were developed by Monsanto Company, Creve Coeur, Missouri 63167, United States. Received 04/03/2004.

PI 648024 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "MAGNOLIA"; D01*7759. PVP 200700248. Pedigree - Elkhart/Mason. Soft red winter wheat.

The following were developed by Cotton Seed Int'l. Proprietary Limited, Wee Waa, Australia; Bayer CropScience GMBH, Germany. Received 04/03/2007.

PI 648025 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 9068F". PVP 200700252.

The following were developed by Blue Moon Farms, Lebanon, Oregon, United States. Received 04/03/2007.

PI 648026 PVPO. *Festuca arundinacea* Schreb.
Cultivar. "FORREST GREEN". PVP 200700253.

The following were developed by WestBred LLC, Bozeman, Montana, United States. Received 04/03/2007.

PI 648027 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "AGAWAM". PVP 200700254. Pedigree - Fortuna/Westbred 906R//Golden 86.

PI 648028 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "CORBIN". PVP 200700255. Pedigree - Border/Conan.

PI 648029 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "WAIKEA". PVP 200700256. Pedigree - Spillman/Westbred 906R.

The following were developed by Barenbrug Holland B.V., Netherlands; Rutgers, The State University of New Jersey, New Jersey, United States. Received 04/03/2007.

PI 648030 PVPO. *Festuca arundinacea* Schreb.
Cultivar. "BARVADO". PVP 200700257.

The following were developed by Monsanto Company, St. Louis, Missouri 63167, United States. Received 04/11/2007.

PI 648031 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4498438". PVP 200700146.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 04/24/2007.

PI 648032 PVPO. *Lactuca sativa* L.
Cultivar. "PX 06516090". PVP 200700126.

The following were developed by C. Corley Holbrook, USDA, ARS, Georgia Coastal Plain Exp. Sta., P.O. Box 748, Tifton, Georgia 31793, United States; Albert Culbreath, The University of Georgia, Coastal Plain Experiment Station, P. O. Box 748, Tifton, Georgia 31793, United States. Received 05/01/2007.

PI 648033. *Arachis hypogaea* L.
Cultivar. Pureline. "GEORGANIC". CV-100. Pedigree - PI 203396 x AgraTech GK7. The original population was advanced to the F4 using single seed descent. Individual F4 plants were harvested and the population was subjected to selection pressure for yield, grade, and for resistance to late leaf spot and tomato spotted wilt for the next 3 generations. Georganic is runner market-type in seed and pod size. It has a

spreading runner growth habit with an erect main stem that is prominent throughout the growing season, and at harvest. It has a high level of resistance to tomato spotted wilt virus (TSWV), early (*Cercosporidium arachidicola* Hori), and late (*Cercosporidium personatum* Berk. & M.A. Curtis) leaf spot. It is a late maturity class peanut, with about 150 days needed for optimal maturity. Based on seed count per pound, Georganic is intermediate between the relatively large seeded cultivar, C-99R, and the relatively small seeded cultivar, Georgia Green. Georganic has a red testa (seed coat) with percent meat comparable to other runner cultivars. Georganic had significantly higher resistance to TSWV than the moderately resistant cultivar, Georgia Green, in 24 out of 24 field trials. In six field studies using reduced fungicides, C11-2-39 had significantly less leaf spot severity and significantly higher yield in comparison to the moderately resistant cultivar, Southern Runner.

The following were developed by Richard C. Frohberg, North Dakota State University, Crop & Weed Science Department, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States; J.B. Rasmussen, North Dakota State University, Dept. of Plant Pathology, Fargo, North Dakota 58105, United States; R.W. Stack, North Dakota State University, Plant Pathology Department, Fargo, North Dakota 58105, United States; Mohamed Mergoum, North Dakota State University, Plant Sciences Dept., Loftsgard Hall, Fargo, North Dakota 58105-5051, United States; Tim Friesen, USDA-ARS, 1307 N. 18th St., Fargo, North Dakota 58105, United States; S. Ali, North Dakota State University, Dep. of Plant Pathology, P.O. Box 5051, Fargo, North Dakota 58105, United States; P.K. Singh, North Dakota State University, Dep. of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105, United States; Tika Adhikari, North Dakota State University, Department of Plant Pathology, Walster 331, Fargo, North Dakota 58105, United States. Received 05/02/2007.

PI 648034. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. ND 756. REST 449607; GP-837. Pedigree - ND 2849/ND 721. ND 756 hard red spring wheat (HRSW) (*Triticum aestivum* L.) was developed at North Dakota State University and released by the North Dakota Agricultural Experiment Station. ND 756 was derived from the ND 2849/ND 721 cross made in 1996. ND 2849 and ND 721 are two experimental lines developed by NDSU HRSW breeding program. ND 2849 is derived from a cross (ND 674//ND 2710/ND 688) involving NDSU HRSW experimental lines (ND 674 and ND 688) and ND 2710 (PI 633976) that was previously released for its resistance to *Fusarium* head blight (FHB) [caused by *Fusarium graminearum* Schwabe (telomorph *Gibberella zeae* (Schwein.) Petch)]. ND 756 was produced from a bulk of one F5:6 head row selected in 2002 at the Christchurch, New Zealand off-season nursery. ND 756 was released mainly for its resistance to *Septoria nodorum* blotch [caused by *Phaeosphaeria nodorum* (E.M. Ller) Hedjarroude], *Septoria tritici* blotch [caused by *Mycosphaerella graminicola* (Fckl) J. Schr. t. in Cohn] and tan spot [caused by *Pyrenophora tritici-repentis* (Died.) Drechs]. ND 756 is also resistant to the prevalent races of stem rust (caused by *Puccinia graminis* Pers:Pers. f. sp. *tritici* Eriks. & E. Henn) and leaf rust (caused by *Puccinia triticina* Eriks.). ND 756 is moderately resistant to FHB and has good agronomic performance but does not meet the high grain quality requirements to qualify for release by NDAES. ND 756 is an awned, medium-early maturing and semi-dwarf hard spring wheat. It has a lax head type with plant height (92 cm), 5 cm shorter than Parshall (PI 613587) and 7 and 5 cm taller than Reeder (PI 613586) and Alsen,

respectively. ND 756 height is however, similar to Steele-ND (PI 634981). ND 756 heads the same day as Glenn and Steele-ND, 2 days earlier than Howard and 2 days later than Parshall and Alsen (PI 615543). It is similar to Alsen for grain shattering and straw strength, but more resistant to grain shattering compared to Sumai3.

The following were developed by Clarence Maura, National Resources Conservation Service -- USDA, 14119 Broad Street, Brooksville, Florida 34601, United States; S. Pfaff, USDA-NRCS, Brooksville PMC, Brooksville, Florida 34601, United States. Received 05/02/2007.

PI 648035. *Arachis glabrata* var. *hagenbeckii* (Harms) F. J. Herm.
Cultivar. Brooksville 67 Germplasm. Pedigree - Selection from PI 262801.

PI 648036. *Arachis glabrata* Benth.
Cultivar. Brooksville 68 Germplasm. Pedigree - Selection from 13 perennial peanut accessions located at the Brooksville, Florida PMC.

The following were donated by David J. Andrews, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68503, United States. Received 09/06/1989.

PI 648037. *Sorghum bicolor* (L.) Moench **subsp. *bicolor***
07134; Grif 548. Collected in India. Pedigree - Rs/R-20-682-5-1B.

The following were donated by Fred R. Miller, Texas A & M University, Department of Soil & Crop Science, College Station, Texas 77843-2474, United States. Received 05/25/1989.

PI 648038. *Sorghum bicolor* (L.) Moench **subsp. *bicolor***
78C726; Grif 645. Collected in Lesotho.

The following were donated by Henry Hadley, University of Illinois, Department of Agronomy, 1102 South Goodwin Avenue, Urbana, Illinois 61801, United States. Received 08/06/1990.

PI 648039. *Sorghum bicolor* (L.) Moench **subsp. *bicolor***
W-5; Grif 5624. Pedigree - STD WH X TAN -1.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 648040. *Sorghum bicolor* (L.) Moench **subsp. *bicolor***
IS 202; MN 2686; Frost Selection; FC 8909; Grif 15989.

PI 648041. *Sorghum bicolor* (L.) Moench **subsp. *bicolor***
MN 2702; IS 865; FC 13635; Grif 16001; Grohoma White Seeded.

The following were developed by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 648042. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3007; Grif 16139. Pedigree - Selected from MN 2825 (PI 170786).
- PI 648043. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3008; Grif 16140. Pedigree - Selected from MN 2851 (PI 173115).
- PI 648044. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3009; Grif 16141. Pedigree - Selected from MN 2890 (PI 177550 - 3 plants).
- PI 648045. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3010; Grif 16142. Pedigree - Selected from MN 2904 (PI 179747).
- PI 648046. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3011; Grif 16143. Pedigree - Selected from MN 2905 (PI 179748).
- PI 648047. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3012; Grif 16144. Pedigree - Selected from MN 2905 (PI 179748).
- PI 648048. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3013; Grif 16145. Pedigree - Selected from MN 2906 (PI 179749).
- PI 648049. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3014; Grif 16146. Pedigree - Selected from MN 2906 (PI 179749).
- PI 648050. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3015; Grif 16147. Pedigree - Selected from MN 2906 (PI 179749).
- PI 648051. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3016; Grif 16148. Pedigree - Selected from MN 2907 (PI 179750).
- PI 648052. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3018; Grif 16149. Pedigree - Selected from MN 2910 (PI 180003).
- PI 648053. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3019; Grif 16150. Pedigree - Selected from MN 2917 (PI 180348).
- PI 648054. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3020; Grif 16151. Pedigree - Selected from MN 2931 (PI 181080).
- PI 648055. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3021; Grif 16152. Pedigree - Selected from MN 2931 (PI 181080).

- PI 648056. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3022; Grif 16153. Pedigree - Selected from MN 2936 (PI 181085).
- PI 648057. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3023; Grif 16154. Pedigree - Selected from MN 2936 (PI 181085).
- PI 648058. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3024; Grif 16155. Pedigree - Selected from MN 2942 (PI 182303).
- PI 648059. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3025; Grif 16156. Pedigree - Selected from MN 2948 (PI 183085).
- PI 648060. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3026; Grif 16157. Pedigree - Selected from MN 2955 (PI 183423). Sweet type.
- PI 648061. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3031; Grif 16158. Pedigree - Selected from MN 2907 (PI 179750).

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 648062. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3148; Grif 16159.
- PI 648063. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3149; Grif 16160.
- PI 648064. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3154; Jan Jare I-1; Grif 16163.
- PI 648065. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3364; Grif 16164.
- PI 648066. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3365; Grif 16165.
- PI 648067. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3367; Grif 16166.
- PI 648068. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3373; Grif 16167.

The following were developed by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 648069. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Uncertain. MN 3386; Grif 16168. Pedigree - Selected from MN 310.

- PI 648070. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3393; Grif 16169. Pedigree - Selected from MN 684.
- PI 648071. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3394; Grif 16170. Pedigree - Selected from MN 700 (PI 148114).
- PI 648072. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3395-A; MN 3395-B; Grif 16171. Pedigree - Selected from MN 709 (PI 149832).
- PI 648073. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3407; Grif 16172. Pedigree - Selected from MN 838 (PI 152710).
- PI 648074. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3408; Grif 16173. Pedigree - Selected from MN 838 (PI 152710).
- PI 648075. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3412; Grif 16174. Pedigree - Selected from MN 868 (PI 152739).
- PI 648076. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3442; Grif 16175. Pedigree - Selected from MN 1378.
- PI 648077. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3444; Grif 16176. Pedigree - Selected from MN 1610 (PI 155877).
- PI 648078. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3446; Grif 16177. Pedigree - Selected from MN 1632.
- PI 648079. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3455; Grif 16178. Pedigree - Selected from MN 709 (PI 149832).
- PI 648080. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3456; Grif 16179. Pedigree - Selected from MN 709 (PI 149832).
- PI 648081. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3457; Grif 16180. Pedigree - Selected from MN 750 (PI 152612).
- PI 648082. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3458; Grif 16181. Pedigree - Selected from MN 838 (PI 152710).
- PI 648083. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3459; Grif 16182. Pedigree - Selected from MN 838 (PI 152710).
- PI 648084. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3460; Grif 16183. Pedigree - Selected from MN 856 (PI 152728).

- PI 648085. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3461; Grif 16184. Pedigree - Selected from MN 856 (PI 152728).
- PI 648086. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3462; MER. 57-1; Grif 16185. Pedigree - Selected from MN 856 (PI 152728).
- PI 648087. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3463; Grif 16186. Pedigree - Selected from MN 897.
- PI 648088. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3464; Grif 16187. Pedigree - Selected from MN 897.
- PI 648089. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3465; Grif 16188. Pedigree - Selected from MN 1026.
- PI 648090. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3466; Grif 16189. Pedigree - Selected from MN 1026.
- PI 648091. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3467; Grif 16190. Pedigree - Selected from MN 1027.
- PI 648092. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3468; Grif 16191. Pedigree - Selected from MN 1046 (PI 152957).
- PI 648093. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3469; Grif 16192. Pedigree - Selected from MN 1048 (PI 152959).
- PI 648094. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3470; Grif 16193. Pedigree - Selected from MN 1048 (PI 152959).
- PI 648095. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3471; Grif 16194. Pedigree - Selected from MN 1048 (PI 152959).
- PI 648096. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3477; Grif 16195. Pedigree - Selected from MN 1027.
- PI 648097. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3478; Grif 16196. Pedigree - Selected from MN 1027.
- PI 648098. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3479; Grif 16197. Pedigree - Selected from MN 1027.
- PI 648099. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3480; Grif 16198. Pedigree - Selected from MN 1046 (PI 152957).
- PI 648100. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3481; Grif 16199. Pedigree - Selected from MN 1046 (PI 152957).

- PI 648101. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3482; Grif 16200. Pedigree - Selected from MN 1057 (PI 152968).
- PI 648102. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3483; Grif 16201. Pedigree - Selected from MN 1057 (PI 152968).
- PI 648103. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3487; Grif 16202. Pedigree - Selected from MN 848 (PI 152720).
- PI 648104. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3500; Grif 16203. Pedigree - Selected from MN 1092.
- PI 648105. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3506; Grif 16204. Pedigree - Selected from MN 857.
- PI 648106. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3510; Grif 16205. Pedigree - Selected from MN 896 (PI 152778). Juicy.
- PI 648107. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3521; Grif 16206. Pedigree - Selected from MN 1118 (PI 152753).
- PI 648108. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3522; Grif 16207. Pedigree - Selected from MN 1118 (PI 152753).
- PI 648109. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3523; Grif 16208. Pedigree - Selected from MN 1118 (PI 152753).
- PI 648110. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3524; Grif 16209. Pedigree - Selected from MN 1118 (PI 152753).
- PI 648111. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3525; Grif 16210. Pedigree - Selected from MN 1118 (PI 152753).
- PI 648112. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3526; Grif 16211. Pedigree - Selected from MN 1118 (PI 152753).
- PI 648113. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3527; Grif 16212. Pedigree - Selected from MN 1122.
- PI 648114. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3528; Grif 16213. Pedigree - Selected from MN 1122.
- PI 648115. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3529; Grif 16214. Pedigree - Selected from MN 1122.
- PI 648116. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3530; Grif 16215. Pedigree - Selected from MN 1122.

- PI 648117. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3531; Grif 16216. Pedigree - Selected from MN 1165 (PI 152693).
- PI 648118. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3532; Grif 16217. Pedigree - Selected from MN 1165 (PI 152693).
- PI 648119. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3533; Grif 16218. Pedigree - Selected from MN 1167 (PI 152849).
- PI 648120. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3534; Grif 16219. Pedigree - Selected from MN 1170 (PI 641909).
- PI 648121. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3535; Grif 16220. Pedigree - Selected from MN 1170 (PI 641909).
- PI 648122. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3536; Grif 16221. Pedigree - Selected from MN 1170 (PI 641909).
- PI 648123. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3537; Grif 16222. Pedigree - Selected from MN 1180 (PI 641909).
- PI 648124. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3543; Grif 16223. Pedigree - Selected from MN 1422 (PI 154940).
- PI 648125. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3552; Grif 16224. Pedigree - Selected from MN 1549 (PI 155239).
- PI 648126. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3555; Grif 16225. Pedigree - Selected from MN 1610 (PI 155877).
- PI 648127. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3556; Grif 16226. Pedigree - Selected from MN 1610 (PI 155877).
- PI 648128. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3557; Grif 16227. Pedigree - Selected from MN 1610 (PI 155877).
- PI 648129. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3572; Grif 16228. Pedigree - Selected from MN 2871 (PI 175920).
- PI 648130. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3573; Grif 16229. Pedigree - Selected from MN 2845 (PI 170806).

- PI 648131. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3574; Grif 16230. Pedigree - Selected from MN 2845 (PI 170806).
- PI 648132. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3594; Grif 16232. Pedigree - Selected from MN 2997.
- PI 648133. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3596; Grif 16233. Pedigree - Selected from MN 3005 (PI 195044).
- PI 648134. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3598; Grif 16234. Pedigree - Selected from MN 3015 (Grif 16147).
- PI 648135. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3599; Grif 16235. Pedigree - Selected from MN 3017.
- PI 648136. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3600; Grif 16236. Pedigree - Selected from MN 3018.
- PI 648137. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3623; Grif 16237. Pedigree - Selected from MN 3044 (PI 195689).
- PI 648138. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3633; Grif 16238. Pedigree - Selected from MN 3048 (PI 196044).
- PI 648139. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3647; Grif 16239. Pedigree - Selected from MN 3053 (PI 196049).
- PI 648140. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3652; Grif 16241. Pedigree - Selected from MN 3054 (PI 196050).
- PI 648141. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3653; Grif 16242. Pedigree - Selected from MN 3054 (PI 196050).
- PI 648142. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3654; Grif 16243. Pedigree - Selected from MN 3054 (PI 196050).
- PI 648143. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3656; Grif 16244. Pedigree - Selected from MN 3054 (PI 196050).
- PI 648144. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3662; Grif 16245. Pedigree - Selected from MN 3055 (PI 196051).
- PI 648145. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3700; Grif 16247. Pedigree - Selected from MN 3064 (PI 196060).

- PI 648146. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3729; Grif 16249. Pedigree - Selected from MN 3067.
- PI 648147. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3736; Grif 16250. Pedigree - Selected from MN 3081 (PI 196584).
- PI 648148. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3737; Grif 16251. Pedigree - Selected from MN 3081 (PI 196584).
- PI 648149. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3738; Grif 16252. Pedigree - Selected from MN 3081 (PI 196584).
- PI 648150. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3739; Grif 16253. Pedigree - Selected from MN 3083 (PI 196586).
- PI 648151. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3740; Grif 16254. Pedigree - Selected from MN 3084 (PI 196587).
- PI 648152. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3741; Grif 16255. Pedigree - Selected from MN 3088 (PI 196591).
- PI 648153. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3742; Grif 16256. Pedigree - Selected from MN 3088 (PI 196591).
- PI 648154. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3743; Grif 16257. Pedigree - Selected from MN 3088 (PI 196591).
- PI 648155. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3744; Grif 16258. Pedigree - Selected from MN 3089 (PI 196592).
- PI 648156. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3745; Grif 16259. Pedigree - Selected from MN 3089 (PI 196592).
- PI 648157. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3746; Grif 16260. Pedigree - Selected from MN 3092 (PI 196595).
- PI 648158. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3747; Grif 16261. Pedigree - Selected from MN 3093 (PI 196596).
- PI 648159. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3748; Grif 16262. Pedigree - Selected from MN 3096 (PI 196599).

- PI 648160. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3749; Grif 16263. Pedigree - Selected from MN 3101 (PI 197545).
- PI 648161. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3751; Grif 16264. Pedigree - Selected from MN 3107 (PI 197050).
- PI 648162. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3755; Grif 16265. Pedigree - Selected from MN 3110.
- PI 648163. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3776; Grif 16266. Pedigree - Selected from MN 3090 (PI 196593).
- PI 648164. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3779; Grif 16267. Pedigree - Selected from MN 3118 (PI 197244).
- PI 648165. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3802; Grif 16268. Pedigree - Selected from MN 3069 (PI 196065).
- PI 648166. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3808; Grif 16269. Pedigree - Selected from MN 3070 (PI 196066).
- PI 648167. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3832; Grif 16271. Pedigree - Selected from MN 3073.
- PI 648168. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3866; Grif 16272. Pedigree - Selected from MN 897.
Gray-brown mottles.
- PI 648169. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3867; Grif 16273. Pedigree - Selected from MN 1026. Light brown seed, red glumes.
- PI 648170. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3868; Grif 16274. Pedigree - Selected from MN 1046 (PI 152957). Light brown seed, dark red glumes.
- PI 648171. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3870; Grif 16276. Pedigree - Selected from MN 1057 (PI 152968). Pink to grayish.
- PI 648172. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3871; Grif 16277. Pedigree - Selected from MN 1057 (PI 152968). Light brown seed, long streaks.
- PI 648173. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3873; Grif 16278. Pedigree - Selected from MN 1118 (PI 152753). Grayish to light brown seed.
- PI 648174. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 3877; Grif 16279. Pedigree - Selected from MN 1122. Small brown seed, round.

PI 648175. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3878; Grif 16280.

PI 648176. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3887; Grif 16281. Pedigree - Selected from MN 1167 (PI 152849). Black glume, brown seed.

PI 648177. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3888; Grif 16282. Pedigree - Selected from MN 1167 (PI 152849). Small gray-brown seed.

PI 648178. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3900; Grif 16283. Pedigree - Selected from MN 1633. Brown seed, medium size, black glume.

PI 648179. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3956; Grif 16285. Pedigree - Selected from MN 3063. Small white seed, red tip.

PI 648180. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4038; Grif 16286. Pedigree - Selected from MN 733 (PI 152594).

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 648181. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4059; Grif 16291; Sumac No. 1712. Witchweed resistant.

The following were collected by R.P. Celarier, Oklahoma A&M College, Stillwater, Oklahoma, United States. Donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 648182. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4109; Grif 16292. Collected in Japan.

PI 648183. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4110; Grif 16293. Collected in Portugal.

PI 648184. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4111; Grif 16294. Collected in Myanmar.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 648185. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4121; Grif 16297.

The following were collected by R.P. Celarier, Oklahoma A&M College, Stillwater, Oklahoma, United States. Donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 648186. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. MN 4007; SA 387; Grif 16303; Red Lime 66.

PI 648187. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-4874; MN 4008; Grif 16304.

The following were developed by R.P. Celarier, Oklahoma A&M College,
Stillwater, Oklahoma, United States. Received 1983.

PI 648188. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. MN 4016; IS 474; SA 389; Grif 16305; Pop Sorghum. Pedigree -
Pop Sorghum (SA 389).

The following were donated by R.P. Celarier, Oklahoma A&M College,
Stillwater, Oklahoma, United States. Received 1983.

PI 648189. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-3702; MN 4156; Grif 16308. Collected in Japan.

PI 648190. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. MN 4178; Grif 16310. Collected in Portugal.

PI 648191. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. MN 4181; Grif 16311. Collected in Portugal.

PI 648192. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-4853; MN 4188; Grif 16313. Collected in Myanmar.

PI 648193. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-4873; MN 4207; Grif 16315.

PI 648194. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-4874; MN 4208; Grif 16316.

PI 648195. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-5676; MN 4236; Grif 16318. Collected in Portugal.

PI 648196. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-5685; MN 4244; Grif 16319.

The following were developed by R.P. Celarier, Oklahoma A&M College,
Stillwater, Oklahoma, United States. Received 1983.

PI 648197. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. MN 4246; Grif 16320. Pedigree - *Sorghum caffrorum* x *Sorghum*
spp.

The following were donated by R.P. Celarier, Oklahoma A&M College,
Stillwater, Oklahoma, United States. Received 1983.

PI 648198. *Sorghum bicolor* (L.) Moench subsp. bicolor
Uncertain. A-6114; MN 4312; Grif 16330.

- PI 648199. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. A-6119; MN 4317; Grif 16332. Kaoliang.
- PI 648200. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. A-6122; MN 4320; Grif 16334. Kaoliang.
- PI 648201. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. A-6124; MN 4322; Grif 16335. Kaoliang.
- PI 648202. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. A-6125; MN 4323; Grif 16336. Kaoliang.
- PI 648203. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. A-6128; MN 4326; Grif 16337. Kaoliang.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 648204. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4502; Cuban Guinea Corn; Grif 16356.
- PI 648205. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4503; Framida; Grif 16357.
- PI 648206. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4522; Grif 16358; Missouri Gray Top.

The following were developed by J. D. Smith, Canada Department of Agriculture, Research Station, Saskatoon, Saskatchewan, Canada. Received 1983.

- PI 648207. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4531; Grif 16359. Pedigree - *Sorghum vulgare* x *Sorghum virgatum*.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 648208. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4611; Grif 16365.
- PI 648209. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4612; Grif 16366.
- PI 648210. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4504; IS 8264; EC 21464; STR 5/2; Grif 16367; 65I 2589.
Resistant to Striga.
- PI 648211. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Uncertain. MN 4506; IS 8265; EC 21465; STR 5/5; Grif 16368; 65I 2590.
Resistant to Striga.

- PI 648212. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Uncertain. MN 4507; IS 8266; EC 21466; STR 5/6; Grif 16369; 65I 2591.
 Resistant to Striga.
- PI 648213. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Uncertain. MN 4508; IS 8267; EC 21467; STR 5/7; Grif 16370. Resistant to
 Striga.
- PI 648214. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Uncertain. MN 4509; IS 8268; EC 21468; STR 5/8; Grif 16371; 65I 2586.
 Resistant to Striga.
- PI 648215. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Uncertain. MN 4510; STR 5/9; Grif 16372. Resistant to Striga.
- PI 648216. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Uncertain. MN 4511; STR 5/16; Grif 16373. Resistant to Striga.

The following were developed by Glenn W. Burton, USDA, ARS, Forage & Turf Research, Georgia Coastal Plain Experiment Station, Tifton, Georgia 31793, United States; William F. Anderson, USDA/ARS, CGBRU, P.O. Box 748, Tifton, Georgia, United States. Received 05/09/2007.

- PI 648217. *Paspalum notatum* Flugge**
 Breeding. Population. T 18. GP-3. Pedigree - Result of 18 and 23 cycles of recurrent restricted phenotypic selection (RRPS), respectively, for individual plant size and yield from Pensacola. T 18 and T 23 bahiagrass germplasm lines have larger more erect plant phenotypes with higher individual plant yields than standard Pensacola. They have value as parents in development of high yielding bahiagrass cultivars for pasture and hay production. Individual plant dry matter yield, plant height and plant diameter were all significantly greater ($p= 0.05$) than Pensacola bahiagrass when compared in replicated field studies of plants spaced 18 cm apart (Table 1) which supports previous data (Pedreira and Brown, 1996; Werner and Burton, 1991). Plants of T18 and T23 had a more erect plant ideotype than Pensacola or Tifton 9 (Burton, 1989) bahiagrasses. Mature plants of T18 and T23 had significantly fewer culms (8.0 and 6.3, respectively) than Tifton 9 (9.2) in field comparisons of 100 individual spaced plants in 2005. Culm angles from horizontal or prostrate (i.e. 0 %) were significantly greater for T18 (46o) and T23 (55o) than for Tifton 9 (34 o) indicating the more erect plant type. Plant heights and leaf lengths were greater for T18 and T23 than Tifton 9. However, leaf width of the germplasm lines were less than Tifton 9. Flower heads have generally three racemes. Raceme lengths of T18 and Tifton 9 were similar, whereas T23 racemes were shorter.
- PI 648218. *Paspalum notatum* Flugge**
 Breeding. Population. T 23. GP-4. Pedigree - Result of 18 and 23 cycles of recurrent restricted phenotypic selection (RRPS), respectively, for individual plant size and yield from Pensacola. T 18 and T 23 bahiagrass germplasm lines have larger more erect plant phenotypes with higher individual plant yields than standard Pensacola. They have value as parents in development of high yielding bahiagrass cultivars for pasture and hay production. Individual plant dry matter yield, plant height and plant diameter were all significantly greater ($p= 0.05$) than Pensacola bahiagrass when compared in replicated field studies of plants spaced 18

cm apart (Table 1) which supports previous data (Pedreira and Brown, 1996; Werner and Burton, 1991). Plants of T18 and T23 had a more erect plant ideotype than Pensacola or Tifton 9 (Burton, 1989) bahiagrasses. Mature plants of T18 and T23 had significantly fewer culms (8.0 and 6.3, respectively) than Tifton 9 (9.2) in field comparisons of 100 individual spaced plants in 2005. Culm angles from horizontal or prostrate (i.e. 0 %) were significantly greater for T18 (46o) and T23 (55o) than for Tifton 9 (34 o) indicating the more erect plant type. Plant heights and leaf lengths were greater for T18 and T23 than Tifton 9. However, leaf width of the germplasm lines were less than Tifton 9. Flower heads have generally three racemes. Raceme lengths of T18 and Tifton 9 were similar, whereas T23 racemes were shorter.

The following were developed by Holland-Select B.V., Netherlands. Received 04/25/2007.

PI 648219 PVPO. Phaseolus vulgaris L.
Cultivar. "MECCANO". PVP 200700249.

PI 648220 PVPO. Phaseolus vulgaris L.
Cultivar. "SUPREMO". PVP 200700250.

The following were developed by Golden Peanut Company, LLC, Alpharetta, Georgia, United States. Received 04/25/2007.

PI 648221 PVPO. Arachis hypogaea L.
Cultivar. "AT-215". PVP 200700261.

The following were developed by Rutgers University - Cook College, New Brunswick, New Jersey, United States. Received 04/25/2007.

PI 648222 PVPO. Festuca rubra L. subsp. rubra
Cultivar. "EPIC". PVP 200700270.

The following were developed by Ball Horticultural Company, West Chicago, Illinois, United States. Received 04/25/2007.

PI 648223 PVPO. Catharanthus roseus (L.) G. Don
Cultivar. "PACIFICA BURGUNDY HALO". PVP 200700272.

The following were developed by WestBred LLC, Bozeman, Montana, United States. Received 04/25/2007.

PI 648224 PVPO. Hordeum vulgare L. subsp. vulgare
Cultivar. "STOCKFORD". PVP 200700273. Pedigree -
Baronesse/BZ591-57(CCXXXII-32/Canadian 6-rowed varieties//Westford).
Two-rowed hooded hay barley.

The following were donated by Bayer CropScience GMBH, Germany. Received 04/25/2007.

PI 648225 PVPO. *Gossypium hirsutum* L.
Cultivar. "KRYPTON PIMA". PVP 200700274. Developed in United States.

PI 648226 PVPO. *Gossypium hirsutum* L.
Cultivar. "ACALA DAYTONA RF". PVP 200700275. Developed in United States.

PI 648227 PVPO. *Gossypium hirsutum* L.
Cultivar. "ACALA REVOLUTION LL". PVP 200700276. Developed in United States.

PI 648228 PVPO. *Gossypium hirsutum* L.
Cultivar. "HAMMER RF". PVP 200700277. Developed in United States.

PI 648229 PVPO. *Gossypium hirsutum* L.
Cultivar. "ACALA ULTIMA RF". PVP 200700278. Developed in United States.

The following were developed by DLF International Seeds, Halsey, Oregon, United States. Received 04/25/2007.

PI 648230 PVPO. *Festuca trachyphylla* (Hack.) Krajina
Cultivar. "GOTHAM". PVP 200700282.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 04/25/2007.

PI 648231 PVPO. *Glycine max* (L.) Merr.
Cultivar. "90M93". PVP 200700258.

PI 648232 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M34". PVP 200700259.

PI 648233 PVPO. *Glycine max* (L.) Merr.
Cultivar. "91M92". PVP 200700260.

The following were developed by North Carolina State University, Office of Technology Transfer, Raleigh, North Carolina, United States. Received 05/15/2007.

PI 648234 PVPO. *Arachis hypogaea* L.
Cultivar. "GOLIATH". PVP 200600174.

The following were developed by Monsanto Company, St. Louis, Missouri 63167, United States. Received 05/03/2007.

PI 648235 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4896902". PVP 200700281.

The following were developed by The Regents of the University of California, San Francisco, California, United States. Received 05/01/2007.

PI 648236 PVPO. *Asparagus officinalis* L.
Cultivar. "DePaoli". PVP 200700127.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 05/16/2007.

PI 648237 PVPO. *Solanum lycopersicum* L.

Cultivar. "SX 387". PVP 200700320.

The following were developed by B.D. Munda, Soil Conservation Service -- USDA, Tucson Plant Materials Center, 3241 N. Romero Rd., Tucson, Arizona 85705, United States; Mary E. Hershendorfer, USDA, NRCS, Tucson Plant Materials Center, 3241 N. Romero Road, Tucson, Arizona 85705, United States; E. Ramona Garner, USDA, NRCS, Tucson Plant Materials Center, 3241 N. Romero Road, Tucson, Arizona 85705, United States. Received 03/28/2007.

PI 648238. *Pappophorum vaginatum* Buckley

Cultivar. 9064135; Pima Pappusgrass. Pedigree - Composite of 16 accessions collected from native Pima pappusgrass stands in southern Arizona.

The following were donated by Charles E. Simpson, Texas A&M University, P. O. Box 292, Stephenville, Texas 76401, United States; Roy N. Pittman, USDA, ARS, Plant Genetic Resources Conservation Unit, 1109 Experiment Street, Griffin, Georgia 30223-1797, United States; David E. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 400, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 01/27/1993.

PI 648239. *Arachis hypogaea* var. *hirsuta* J. Kohler

1579; US 1579; Grif 7381. Collected in Brazil.

The following were collected by Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador; David E. Williams, Internat'l Plant Genetic Resources Inst., Regional Office for the Americas, c/o CIAT, Int'l Ctr. for Tropical Agric., Cali, Valle, Colombia. Received 11/17/1995.

PI 648240. *Arachis hypogaea* var. *hirsuta* J. Kohler

Landrace. WWT-1313; mani paisano; Grif 12506. Collected 10/16/1995 in Pichincha, Ecuador. Latitude 0° 0' 56" S. Longitude 78° 28' 31" W. Elevation 2685 m. Canton Quito, Parroquia San Antonia de Pichincha, Loc. Caspigasi del Carmen, 4.1 km from del Mitad del Mundo, road to Calacali. Farm. Sandy volcanic soil. Small purple seeds, said to occur 2-3 per pod on small (20 cm diameter) prostrate plants.

The following were collected by Raul Castillo, Instituto Nacional de Investigaciones Agropecuarias, Departamento de Recursos, Fitogeneticos, Estacion Experimental, Quito, Pichincha, Ecuador; Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de

Recusos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador; David E. Williams, Internat'l Plant Genetic Resources Inst., Regional Office for the Americas, c/o CIAT, Int'l Ctr. for Tropical Agric., Cali, Valle, Colombia. Received 11/17/1995.

PI 648241. *Arachis hypogaea* var. *hirsuta* J. Kohler
Landrace. WWT-1317; mani; Grif 12511. Collected 10/21/1995 in Pichincha, Ecuador. Latitude 0° 0' 46" N. Longitude 78° 28' 38" W.
Elevation 2680 m. Canton Quito, Parroquia San Antonio, Localidad Caspigasi 3.2 km from del Mitad del Mundo. Farm. Pedigree - Selection from Grif 12510, based on seed coat color. Plants said to be very small, about 10-15 cm diameter, prostrate. Fruits small, with marked reticulation, humps, slight beak, 2-3 seeded. Seed brownish.

The following were collected by Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recusos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador; David E. Williams, Internat'l Plant Genetic Resources Inst., Regional Office for the Americas, c/o CIAT, Int'l Ctr. for Tropical Agric., Cali, Valle, Colombia. Received 11/17/1995.

PI 648242. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1329; mani blanco; yura inchi (Quichua); Grif 12519. Collected 10/24/1995 in Sucumbios, Ecuador. Latitude 0° 24' 55" S. Longitude 76° 37' 36" W. Elevation 370 m. Canton Shushufindi, Parroquia Limoncocha, Comunidad Limoncocha. Dooryard garden. Pedigree - Selected from a mixture with Grif 12520 based on seed coat color. Plants small, height 20 cm, leaves light green. Fruits with marked reticulation, 2-3 seeded. Seeds tan.

PI 648243. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1330; mani; Grif 12523. Collected 10/24/1995 in Sucumbios, Ecuador. Latitude 0° 23' 36" S. Longitude 76° 37' 46" W. Elevation 382 m. Canton Shushufindi, Parroquia Limoncocha, Comunidad Limoncocha. Playa Yacu. Farm. Pedigree - Selection from Grif 12521 based on seed coat color. Rough pods, 2-3 seeded. Seed light purple.

PI 648244. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1333; runa inchi; mani criollo; Grif 12529. Collected 10/25/1995 in Napo, Ecuador. Latitude 0° 44' 51" S. Longitude 77° 26' 3" W. Elevation 695 m. Canton Loreto, Parr. San Jose de Dahuano, Localidad 24 de Mayo. Small farm. Plants erect, height 50 cm, flowers orange on main stem, purple pegs. Fruits with marked reticulation containing 3-4 wine colored seeds.

PI 648245. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1335; mani blanco; yura inchi; Grif 12532. Collected 10/26/1995 in Napo, Ecuador. Latitude 1° 2' 20" S. Longitude 77° 34' 57" W. Elevation 470 m. Prov. Napo, Canton Tena, Parroq. Misahualli, Localidad Pusuno. House on riverbank of Rio Napo. Pedigree - Selected from a mixture with Grif 12533 based on seed coat color. Pods with marked reticulation, 2-4 seeded. Seed brownish.

- PI 648246. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1342; mani de la zona; Grif 12535. Collected 10/28/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Mixed seed.
- PI 648247. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1342; mani de la zona; Grif 12536. Collected 10/28/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12535 based on seed coat color. Seed tan.
- PI 648248. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1342; mani de la zona; Grif 12537. Collected 10/28/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12535 based on seed coat color. Seeds tan with purple streaks.
- PI 648249. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1342; mani de la zona; Grif 12538. Collected 10/28/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12535 based on seed coat color. Seeds tan with purple stripes.
- PI 648250. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1342; mani de la zona; Grif 12539. Collected 10/28/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12535 based on seed coat color. Seed purple.
- PI 648251. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1343; mani de la zona; Grif 12541. Collected 10/29/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12540 based on seed coat color. Seed tan.
- PI 648252. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1343; mani de la zona; Grif 12542. Collected 10/29/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12540 based on seed coat color. Seeds tan with purple stripes.
- PI 648253. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1343; mani de la zona; Grif 12543. Collected 10/29/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12540 based on seed coat color. Seed purple.
- PI 648254. *Arachis hypogaea* var. *aequatoriana*** Krapov. & W. C. Greg.
Landrace. WWT-1344; mani de la zona; Grif 12544. Collected 10/29/1995 in Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.

Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Mixed seed.

PI 648255. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1344; mani de la zona; Grif 12549. Collected 10/29/1995 in
Pastaza, Ecuador. Latitude 1° 29' 11" S. Longitude 78° 0' 3" W.
Elevation 987 m. Prov. Pastaza, Canton Puyo, Localidad Puyo. Market.
Pedigree - Selection from Grif 12544 based on seed coat color. Seeds tan
with purple stripes.

PI 648256. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1361; vaina larga; catalan; Grif 12581. Collected
11/01/1995 in Loja, Ecuador. Latitude 4° 0' 18" S. Longitude 79°
41' 53" W. Elevation 1200 m. Provincia Loja, Canton Paltas, Parroquia
Yamana, Localidad Yamana. Farmer's house. Fruit length 6 cm, with
pronounced humps, beak, reticulation, constriction, containing 3-4
purple seeds. Plants erect, to 50 cm.

PI 648257. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1365; huasquillo; Grif 12587. Collected 11/02/1995 in El
Oro, Ecuador. Latitude 3° 42' 59" S. Longitude 79° 37' 9" W.
Elevation 775 m. Prov. El Oro, Canton Portovelo, Parroquia Portovelo,
Localidad Portovelo. Store. Pedigree - Selection from mixture with Grif
12588 based on seed coat color. Seed dark purple.

PI 648258. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WWT-1366; criollo; Grif 12590. Collected 11/03/1995 in El Oro,
Ecuador. Latitude 3° 41' 32" S. Longitude 79° 36' 27" W.
Elevation 1265 m. Provincia El Oro, Canton Zaruma, Parroquia Zaruma,
Localidad Zaruma. Store. Pedigree - Selection form Grif 12589 based on
seed coat color. Seed dark purple.

The following were collected by Charles E. Simpson, Texas A&M University, P.
O. Box 292, Stephenville, Texas 76401, United States; Karen A. Williams,
USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402,
BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia,
Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento
Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta.
Catalina, Santa Catalina, Pichincha, Ecuador. Received 10/07/1996.

PI 648259. *Arachis hypogaea* var. *aequatoriana* Krapov. & W. C. Greg.
Landrace. WTS-97; mani criollo; Grif 13877. Collected 09/03/1996 in
Morona-Santiago, Ecuador. Latitude 2° 33' 48" S. Longitude 78°
9' 22" W. Elevation 850 m. Canton Sucua, Parroquia Huambi, Localidad El
Cristal. Farmer's house. Plants with erect lateral branches. Stems,
petioles and, leaves pubescent. Flowers reddish-orange (*aequatoriana*
type). Seeds purple, tips tan, small. Pods small, strongly reticulated,
humps, beak minimal, 1-4 seeds per pod.

The following were donated by Jianxiu Liu, Jiangsu Province & Chinese Academy
of Sciences, Institute of Botany, Zhongshanmenwai Qianhuhoucun No. 1,
Nanjing, China. Received 06/07/2006.

PI 648260. *Cynodon dactylon* (L.) Pers.
"96-C-106"; Q 44649.

The following were donated by Yong Weon Seo, Korea University, Div. of Biotechnology & Genetic Engineering, College of Life & Env. Sciences, Seoul, Korea, South. Received 02/03/2006.

PI 648261. *Zoysia japonica* Steud.

"Sam Deok"; Q 44544. .

PI 648262. *Zoysia japonica* Steud.

"Sam-18"; Q 44545.

PI 648263. *Zoysia japonica* Steud.

"Sam-20"; Q 44546.

PI 648264. *Zoysia japonica* Steud.

"Sam-24"; Q 44547.

PI 648265. *Zoysia japonica* Steud.

"KZ 001"; Q 44548. .

PI 648266. *Zoysia japonica* Steud.

"KZ 002"; Q 44549. .

PI 648267. *Zoysia japonica* Steud.

"KZ 003"; Q 44550. .

PI 648268. *Zoysia japonica* Steud.

"KZ 004"; Q 44551.

PI 648269. *Zoysia japonica* Steud.

"KZ 005"; Q 44552.

The following were developed by John Rupe, University of Arkansas, Department of Plant Pathology, PTSC 217, Fayetteville, Arkansas 72701, United States; Clay H. Sneller, Ohio State University, O.A.R.D.C., 1680 Madison Avenue, Wooster, Ohio 44691, United States; Pengyin Chen, University of Arkansas, Department of Crop, Soil & Environmental Sciences, Soybean Breeding and Genetics, Fayetteville, Arkansas 72701, United States; Leandro A. Mozzoni, University of Arkansas, Crop, Soil and Environmental Sciences, 115 PLSC Building - Soybean Breeding, Fayetteville, Arkansas 72701, United States. Received 05/11/2007.

PI 648270. *Glycine max* (L.) Merr.

Cultivar. Pureline. "OSAGE". CV-495; PVP 200800001. Pedigree - Osage originated from an individual F4 plant selection from the cross Hartz 5545 x KS 4895. Hartz 5545 was derived from the cross H78-168 x Narow. The parents of H78-168 were D70-3115 x Forrest. D70-3115 was derived from D64-4636 x Lee. D64-4636 was a selection from Hill x D58-3311. KS 4895 was derived from the cross Sherman x Bay. Osage is a determinate cultivar with a relative maturity of 5.6. It has purple flowers, gray pubescence, and tan pod walls. Plant height of Osage ranges from 70 to 80cm. Seeds of Osage have yellow cotyledons with dull yellow seed coats and imperfect black hila with seed size of 12.4 g 100 seeds⁻¹. Lodging, shattering, and seed quality scores range from 1 to 2. Seed protein and oil contents are 434 g kg⁻¹ and 195 g kg⁻¹, respectively. Osage is

resistant to southern stem canker [caused by *Diaporthe phaseolorum* (Cooke & Ellis) Sacc. f. sp. *meridionalis* Morgan-Jones], sudden death syndrome [caused by *Fusarium solani* (App. & Wollenw.) f. sp. *Glycines*], Soybean mosaic virus, and frog-eye leaf spot (caused by *Cercospora sojina* Hara). It is susceptible to root knot nematode [*Meloidogyne arenaria* (Neal) Chitwood and *Meloidogyne incognita* (Kofoid & White) Chitwood] and to races 2, 3, and 14 of soybean cyst nematode (*Heterodera glycines* Ichinohe).

The following were developed by Monsanto Technology L.L.C., Waterman, Illinois 60556, United States. Received 05/15/2007.

- PI 648271 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "CV082228". PVP 200700211.
- PI 648272 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I029427". PVP 200700212.
- PI 648273 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I079171". PVP 200700213.
- PI 648274 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I090378". PVP 200700214.
- PI 648275 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I107139". PVP 200700215.
- PI 648276 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I123913". PVP 200700216.
- PI 648277 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I206447". PVP 200700217.
- PI 648278 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I210096". PVP 200700218.
- PI 648279 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I210147". PVP 200700219.
- PI 648280 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I210292". PVP 200700220.
- PI 648281 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I211922". PVP 200700221.
- PI 648282 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I211986". PVP 200700222.
- PI 648283 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I211988". PVP 200700223.
- PI 648284 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I219358". PVP 200700224.
- PI 648285 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I222066". PVP 200700225.

- PI 648286 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I226276". PVP 200700226.
- PI 648287 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I281779". PVP 200700227.
- PI 648288 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I281798". PVP 200700228.
- PI 648289 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I285292". PVP 200700229.
- PI 648290 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I285411". PVP 200700230.
- PI 648291 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I291273". PVP 200700231.
- PI 648292 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I291336". PVP 200700232.
- PI 648293 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I351729". PVP 200700233.
- PI 648294 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I428355". PVP 200700234.
- PI 648295 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I516721". PVP 200700235.
- PI 648296 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I669334". PVP 200700236.
- PI 648297 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I703277". PVP 200700237.
- PI 648298 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I744515". PVP 200700238.
- PI 648299 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I760899". PVP 200700239.
- PI 648300 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I796483". PVP 200700240.
- PI 648301 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I932310". PVP 200700241.

The following were donated by Curtis Sylvester Showell, 13318 Muskrattown Road, Delaware & Road Number 96A Maryland Line, Bishopville, Maryland 21813, United States. Received 1988.

- PI 648302. *Citrullus lanatus* (Thunb.) Matsum. & Nakai
Grif 15938; APPLESEED.

The following were developed by University of Georgia Research Foundation, Inc., Athens, Georgia, United States. Received 05/21/2007.

PI 648303 PVPO. *Paspalum notatum* Flugge
Cultivar. "TifQuik". PVP 200700209.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 05/24/2007.

PI 648304 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PH1T9". PVP 200700305.

PI 648305 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PH4RF". PVP 200700306.

PI 648306 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHCHP". PVP 200700307.

PI 648307 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE3D". PVP 200700308.

PI 648308 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE4N". PVP 200700309.

PI 648309 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEKN". PVP 200700310.

PI 648310 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHENA". PVP 200700312.

PI 648311 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEVC". PVP 200700313.

PI 648312 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEWB". PVP 200700314.

PI 648313 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHH5G". PVP 200700315.

PI 648314 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHH9H". PVP 200700316.

PI 648315 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHHEP". PVP 200700317.

PI 648316 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHHNJ". PVP 200700318.

PI 648317 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHP0A". PVP 200700319.

The following were developed by Nidera, S.A., Argentina. Received 05/24/2007.

- PI 648318 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 5009RG". PVP 200600243.
- PI 648319 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 4209RG". PVP 200600247.
- PI 648320 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 5543RG". PVP 200600248.
- PI 648321 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 5485RG". PVP 200600249.
- PI 648322 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 7708RG". PVP 200600250.
- PI 648323 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 4613RG". PVP 200600251.
- PI 648324 PVPO. *Glycine max* (L.) Merr.
Cultivar. "Nidera A 3289RG". PVP 200600252.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States; Rutgers, The State University of New Jersey, New Jersey, United States. Received 05/24/2007.

- PI 648325 PVPO. *Lolium perenne* L.
Cultivar. "Harrier". PVP 200700029.
- PI 648326 PVPO. *Lolium perenne* L.
Cultivar. "HOME RUN". PVP 200700166.
- PI 648327 PVPO. *Lolium perenne* L.
Cultivar. "APPLE GL". PVP 200700168.

The following were developed by Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 05/24/2007.

- PI 648328 PVPO. *Lolium perenne* L.
Cultivar. "PST-2LAN". PVP 200700173.
- PI 648329 PVPO. *Lolium perenne* L.
Cultivar. "PST-2J15". PVP 200700174.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States; Rutgers, The State University of New Jersey, New Jersey, United States. Received 05/24/2007.

- PI 648330 PVPO. *Lolium perenne* L.
Cultivar. "PROTOTYPE". PVP 200700183.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States; Novel AG, Inc., Oregon, United States. Received 05/24/2007.

PI 648331 PVPO. *Lolium perenne* L.
Cultivar. "PACESETTER II". PVP 200700184.

The following were developed by Novel AG, Inc., Oregon, United States. Received 05/24/2007.

PI 648332 PVPO. *Lolium perenne* L.
Cultivar. "NOTABLE". PVP 200700185.

The following were developed by NexGen Seed Research, Inc., Albany, Oregon, United States. Received 05/24/2007.

PI 648333 PVPO. *Lolium perenne* L.
Cultivar. "APR1667". PVP 200700262.

PI 648334 PVPO. *Lolium perenne* L.
Cultivar. "APPLAUD II". PVP 200700263.

PI 648335 PVPO. *Lolium perenne* L.
Cultivar. "1GSquared". PVP 200700264.

The following were developed by NEXGEN Seed Research, LLC, Albany, Oregon, United States. Received 05/24/2007.

PI 648336 PVPO. *Lolium perenne* L.
Cultivar. "LineDrive GLS". PVP 200700265.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 05/24/2007.

PI 648337 PVPO. *Lolium perenne* L.
Cultivar. "GL2". PVP 200700266.

PI 648338 PVPO. *Lolium perenne* L.
Cultivar. "Protege GLR". PVP 200700267.

PI 648339 PVPO. *Lolium perenne* L.
Cultivar. "DP1". PVP 200700268.

PI 648340 PVPO. *Lolium perenne* L.
Cultivar. "PALMER V". PVP 200700269.

The following were developed by DLF International Seeds, Halsey, Oregon, United States. Received 05/24/2007.

PI 648341 PVPO. *Lolium perenne* L.
Cultivar. "ATTRIBUTE". PVP 200700271.

The following were developed by USDA, Washington, District of Columbia, United States. Received 05/24/2007.

PI 648342 PVPO. *Vicia villosa* Roth subsp. villosa
Cultivar. "PURPLE BOUNTY". PVP 200700280.

The following were developed by CSIRO, Australia. Received 05/24/2007.

PI 648343 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 1880B2F". PVP 200700292.

The following were developed by AmeriSeed, LLC, Boise, Idaho, United States. Received 05/24/2007.

PI 648344 PVPO. *Phaseolus vulgaris* L.
Cultivar. "SONORA". PVP 200700296.

PI 648345 PVPO. *Phaseolus vulgaris* L.
Cultivar. "LORETO". PVP 200700297.

PI 648346 PVPO. *Phaseolus vulgaris* L.
Cultivar. "BAJA". PVP 200700298.

PI 648347 PVPO. *Phaseolus vulgaris* L.
Cultivar. "DURANGO". PVP 200700299.

The following were developed by Central Valley Seeds, Inc., United States. Received 05/24/2007.

PI 648348 PVPO. *Lactuca sativa* L.
Cultivar. "KING ROYALE". PVP 200700303.

PI 648349 PVPO. *Lactuca sativa* L.
Cultivar. "KING COBRA". PVP 200700304.

The following were developed by Richard C. Frohberg, North Dakota State University, Crop & Weed Science Department, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States; NDSU Research Foundation, North Dakota, United States; J.B. Rasmussen, North Dakota State University, Dept. of Plant Pathology, Fargo, North Dakota 58105, United States; R.W. Stack, North Dakota State University, Plant Pathology Department, Fargo, North Dakota 58105, United States; Mohamed Mergoum, North Dakota State University, Plant Sciences Dept., Loftsgard Hall, Fargo, North Dakota 58105-5051, United States; Tim Friesen, USDA-ARS, 1307 N. 18th St., Fargo, North Dakota 58105, United States . Received 05/24/2007.

PI 648350. *Triticum aestivum* L. subsp. aestivum
Cultivar. Pureline. "FALLER"; ND 805. PVP 200700328; REST 648350; CV-1026. Pedigree - ND2857/ND2814. Faller is hard red spring wheat (HRSW) (*Triticum aestivum* L.) developed at North Dakota State University (NDSU) and released by the North Dakota Agricultural Experiment Station (NDAES). Faller was derived from the ND2857/ND2814 cross made at NDSU in

fall 1997. ND2857 (ND2709/ND688) is a hard red spring experimental line with good resistance to Fusarium head blight (FHB) [caused by *Fusarium graminearum* Schwabe (telomorph *Gibberella zeae* (Schwein.) Petch)] originating from ND2709, a line known to possess the Fhb1 QTL derived from Sumai3 (PI 481542). Sumai3, a spring wheat from China, is arguably the most widely used source of resistance to FHB in the world. Both ND2709 and ND688 are HRSW experimental lines developed by the NDSU breeding program. ND2814 (Kitt (PI 518818)/ Amidon (PI 527682)/3/ Grandin (PI 531005) / Stoa S (PI 520297)) is a HRSW line developed by the NDSU HRSW breeding program. Kitt is HRSW cultivar released in 1975 by the Minnesota Agricultural Experiment Station and the USDA-ARS while Amidon, Grandin and Stoa are HRSW cultivars released by NDAES in 1988, 1989, and 1984, respectively. Faller was produced from a bulk of one purified F4:5 plot selected in 2001 at Christchurch, New Zealand. Faller was released because it combines very high yield with good end-use quality and resistance to both FHB and leaf diseases including leaf rust (caused by *Puccinia triticina* Eriks.) and stem rust (caused by *Puccinia graminis* Per.:Pers. f. sp. tritici Eriks. & E. Henn).

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 05/24/2007.

PI 648351 PVPO. *Pisum sativum* L.

Cultivar. "XP 08520689". PVP 200700329.

The following were developed by Cooperative Elevator Co., Pigeon, Michigan, United States. Received 05/24/2007.

PI 648352 PVPO. *Phaseolus vulgaris* L.

Cultivar. "01054". PVP 200700330.

The following were developed by NexGen Seed Research, Inc., Albany, Oregon, United States. Received 05/24/2007.

PI 648353 PVPO. *Lolium perenne* L.

Cultivar. "T3". PVP 200700331.

The following were developed by C. Corley Holbrook, USDA, ARS, Georgia Coastal Plain Exp. Sta., P.O. Box 748, Tifton, Georgia 31793, United States; Patricia Timper, Nematodes, Weeds & Crops, Research Unit, USDA-ARS, P.O. Box 748, Tifton, Georgia 31793, United States; Albert Culbreath, The University of Georgia, Coastal Plain Experiment Station, P. O. Box 748, Tifton, Georgia 31793, United States. Received 06/05/2007.

PI 648354. *Arachis hypogaea* L. subsp. *hypogaea*

Breeding. Pureline. TifGP-1. GP-126. Pedigree - Segregating interspecific material that originated from a cross of *A. hypogaea* (PI 261942) with *A. cardenasii* (GKP 10017, PI 262141) was obtained from North Carolina State University. TifGP-1 originated from a cross of this segregating interspecific material with the cultivar MARC I. The population was advanced to the F4 using single seed descent. Individual F4 plants were harvested. The population was then subjected to selection pressure for resistance to *Meloidogyne arenaria* using a gree

house screening technique, and for resistance to TSWV using a field screening technique. TifGP-1 is a small runner market-type in seed and pod size. Based on standard peanut plant descriptors, it is a medium size with a bunch growth habit and a mainstem that is not apparent during the growing season or at harvest. It is a medium maturity class peanut, with about 135 days needed for optimal maturity. TifGP-1 is the first peanut germplasm reported to have resistance to both TSWV and the peanut root-knot nematode, and the first interspecific germplasm reported to have resistance to TSWV. In field and greenhouse studies TifGP-1 exhibited significant reduction in nematode reproduction in comparison to the nematode susceptible cultivar Georgia Green, and significant reduction in incidence of TSWV in comparison to the TSWV susceptible cultivar COAN. Based on the pedigree and the phenotypic observations, we believe that TifGP-1 contains some unique genes for resistance to these two pathogens.

The following were developed by Reed E. Barker, USDA, ARS, Natl. Forage Seed Prod. Res. Ctr., Oregon State University, Corvallis, Oregon 97331-7102, United States. Received 06/07/2007.

PI 648355. *Lolium multiflorum* Lam.

Cultivar. Population. "FLOREGON"; FL/OR 1994 LR; FL/OR X 1994 LR. Pedigree - Lineage of Floregon traces through a crown rust resistance selection of the cultivar Surrey. New Italian annual ryegrass cultivar has resistance to crown rust [caused by *Puccinia coronata*]. Vernalization requirement is segregating in Floregon with up to 20% of the plants not flowering, or with very late maturity under southeastern US conditions in winter forage production trials. Forage yield of Floregon was similar to other high yielding annual-type ryegrass cultivars and crown rust resistance was slightly higher when the cultivar was tested for two years in 23 southeastern US locations. Seed production was higher than other commercial cultivars in two years and at two locations in Oregon.

The following were developed by Soon Jai Park, Agriculture and Agri-Food Canada, Harrow Research Station, 2585 County Road 20, Harrow, Ontario N0R 1G0, Canada; F. Kiehn, Agriculture and Agri-Food Canada, Research Centre, Unit 100 - 101 Route 100, Morden, Manitoba R6M 1Y5, Canada; T. Rupert, Agriculture and Agri-Food Canada, Greenhouse and Processing Crops Res. Centre, Harrow, Ontario N0R 1G0, Canada; K. Yu, Agriculture and Agri-Food Canada, Greenhouse and Processing Crops Res. Centre, Harrow, Ontario N0R 1G0, Canada. Received 05/31/2007.

PI 648356. *Phaseolus vulgaris* L.

Cultivar. Pureline. "KIPPEN"; HR100-2363. CV-278. Pedigree - Selected from cross HR40-1285 x HR45-1445 made in fall 1992 at AAFC-GPCRC. HR40-1285 is derived from a cross between 'Crestwood'/HR14-818, made in 1986 and HR40 was used for its upright plant type and good canning quality. HR45-1445 is a selection from the cross of HR 13-621*2///XAN159/HR 13-621 made in 1987. HR45 was common bacterial blight (CBBLT) resistant upright germplasm. Has high yield potential as an early maturity cultivar in the early to mid-season maturity areas in SW Ontario. It yielded 2750 kg ha⁻¹ which was similar to an average of 4 check cultivars such as Pilot, Envoy, AC Compass, and Avanti of an average yeild of 2745 kg ha⁻¹ in 17 trials during 1999-2003. However, AC

Compass outyielded Kippen by about 320 kg ha⁻¹. It matured about 2 days later than the checks of 91 d in 16 trials. Has slightly smaller seed mass of 19.1 g per 100 seeds than the check cultivars. Recommended for the areas with 2600 or higher crop heat unit (CHU). In Manitoba narrow row trials conducted at 5 sites during 2001-2002, Kippen yielded 108 kg ha⁻¹ more beans than check cv. Envoy in 8 narrow row trials. Matured at 100 d, 5 d earlier than check cv Envoy. Has smaller seed mass of 19.5 g 100 seeds ⁻¹ than Envoy. Much taller with plant height of 52 cm than Envoy of 43 cm in height of short determinate bush type in Manitoba trials. Has semi-determinate growth habit with very upright plant type and has much higher pod bearing nodes above ground (80% for Kippen vs 69% for Envoy). Combine loss is much less and has much better harvestability than the short bushed bean of Envoy. Has good lodging resistance in both wide rows (1.5 vs 2.5 scores) in Ontario trials and in narrow rows (1.0 vs 2.3 scores) in Manitoba trials where scores of 1 to 5 where it has poor standing and lodged. Has acceptable cooking and canning quality and better canning quality than Envoy. Resistant to bean common mosaic virus race 1 and 15. Moderately resistant to common bacterial blight in field nursery but susceptible to anthracnose races alpha and delta. Moderately resistant to white mold caused by *Sclerotinia sclerotiorum*. Has green hypocotyls and white flowers. Pods are light tan colored with absence/slight ventral curvature and short straight beaks when ripe. Seeds are oval shaped with dull seed coat lustre with white hilum.

The following were developed by Soon Jai Park, Agriculture and Agri-Food Canada, Harrow Research Station, 2585 County Road 20, Harrow, Ontario N0R 1G0, Canada; T. Rupert, Agriculture and Agri-Food Canada, Greenhouse and Processing Crops Res. Centre, Harrow, Ontario N0R 1G0, Canada. Received 05/31/2007.

PI 648357. *Phaseolus vulgaris* L.

Cultivar. Pureline. "NAUTICA"; HR81-5. CV-279. Pedigree - Selected from cross: OAC Laser x HR20-827. OAC Laser was derived from a cross between a black bean, Midnight, and an early navy bean 'Seafarer. HR20-827 selected from a cross between white mold resistant navy bean Ex Rico 23 and Midnight. Is a full season maturity and has good yield potential in SW Ontario. Yielded 3521 kg ha⁻¹, about 106 kg ha⁻¹ more than an average yield (3415 kg ha⁻¹) of 3 check cultivars (OAC Gryphon, OAC Rex, and Vista) in 9 trials during 3 yrs. Matured 96 d after seeding, about 2 d later than an average of 3 checks 94 d. Is adapted to the areas having 2700 or more crop heat units (CHU) in Ontario. Has seed mass of 19.1 g per 100 seeds, similar to Vista (19.0 g) and slightly smaller than OAC Gryphon (19.9 g) and OAC Rex (21.1 g). Very good cooking and canning quality. Resistant to bean common mosaic virus race 1 and 15 by carrying resistant "I" gene, but susceptible to both anthracnose races 17 and 23. Moderately resistant to white mold in visual rating of 1.6 in scale of 1 for resistant to 9 for highly susceptible. Green hypocotyls and white flowers. Dark green leaves with oval shape. Pods are green and turn to light tan colored at maturity and straight with short straight beaks. Seeds are oval shaped with dull seed coat lustre with clear hilum. Has semi-determinate growth habit of very upright plant type with narrow canopy and short vine, good standability and high pod bearing nodes above the ground. Because of its erect plant type is suitable for bean production in narrow/solid seeding and direct combine harvest.

The following were donated by Oklahoma State University, Oklahoma Agr. Exp. Sta., Department of Agronomy, Stillwater, Oklahoma 74074, United States. Received 1961.

PI 648358. *Andropogon hallii* Hack.
NSL 4676; WOODWARD.

The following were donated by USDA, NRCS, Plant Materials Center, 1036 Miller Street Southwest, Los Lunas, New Mexico 87031, United States. Received 1979.

PI 648359. *Andropogon hallii* Hack.
NSL 22681; ELIDA.

PI 648360. *Bouteloua eriopoda* (Torr.) Torr.
NSL 22958; FLAGSTAFF.

PI 648361. *Bouteloua eriopoda* (Torr.) Torr.
NSL 22959; PM NM 44. No further backgrnd info. avail.

PI 648362. *Bouteloua eriopoda* (Torr.) Torr.
NSL 102711; NOGAL.

PI 648363. *Bouteloua gracilis* (Kunth) Lag. ex Griffiths
NSL 22683; LOVINGTON.

PI 648364. *Bouteloua gracilis* (Kunth) Lag. ex Griffiths
NSL 22684; CAPITAN.

The following were donated by Arvid Boe, Native Grasses Curator, North Dakota State University, Fargo, North Dakota 58105, United States. Received 1983.

PI 648365. *Panicum virgatum* L.
NSL 196704; 70SG 037.

PI 648366. *Panicum virgatum* L.
NSL 196720; 70SG 053.

PI 648367. *Panicum virgatum* L.
NSL 196737; 70SG 070.

The following were donated by Kansas SCS, Kansas, United States. Received 1963.

PI 648368. *Schizachyrium scoparium* (Michx.) Nash
KG-1580/BN-4496; NSL 22702; ALDOUS.

The following were donated by USDA, NRCS, Plant Materials Center, 1036 Miller Street Southwest, Los Lunas, New Mexico 87031, United States. Received 1979.

PI 648369. *Schizachyrium scoparium* (Michx.) Nash
PM-NM-272; NSL 22954; PASTURA.

PI 648370. *Schizachyrium scoparium* (Michx.) Nash
NSL 22955; PM-NM-135.

The following were developed by L.C. Newell, USDA, ARS, Nebraska Agr. Exp. Sta., Lincoln, Nebraska, United States. Donated by University of Nebraska, Nebraska Agr. Exp. Sta., Lincoln, Nebraska, United States. Received 1967.

PI 648371. *Schizachyrium scoparium* (Michx.) Nash
Cultivar. "BLAZE"; REG NO 3; NSL 54087. CV-3. Pedigree - Developed by hybridization of 15 clones derived from the 1953 Domestic Collections from native prairie in Nebraska and Kansas. Leafy, late-maturing variety. Height 76 cm with spread of 38 cm. Leaves bright to dull green, turning deep red at maturity. Produced better stands and more productive than other selected strains and native ecotypes. Recommended for conservation plantings and pasture mixtures of warm-season grasses in central and eastern Nebraska.

The following were donated by Kansas SCS, Kansas, United States. Received 1977.

PI 648372. *Schizachyrium scoparium* (Michx.) Nash
NSL 93230; PMK-152.

PI 648373. *Schizachyrium scoparium* (Michx.) Nash
NSL 93231; NB-129.

The following were donated by Sharp Brothers Seed Company, Healy, Kansas, United States. Received 1989.

PI 648374. *Schizachyrium scoparium* (Michx.) Nash
NSL 242340; BLN-3075.

PI 648375. *Schizachyrium scoparium* (Michx.) Nash
NSL 242341; BLN-3122.

PI 648376. *Schizachyrium scoparium* (Michx.) Nash
NSL 242342; BLN-3124.

The following were donated by Nebraska Crop. Imp. Assn., Nebraska, United States. Received 1961.

PI 648377. *Sorghastrum nutans* (L.) Nash
NSL 6824; NEBRASKA 54.

The following were donated by Kansas State University, Kansas Agric. Exp. Station, Manhattan, Kansas 66506, United States. Received 1966.

PI 648378. *Sorghastrum nutans* (L.) Nash
NSL 22400; KANSAS EXPERIMENTAL STRAIN 1.

The following were donated by USDA, NRCS, Plant Materials Center, 1036 Miller Street Southwest, Los Lunas, New Mexico 87031, United States. Received 1963.

PI 648379. *Sorghastrum nutans* (L.) Nash
BN-12269/PM-NM-275; NSL 22690; LLANO.

The following were donated by Kansas State University, Kansas Agric. Exp. Station, Manhattan, Kansas 66506, United States. Received 1972.

PI 648380. *Sorghastrum nutans* (L.) Nash
NSL 43082; OSAGE.

The following were donated by University of Nebraska, Nebraska Agr. Exp. Sta., Lincoln, Nebraska, United States. Received 1970.

PI 648381. *Sorghastrum nutans* (L.) Nash
Cultivar. "OTO"; NSL 74318. CV-32.

The following were donated by UNKNOWN, Colorado, United States. Received 1989.

PI 648382. *Sorghastrum nutans* (L.) Nash
NSL 242343; EB1-WS.

PI 648383. *Sorghastrum nutans* (L.) Nash
NSL 242344; EB10-WS.

PI 648384. *Sorghastrum nutans* (L.) Nash
NSL 242345; EB15-WS.

PI 648385. *Sorghastrum nutans* (L.) Nash
NSL 242346; EB4-WS.

PI 648386. *Sorghastrum nutans* (L.) Nash
NSL 242347; EB5-WS.

PI 648387. *Sorghastrum nutans* (L.) Nash
NSL 242348; EB9-WS.

The following were collected by Theodore Hymowitz, University Illinois, Department of Crop Sciences, 1102 South Goodwin Avenue, Urbana, Illinois 61801, United States. Received 06/08/2007.

PI 648388. *Glycine soja* Siebold & Zucc.
Wild. Pureline. CU-361; SY 705001. Collected 1996 in Taiwan. Toayuan, near Shimen Dam. Disturbed soil from dam construction site.

PI 648389. *Glycine soja* Siebold & Zucc.
Wild. Pureline. CU-494; SY 705002. Collected 1996 in Taiwan. Taoyuan, near Shimen Dam. Disturbed soil from dam construction site.

The following were developed by Punjab Agricultural University, Dept. of Genetics & Plant Breeding, Ludhiana, Punjab, India. Donated by National Bureau of Plant Genetic Resources, Germplasm Exchange, Pusa Campus, New Delhi, Delhi 110-012, India. Received 02/19/1993.

PI 648390. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "ARJUN"; HD 2009; NSGC 2073. Pedigree - Lerma Rojo 64A/Nainari 60.

The following were developed by Indian Agricultural Research Institute, Ministry of Food and Agriculture, New Delhi, Delhi, India. Donated by National Bureau of Plant Genetic Resources, Germplasm Exchange, Pusa Campus, New Delhi, Delhi 110-012, India. Received 02/19/1993.

PI 648391. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "HD 2329"; NSGC 2075. Pedigree - HD 1962/E 4870//K 65/3/HD 1553/UP 262.

The following were collected by National Bureau of Plant Genetic Resources, Germplasm Exchange, Pusa Campus, New Delhi, Delhi 110-012, India. Developed by Indian Agricultural Research Institute, Ministry of Food and Agriculture, New Delhi, Delhi, India. Received 02/19/1993.

PI 648392. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "KUNDAN"; DL 153-2; NSGC 2076. Collected in India. Pedigree - Tonari 71/NP 890.

The following were developed by Indian Agricultural Research Institute, Ministry of Food and Agriculture, New Delhi, Delhi, India. Donated by National Bureau of Plant Genetic Resources, Germplasm Exchange, Pusa Campus, New Delhi, Delhi 110-012, India. Received 02/19/1993.

PI 648393. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "DL 802-3"; NSGC 2077. Pedigree - HUW 202//KSM/Frondosa/Sonora 64/Klein Rendidor/E4870/S310/S47-E-3/HD1944M.

PI 648394. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "DL 803-2"; NSGC 2078. Pedigree - HUW 202//K7537/HD 216-OM.

The following were developed by Punjab Agricultural University, Dept. of Genetics & Plant Breeding, Ludhiana, Punjab, India. Donated by National Bureau of Plant Genetic Resources, Germplasm Exchange, Pusa Campus, New Delhi, Delhi 110-012, India. Received 02/19/1993.

PI 648395. X *Triticosecale* sp.

Cultivar. "TL 1210"; NSGC 2079. Pedigree - Cinnamon/Raj 821/3/Inia/Turkey 60//2*Arm 'S'. Karnal Bunt Resistant.

The following were collected by M. Razavi, Ministry of Agriculture, Tehran, Tehran, Iran. Received 09/13/1994.

- PI 648396. *Triticum aestivum* L. **subsp. aestivum**
Landrace. Azar; NSGC 5098. Collected in East Azerbaijan, Iran.
- PI 648397. *Triticum aestivum* L. **subsp. aestivum**
Landrace. Lanish; NSGC 5099. Collected in East Azerbaijan, Iran.
- PI 648398. *Triticum aestivum* L. **subsp. aestivum**
Landrace. Rashid; NSGC 5100. Collected in East Azerbaijan, Iran.
- PI 648399. *Triticum aestivum* L. **subsp. aestivum**
Landrace. Sardari; NSGC 5101. Collected in East Azerbaijan, Iran.
- PI 648400. *Triticum aestivum* L. **subsp. aestivum**
Landrace. Yavarez; NSGC 5102. Collected in East Azerbaijan, Iran.
- PI 648401. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2440; NSGC 5103. Collected in East Azerbaijan, Iran.
- PI 648402. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2455; NSGC 5104. Collected in East Azerbaijan, Iran.
- PI 648403. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2461; NSGC 5105. Collected in East Azerbaijan, Iran.
- PI 648404. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2462; NSGC 5106. Collected in East Azerbaijan, Iran.
- PI 648405. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2467; NSGC 5107. Collected in East Azerbaijan, Iran.
- PI 648406. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2470; NSGC 5108. Collected in East Azerbaijan, Iran.
- PI 648407. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2476; NSGC 5109. Collected in East Azerbaijan, Iran.
- PI 648408. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2477; NSGC 5110. Collected in East Azerbaijan, Iran.
- PI 648409. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2492; NSGC 5111. Collected in East Azerbaijan, Iran.
- PI 648410. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2493; NSGC 5112. Collected in East Azerbaijan, Iran.
- PI 648411. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2500; NSGC 5113. Collected in East Azerbaijan, Iran.
- PI 648412. *Triticum aestivum* L. **subsp. aestivum**
Landrace. 2501; NSGC 5114. Collected in East Azerbaijan, Iran.

The following were collected by International Plant Genetic Resources Institute, Via delle Sette Chiese 142, Rome, Latium 00145, Italy. Received 05/24/1994.

- PI 648413. *Triticum aestivum* L. subsp. *aestivum***
Landrace. 2771-3; Ghanam; NSGC 5150. Collected in North-West Frontier, Pakistan. Latitude 33° 32' N. Longitude 72° 59' E. Elevation 850 m. Ranial, 12 km west from Besham.
- PI 648414. *Triticum aestivum* L. subsp. *aestivum***
Landrace. 2803-4; Gum; NSGC 5151. Collected in North-West Frontier, Pakistan. Latitude 35° 58' N. Longitude 71° 52' E. Elevation 1550 m. Karl, 10 km northeast from Chitral.
- PI 648415. *Triticum aestivum* L. subsp. *aestivum***
Landrace. 2809-1; Gum; NSGC 5152. Collected in North-West Frontier, Pakistan. Latitude 36° 19' N. Longitude 72° 29' E. Elevation 2940 m. Sulaspur, 20 km southwest from Shandur Pass.
- PI 648416. *Triticum aestivum* L. subsp. *aestivum***
Landrace. 2828-3; NSGC 5154. Collected in North-West Frontier, Pakistan.

The following were developed by G.F. Marais, University of Stellenbosch, Department of Genetics, Private Bag X1, Matieland, Cape Province 7602, South Africa. Received 02/06/2006.

- PI 648417. *Triticum aestivum* L. subsp. *aestivum***
Genetic. Pureline. 98M71; NSGC 17759. Pedigree - T.dicoccoides-479/4*Chinese Spring//3*CS-S/3/Chinese Spring CS-S = Inia66/7*Chinese Spring. Source material for leaf rust and stripe rust resistance Lr53/Yr35 derived from T.dicoccoides.
- PI 648418. *Triticum aestivum* L. subsp. *aestivum***
Genetic. Pureline. S14 Translocation; NSGC 17760. Pedigree - Disomic addition line 8078 crossed to Chinese Spring monosomics CSM2A, CSM2B, CSM2D. Source material for leaf rust and stripe rust resistance genes Lr54/Yr37 derived from *Aegilops kotschyi*.
- PI 648419. *Triticum aestivum* L. subsp. *aestivum***
Genetic. Pureline. 0352-4; NSGC 17761. Pedigree - *Aegilops sharonensis*-174/7*Chinese Spring. Source materials for leaf rust and stripe rust resistance genes Lr56/Yr38 derived from *Aegilops sharonensis*.
- PI 648420. *Triticum aestivum* L. subsp. *aestivum***
Genetic. Pureline. 92RL28; NSGC 17762. Pedigree - PI294994 backcrossed to Palmiet as the recurrent parent. Source materials for Russian Wheat Aphid resistance gene Dn5.

The following were developed by Rients E. Niks, Wageningen Agricultural University, Department of Plant Breeding, P.O.B. 386, Wageningen, Gelderland 6700 AJ, Netherlands. Received 05/05/2005.

- PI 648421. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. SusPtrit; G05294; NSGC 17967. Pedigree - Menelik/L100//Trigo Biosa/Nigrinudum. Accumulated genes for susceptibility to *Puccinia triticina*.
- PI 648422. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. SusPmur; G05293; NSGC 17968. Pedigree - Trigo

Biasa/Line 52//Nigrinudum/PI391136. Accumulated genes for susceptibility to *Puccinia hordei-murini*.

The following were developed by Jayanti Suresh, University of Minnesota, 513 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, Minnesota 55108, United States; Ronald Phillips, University of Minnesota, Department of Agronomy, and Plant Genetics, St. Paul, Minnesota 55108, United States; Todd Krone, Pioneer Hi-Bred International, Trait Genetics, 7300 NW 62nd Avenue, Johnston, Iowa 50131-1004, United States; M. Olsen, Monsanto Corn Research, 2440 Hwy 19 Blvd, Stanton, Minnesota 55018, United States. Received 06/11/2007.

PI 648423. *Zea mays* L. subsp. *mays*

Breeding. 58611 Inbred A632. GP-557. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648424. *Zea mays* L. subsp. *mays*

Breeding. 58609 A632 (Meth) Bc5S4. GP-558. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels,

respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648425. *Zea mays* L. subsp. *mays*

Breeding. 58610 A632 (Meth) Bc5S4. GP-559. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine

levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648426. *Zea mays* L. subsp. *mays*

Breeding. 58612 Inbred B73. GP-560. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648427. *Zea mays* L. subsp. *mays*

Breeding. 58613 B73 (Meth) Bc5S4. GP-561. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels,

respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648428. *Zea mays* L. subsp. *mays*

Breeding. 58614 B73 (Meth) Bc5S4. GP-562. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine

levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648429. *Zea mays* L. subsp. *mays*

Breeding. 58615 B73 (Meth) Bc5S4. GP-563. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648430. *Zea mays* L. subsp. *mays*

Breeding. 58801 Inbred Mo17. GP-564. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels,

respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648431. *Zea mays* L. subsp. *mays*

Breeding. 58802 Mo17 (Meth) BcS3. GP-565. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mo17 to a high-methionine donor parent, BSS53. A632, B73 and Mo17, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mo17 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine

levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648432. *Zea mays* L. subsp. *mays*

Breeding. 58803 Mol7 (Meth) BcS3. GP-566. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mol7 to a high-methionine donor parent, BSSS53. A632, B73 and Mol7, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mol7 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels, respectively. BSSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mol7 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mol7 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

PI 648433. *Zea mays* L. subsp. *mays*

Breeding. 58804 Mol7 (Meth) BcS3. GP-567. Pedigree - Maize lines elevated in methionine were generated by crossing inbred lines A632, B73 and Mol7 to a high-methionine donor parent, BSSS53. A632, B73 and Mol7, yellow endosperm corn-belt dent lines, were the recurrent parents in the backcross scheme. The converted A632, B73 and Mol7 lines (3-5 backcrosses) have 11%, 22% and 50% elevated methionine levels,

respectively. BSS53 is a random line isolate from the Iowa Stiff Stalk Synthetic population. Maize is an important food crop, especially in many developing countries. In the U.S., maize is the primary energy-supplying grain for animal feed. However, it is often an inadequate source of protein due to deficiencies in essential amino acids such as lysine, methionine, and tryptophan. Methionine is a particularly important amino acid in poultry nutrition; of the maize used for animal feed, 20% is fed to poultry. In the U.S., more than \$200 million in synthetic methionine supplements are added to poultry rations annually. USDA may prohibit synthetic methionine-supplemented feed for organic egg production after October, 2008. Thus, the lines hereby available may be even more highly valued. Lines with elevated methionine in A632, B73 and Mo17 backgrounds were developed through a backcrossing program initiated in 1990 at the Minnesota Agricultural Experiment Station in St. Paul, Minnesota. These lines have 11%, 22% and 50% increases in methionine relative to inbreds A632, B73 and Mo17 respectively. Statistical analyses of the NIRS (Near Infrared Reflectance Spectrometry) data using the Tukey and Dunnett tests were performed using the GLM procedures, a function of SAS. Methionine levels in both backgrounds are significant at the 0.05 level compared to their corresponding inbreds. Methionine levels were measured using NIRS and HPLC procedures at the University of Minnesota. A Foss North America (Model 6500) NIRS instrument was used to efficiently screen genotypes. A NIRS equation was developed for predicting methionine levels of ground-kernels. On an individual sample basis, the correlation between NIRS-predicted methionine level and HPLC-measured methionine was 0.79. The correlation between genotype means of NIRS-predicted methionine and genotype means of HPLC-measured methionine was 0.91. Elevated whole-kernel methionine levels improve the protein and nutritional quality of the maize grain.

The following were donated by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 03/13/2007.

- PI 648434 PVPO. *Solanum lycopersicum* L.**
Cultivar. "SENG 9088". PVP 200700293. Developed in Morocco.
- PI 648435 PVPO. *Solanum lycopersicum* L.**
Cultivar. "SENG 9155". PVP 200700294. Developed in Morocco.
- PI 648436 PVPO. *Solanum lycopersicum* L.**
Cultivar. "OLMECA". PVP 200700295. Developed in Morocco.
- PI 648437 PVPO. *Solanum lycopersicum* L.**
Cultivar. "SENG 9170". PVP 200700301. Developed in Chile.

The following were developed by Limagrain Advanta Nederland BV, Netherlands. Received 06/05/2007.

- PI 648438 PVPO. *Linum usitatissimum* L.**
Cultivar. "SCORPION". PVP 200700321.

The following were donated by Purdue University, Purdue Univ. Agric. Exp. Station, West Lafayette, Indiana 47907, United States. Received 1962.

PI 648439. *Solanum lycopersicum* L.

NSL 8614; Kokomo. Resistant to fusarium wilt, sensitive to high temp. fruit set inhibition, globe shape, some resistance to cracking. Purdue Univ. AES Res. Bul. #696 May 1960.

The following were donated by Peto Seed Company, Inc., P.O. Box 4206, Saticoy, California 93004-0206, United States. Received 1966.

PI 648440. *Solanum lycopersicum* L.

NSL 43576; VF 13 L-34. Small determinate, verticillium & fusarium resistant, early maturity, fruits are small elongated, slight bulb coreless, uniform coloring. Peto descr. 1967 catalog.

The following were developed by I.J. Pemberton, Texas A&M Research & Extension Center, Overton, Texas 75684, United States; Gerald Smith, TAES, P.O. Box 200, 1710 N Hwy 3053, Overton, Texas 75684, United States; F.M., Jr. Rouquette, Texas A&M University, Agricultural Research and Extension Center, P.O. Box 200, Overton, Texas 75684, United States. Received 06/18/2007.

PI 648441. *Lablab purpureus* (L.) Sweet

Cultivar. Pureline. "RIO VERDE". CV-280; PVP 200800221. Pedigree - 53 PI lines and cultivars of lablab were grazed with cattle at 60 days post-planting. Plants were grazed for 48 hours and all were completely defoliated. Surviving plants were evaluated for regrowth, vigor and seed production. 3 plants of PI 388018 were selected, seed was bulked and increased as TX 98-3. Rio Verde initiates flowering in late August (25 Aug. at Overton, TX, [32.27556 N, 94.97228 W]) with 50% bloom occurring about 1 Sept.; the earliest mature seed are produced by 15 Oct. In contrast, Rongai lablab is very late flowering and generally does not flower in central or northeast Texas before frost. Rio Verde seed range in color from black to mottled black and brown in contrast to Rongai seed which are a uniform pale brown with a prominent white hilum. Rio Verde seed are smaller (7000 7400 seed per kg) than Rongai (3600 4300 per kg). Rio Verde flowers are light lavender with the standard petal fading to white as the flower matures and opens. Rongai flowers are white. Rio Verde was evaluated at four Texas locations in 2004 and two Texas locations in 2005. Forage production of Rio Verde lablab was not different ($P > 0.05$) from Rongai in five of the six location-years and ranged from slightly more than 5.8 to 3.1 Mg ha⁻¹ of dry forage at Overton in 2004 and Dallas in 2004, respectively. No differences ($P > 0.05$) were noted between Rio Verde and Rongai in leaf and stem protein percentage from two harvests at Overton in 2005. At the 8 Sept. and 25 Oct. harvests, leaf protein of Rio Verde was 260 and 320 g kg⁻¹, respectively, and stem protein was 130 g kg⁻¹ at both harvests. Seed production of Rio Verde lablab has been successful at Vernon, TX (34.14743 N, 99.30009 W) in 2003 and 2004; at Mason, TX (30.74925 N, 99.23209 W) in 2005 and Rotan, TX (32.85362 N, 100.46541 W) in 2006. Rio Verde is adapted to sandy, sandy loam, clay loam and clay upland soils of the US southern region. Lablab does well on a wide variety of well-drained soils but does not tolerate waterlogging. In northeast Texas the primary growing season for Rio Verde lablab is June through October. This cultivar will establish, survive and be productive with 25 cm of rain during this five month growing season.

The following were developed by Parkland Seed Potatoes Ltd., Lacombe, Alberta T4L 1X2, Canada. Received 06/20/2007.

PI 648442 PVPO. Solanum tuberosum L.
Cultivar. "SINORA". PVP 200100048.

PI 648443 PVPO. Solanum tuberosum L.
Cultivar. "MARKIES". PVP 200100049.

The following were developed by Limagrain Advanta Nederland BV, Netherlands. Received 05/31/2007.

PI 648444 PVPO. Pisum sativum L.
Cultivar. "POLSTEAD". PVP 200700322.

PI 648445 PVPO. Pisum sativum L.
Cultivar. "MATRIX". PVP 200700323.

PI 648446 PVPO. Pisum sativum L.
Cultivar. "TAMORA". PVP 200700324.

PI 648447 PVPO. Pisum sativum L.
Cultivar. "NOBLE". PVP 200700325.

PI 648448 PVPO. Triticum aestivum L. subsp. aestivum
Cultivar. "SINOPE". PVP 200700326.

PI 648449 PVPO. Triticum aestivum L. subsp. aestivum
Cultivar. "ILIAS". PVP 200700327.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 06/21/2007.

PI 648450 PVPO. Pisum sativum L.
Cultivar. "HACIENDA". PVP 200700351.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 06/27/2007.

PI 648451 PVPO. Zea mays L. subsp. mays
Cultivar. "PH238". PVP 200700358.

PI 648452 PVPO. Zea mays L. subsp. mays
Cultivar. "PHAJM". PVP 200700359.

PI 648453 PVPO. Zea mays L. subsp. mays
Cultivar. "PHHHN". PVP 200700360.

The following were developed by Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 06/28/2007.

PI 648454 PVPO. *Poa pratensis* L.
Cultivar. "BLUE-RRIFFIC". PVP 200700332.

The following were developed by Ball Horticultural Company, West Chicago, Illinois, United States. Received 06/28/2007.

PI 648455 PVPO. *Zinnia* hybrid
Cultivar. "PAS490444". PVP 200700334. Pedigree - *Zinnia angustifolia* x *Z. violaceae*.

Unknown source. Received 06/28/2007.

PI 648456 PVPO. *Zinnia* hybrid
Cultivar. "PAS553643". PVP 200700335. Developed in United States.
Pedigree - *Zinnia angustifolia* x *Z. violaceae*.

The following were developed by Ball Horticultural Company, West Chicago, Illinois, United States. Received 06/28/2007.

PI 648457 PVPO. *Zinnia* hybrid
Cultivar. "PAS553645". PVP 200700336. Pedigree - *Zinnia angustifolia* x *Z. violaceae*.

The following were developed by Pioneer Hi-Bred International, Inc., Plainview, Texas 79072, United States. Received 06/28/2007.

PI 648458 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHBI35LVQI". PVP 200700339.

PI 648459 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHAXYAQKE". PVP 200700340.

PI 648460 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHA7NQJKE". PVP 200700341.

PI 648461 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHBR6KFYVI". PVP 200700342.

PI 648462 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHKLPJYKE". PVP 200700343.

PI 648463 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHOUTZ". PVP 200700344.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 06/28/2007.

PI 648464 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 141 B2RF". PVP 200700345.

PI 648465 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 174 RF". PVP 200700346.

PI 648466 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 121 RF". PVP 200700347.

PI 648467 PVPO. *Gossypium hirsutum* L.
Cultivar. "PM 3225 B2RF". PVP 200700348.

The following were developed by Syngenta Seeds, Inc., Junction City, Kansas, United States. Received 06/28/2007.

PI 648468 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "ART"; 98x0338-13. PVP 200700349. Pedigree - Jagger/W94-244-132. Hard red winter wheat.

PI 648469 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "HAWKEN"; 98x0435-15. PVP 200700350. Pedigree - W95-091/W96-427. Hard red winter wheat.

The following were developed by North Dakota State University Research Foundation, North Dakota, United States. Received 06/28/2007.

PI 648470 PVPO. *Glycine max* (L.) Merr.
Cultivar. "RG 7008RR". PVP 200700353.

The following were developed by Seminis Vegetable Seeds, Inc., Oxnard, California, United States. Received 06/28/2007.

PI 648471 PVPO. *Lactuca sativa* L.
Cultivar. "SVR 0126A". PVP 200700354.

The following were developed by Ball Horticultural Company, West Chicago, Illinois, United States. Received 06/28/2007.

PI 648472 PVPO. *Zinnia* hybrid
Cultivar. "PAS490443". PVP 200700355. Pedigree - *Zinnia angustifolia* x *Z. violaceae*.

PI 648473 PVPO. *Zinnia* hybrid
Cultivar. "PAS490445". PVP 200700356. Pedigree - *Zinnia angustifolia* x *Z. violaceae*.

PI 648474 PVPO. *Zinnia* hybrid
Cultivar. "PAS490446". PVP 200700357. Pedigree - *Zinnia angustifolia* x *Z. violaceae*.

The following were developed by A. Mujeeb-Kazi, International Maize & Wheat Improvement Center, Apartado Postal 6-641, Mexico City, Federal District 06600, Mexico. Donated by Maarten Van Ginkel, International Maize & Wheat Improvement Center, Wheat Germplasm Bank, Mexico City, Federal District 06600, Mexico. Received 05/05/2005.

- PI 648475. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1161-0B; BW27714; 152417-1; NSGC 9540.
Pedigree - 68.111/Rugby//Ward Resel/3/Stifftail/4/Ae.tauschii (164).
- PI 648476. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2755-1B-0PR-0B; BW27715; 152416-3; NSGC 9541.
Pedigree - CROC_1/Ae tauschii (168).
- PI 648477. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.527; BW27717; 159513-0; NSGC 9543. Pedigree -
Aconchi 89/Ae tauschii (178).
- PI 648478. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1175-0B; BW27719; 152418-1; NSGC 9545.
Pedigree - Decoy 1/Ae tauschii (188).
- PI 648479. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1178-0B; BW27720; 159515-1; NSGC 9546.
Pedigree - Rabi/Ae tauschii (190).
- PI 648480. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2766-1B-0PR-0B; BW27721; 159516-3; NSGC 9547.
Pedigree - Altar 84/Ae tauschii (191).
- PI 648481. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2766-1B-0PR-0B; BW27722; 159516-3; NSGC 9548.
Pedigree - Altar 84/Ae tauschii (191).
- PI 648482. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1179-0B; BW27723; 159517-1; NSGC 9549.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (191).
- PI 648483. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1180-0B; BW27724; 159518-1; NSGC 9550.
Pedigree - Sora/Ae tauschii (191).
- PI 648484. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2767-1B-0PR-0B; BW27725; 88724-4; NSGC 9551.
Pedigree - Altar 84/Ae tauschii (192).
- PI 648485. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1182-0Y; BW27726; 159519-1; NSGC 9552.
Pedigree - Sora/Ae tauschii (192).
- PI 648486. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1182-0Y; BW27727; 159519-1; NSGC 9553.
Pedigree - Sora/Ae tauschii (192).
- PI 648487. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2775-1B-0PR-0B; BW27730; 159521-3; NSGC 9556.
Pedigree - Altar 84/Ae tauschii (193).
- PI 648488. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1183-0B; BW27731; 159522-1; NSGC 9557.
Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (193).

- PI 648489. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1186-0B; BW27732; 152419-1; NSGC 9558.
Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (196).
- PI 648490. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2768-1B-0PR-0B; BW27733; 88725-4; NSGC 9559.
Pedigree - Altar 84/Ae tauschii (198).
- PI 648491. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1191-0B; BW27734; 159523-1; NSGC 9560.
Pedigree - Gan/Ae tauschii (201).
- PI 648492. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.946-1B-0B-0PR-0B; BW27735; 62052-6; NSGC 9561.
Pedigree - CROC_1/Ae tauschii (205).
- PI 648493. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2770-1B-0PR-0B; BW27736; 159524-3; NSGC 9562.
Pedigree - Altar 84/Ae tauschii (205).
- PI 648494. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1192-0B; BW27737; 152420-1; NSGC 9563.
Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (205).
- PI 648495. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1193-0B; BW27738; 159525-1; NSGC 9564.
Pedigree - Sora/Ae tauschii (207).
- PI 648496. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1194-0B; BW27739; 152421-1; NSGC 9565.
Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (208).
- PI 648497. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1194-0B; BW27740; 152421-1; NSGC 9566.
Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (208).
- PI 648498. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1195-0B; BW27741; 159526-1; NSGC 9567.
Pedigree - Sora/Ae tauschii (208).
- PI 648499. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1195-0B; BW27742; 159526-1; NSGC 9568.
Pedigree - Sora/Ae tauschii (208).
- PI 648500. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2754-1B-0B; BW27745; 159527-4; NSGC 9571.
Pedigree - CROC_1/Ae tauschii (210).
- PI 648501. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2771-1B-0PR-0B; BW27746; 88726-4; NSGC 9572.
Pedigree - Altar 84/Ae tauschii (211).
- PI 648502. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1197-0B; BW27747; 159528-1; NSGC 9573.
Pedigree - D67.2/P66.270//Ae tauschii (211).

- PI 648503. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.947-1B-0B-0PR-0B; BW27749; 159530-4; NSGC 9575. Pedigree - CROC_1/Ae tauschii (213).
- PI 648504. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1200-0B; BW27750; 159531-1; NSGC 9576. Pedigree - D67.2/P66.270//Ae tauschii (213).
- PI 648505. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.951-1B-0B-0PR-0B; BW27751; 62061-5; NSGC 9577. Pedigree - DVERD_2/Ae tauschii (214).
- PI 648506. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.959-1M-1Y-0B-0PR-0B; BW27752; 159532-5; NSGC 9578. Pedigree - Rokel/Kamilaroi//Ae tauschii (214).
- PI 648507. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.948-1B-0B-0PR-0B; BW27753; 62054-5; NSGC 9579. Pedigree - CROC_1/Ae tauschii (215).
- PI 648508. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1204-0B; BW27754; 159533-1; NSGC 9580. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (215).
- PI 648509. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1209-0B; BW27757; 159536-1; NSGC 9583. Pedigree - D67.2/P66.270//Ae tauschii (217).
- PI 648510. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.561; BW27758; 159537-0; NSGC 9584. Pedigree - Yarmouk/Ae tauschii (217).
- PI 648511. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.940-1B-0B-0PR-0B; BW27761; 62048-11; NSGC 9587. Pedigree - Altar 84/Ae tauschii (219).
- PI 648512. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2760-1B-0PR-0B; BW27762; 159540-3; NSGC 9588. Pedigree - Altar 84/Ae tauschii (220).
- PI 648513. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1212-0B; BW27763; 159541-1; NSGC 9589. Pedigree - D67.2/P66.270//Ae tauschii (220).
- PI 648514. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.953-1M-1Y-0B-0PR-0B; BW27764; 62062-10; NSGC 9590. Pedigree - DVERD_2/Ae tauschii (221).
- PI 648515. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2761-1B-0PR-0B; BW27765; 88720-4; NSGC 9591. Pedigree - Altar 84/Ae tauschii (221).
- PI 648516. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1214-0B; BW27766; 159542-1; NSGC 9592. Pedigree - D67.2/P66.270//Ae tauschii (221).

- PI 648517. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1217-0B; BW27767; 154089-1; NSGC 9593.
Pedigree - TK SN1081/Ae tauschii (222).
- PI 648518. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1216-0B; BW27768; 154090-1; NSGC 9594.
Pedigree - D67.2/P66.270//Ae tauschii (222).
- PI 648519. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1217-0B; BW27769; 154089-1; NSGC 9595.
Pedigree - TK SN1081/Ae tauschii (222).
- PI 648520. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2762-1B-0PR-0B; BW27770; 62051-4; NSGC 9596.
Pedigree - Altar 84/Ae tauschii (223).
- PI 648521. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1218-0B; BW27771; 154091-1; NSGC 9597.
Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (223).
- PI 648522. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1219-0B; BW27772; 159543-1; NSGC 9598.
Pedigree - D67.2/P66.270//Ae tauschii (223).
- PI 648523. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.950-1M-1Y-0B-0PR-0B; BW27773; 62059-8; NSGC 9599.
Pedigree - CROC_1/Ae tauschii (224).
- PI 648524. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.950-1M-1Y-0B-0PR-0B; BW27774; 62059-8; NSGC 9600.
Pedigree - CROC_1/Ae tauschii (224).
- PI 648525. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.949-1B-0B-0PR-0B; BW27775; 62056-6; NSGC 9601.
Pedigree - CROC_1/Ae tauschii (224).
- PI 648526. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.949-1B-0B-0PR-0B; BW27776; 62056-6; NSGC 9602.
Pedigree - CROC_1/Ae tauschii (224).
- PI 648527. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.941-1B-0B-0PR-0B; BW27777; 62049-5; NSGC 9603.
Pedigree - Altar 84/Ae tauschii (224).
- PI 648528. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.941-1B-0B-0PR-0B; BW27778; 62049-5; NSGC 9604.
Pedigree - Altar 84/Ae tauschii (224).
- PI 648529. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.942-1B-0PR-0B; BW27779; 159544-3; NSGC 9605.
Pedigree - Altar 84/Ae tauschii (224).
- PI 648530. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.956-1B-0B-0PR-0B; BW27780; 159545-4; NSGC 9606.
Pedigree - ARLIN_1/Ae tauschii (225).

- PI 648531. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1223-0B; BW27781; 159546-1; NSGC 9607.
Pedigree - Cerceta/Ae tauschii (230).
- PI 648532. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1228-0B; BW27782; 159547-1; NSGC 9608.
Pedigree - Gan/Ae tauschii (236).
- PI 648533. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1237-0B; BW27784; 159549-1; NSGC 9610.
Pedigree - DVERD_2/Ae tauschii (247).
- PI 648534. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1237-0B; BW27785; 159549-1; NSGC 9611.
Pedigree - DVERD_2/Ae tauschii (247).
- PI 648535. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.393-0Y; BW27786; 159550-1; NSGC 9612.
Pedigree - Algerian
86/4/Flamingo/Palestinian//MEXI_1/3/Ruff/Flamingo/5/Ente/6/Ae tauschii
(254).
- PI 648536. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1249-0B; BW27787; 159551-1; NSGC 9613.
Pedigree - Araos/Ae tauschii (269).
- PI 648537. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1252-0B; BW27789; 159553-1; NSGC 9615.
Pedigree - Scaup/Ae tauschii (279).
- PI 648538. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1254-0B; BW27791; 159555-1; NSGC 9617.
Pedigree - Garza/Boyerros//Ae tauschii (286).
- PI 648539. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2783-1B-0PR-0B; BW27795; 63026-4; NSGC 9621.
Pedigree - Laru/Ae tauschii (309).
- PI 648540. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2783-1B-0PR-0B; BW27796; 63026-4; NSGC 9622.
Pedigree - Laru/Ae tauschii (309).
- PI 648541. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.525; BW27797; 159559-0; NSGC 9623. Pedigree -
Aconchi 89/Ae tauschii (309).
- PI 648542. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.525; BW27798; 159559-0; NSGC 9624. Pedigree -
Aconchi 89/Ae tauschii (309).
- PI 648543. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.526; BW27800; 159561-0; NSGC 9626. Pedigree -
Aconchi 89/Ae tauschii (315).
- PI 648544. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1273-0Y; BW27801; 159562-1; NSGC 9627.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (316).

- PI 648545. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1277-0B; BW27802; 159563-1; NSGC 9628.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (321).
- PI 648546. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1279-0B; BW27803; 159564-1; NSGC 9629.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (322).
- PI 648547. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1240-0B; BW27804; 156565-1; NSGC 9630.
Pedigree - Sora/Ae tauschii (323).
- PI 648548. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1240-0B; BW27805; 159565-1; NSGC 9631.
Pedigree - Sora/Ae tauschii (323).
- PI 648549. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1285-0B; BW27806; 159566-1; NSGC 9632.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (325).
- PI 648550. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1288-0B; BW27807; 159567-1; NSGC 9633.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (326).
- PI 648551. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1292-0B; BW27808; 159568-1; NSGC 9634.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (328).
- PI 648552. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1289-0B; BW27809; 159569-1; NSGC 9635.
Pedigree - Altar 84/Ae tauschii (328).
- PI 648553. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1289-0Y; BW27810; 159569-2; NSGC 9636.
Pedigree - Altar 84/Ae tauschii (328).
- PI 648554. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1297-0B; BW27812; 159571-1; NSGC 9638.
Pedigree - 68.111/Rugby//Ward Resel/3/Stifftail/4/Ae tauschii (332).
- PI 648555. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1299-0B; BW27813; 159572-1; NSGC 9639.
Pedigree - Altar 84/Ae tauschii (332).
- PI 648556. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313; BW27814; 159573-0; NSGC 9640. Pedigree
- 68112/Ward//Ae tauschii (369).
- PI 648557. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313; BW27815; 159573-0; NSGC 9641. Pedigree
- 68112/Ward//Ae tauschii (369).
- PI 648558. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313; BW27816; 159573-0; NSGC 9642. Pedigree
- 68112/Ward//Ae tauschii (369).

- PI 648559. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313; BW27817; 159573-0; NSGC 9643. Pedigree - 68112/Ward//Ae tauschii (369).
- PI 648560. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313; BW27818; 159573-0; NSGC 9644. Pedigree - 68112/Ward//Ae tauschii (369).
- PI 648561. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313; BW27819; 159573-0; NSGC 9645. Pedigree - 68112/Ward//Ae tauschii (369).
- PI 648562. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1324-0B; BW27821; 159575-1; NSGC 9647. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (412).
- PI 648563. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.438-0Y; BW27822; 159576-1; NSGC 9648. Pedigree - CHEN_7/Ae tauschii (429).
- PI 648564. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1334-0B; BW27823; 159577-1; NSGC 9649. Pedigree - Yarmouk/Ae tauschii (434).
- PI 648565. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1335-0B; BW27824; 159578-1; NSGC 9650. Pedigree - SCOOP_1/Ae tauschii (434).
- PI 648566. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.583; BW27825; 159579-0; NSGC 9651. Pedigree - Gan/Ae tauschii (437).
- PI 648567. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1342-0B; BW27826; 159580-1; NSGC 9652. Pedigree - Sterna/Ae tauschii (446).
- PI 648568. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1343-0B; BW27827; 159581-1; NSGC 9653. Pedigree - Decoy 1/Ae tauschii (446).
- PI 648569. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1343-0B; BW27828; 159581-1; NSGC 9654. Pedigree - Decoy 1/Ae tauschii (446).
- PI 648570. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.586; BW27829; 159582-0; NSGC 9655. Pedigree - Gan/Ae tauschii (446).
- PI 648571. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1344-0B; BW27830; 159583-1; NSGC 9656. Pedigree - Decoy 1/Ae tauschii (447).
- PI 648572. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.447-0Y; BW27831; 159584-1; NSGC 9657. Pedigree - 68.111/Rugby//Ward Resel/3/Stifftail/4/Ae tauschii (449).

- PI 648573. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1348-0B; BW27832; 154092-1; NSGC 9658.
Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (460).
- PI 648574. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1348-0B; BW27833; 154092-1; NSGC 9659.
Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (460).
- PI 648575. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1351-0B; BW27834; 159585-1; NSGC 9660.
Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (477).
- PI 648576. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1351-0B; BW27835; 159585-1; NSGC 9661.
Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (477).
- PI 648577. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1353-0B; BW27836; 152422-1; NSGC 9662.
Pedigree - Decoy 1/Ae tauschii (488).
- PI 648578. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1356-0B; BW27837; 159586-1; NSGC 9663.
Pedigree - YAV_3/Sicco//Jori C69/Crane/3/Yavaros 79/4/Ae tauschii (498).
- PI 648579. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.463-0Y; BW27838; 154093-1; NSGC 9664.
Pedigree - YAR/Ae tauschii (493).
- PI 648580. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.557; BW27839; 159681-0; NSGC 9665. Pedigree -
Scaup/Ae tauschii (493).
- PI 648581. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.463-0Y; BW27840; 154093-1; NSGC 9666.
Pedigree - YAR/Ae tauschii (493).
- PI 648582. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1360-0B; BW27841; 160184-1; NSGC 9667.
Pedigree - Decoy 1/Ae tauschii (510).
- PI 648583. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1363-0B; BW27842; 160185-1; NSGC 9668.
Pedigree - Decoy 1/Ae tauschii (511).
- PI 648584. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1362-0Y; BW27843; 160186-1; NSGC 9669.
Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (511).
- PI 648585. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.566; BW27844; 154094-0; NSGC 9670. Pedigree -
Decoy 1/Ae tauschii (515).
- PI 648586. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.473-0Y; BW27845; 160187-1; NSGC 9671.
Pedigree - Aconchi 89/Ae tauschii (521).

- PI 648587. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.529; BW27846; 160188-0; NSGC 9672. Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (521).
- PI 648588. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1370-0Y; BW27847; 160189-1; NSGC 9673. Pedigree - Gan/Ae tauschii (522).
- PI 648589. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.474-0Y; BW27848; 160190-1; NSGC 9674. Pedigree - YAR/Ae tauschii (524).
- PI 648590. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1377-0B; BW27849; 160192-1; NSGC 9675. Pedigree - 6973/Ward.7463//74110/3/Ae tauschii (35A).
- PI 648591. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.590; BW27850; 160193-0; NSGC 9676. Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (629).
- PI 648592. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.534; BW27851; 160194-0; NSGC 9677. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (629).
- PI 648593. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.501; BW27852; 160195-0; NSGC 9678. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (633).
- PI 648594. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.501; BW27853; 160195-0; NSGC 9679. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (633).
- PI 648595. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.501; BW27854; 160195-0; NSGC 9680. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (633).
- PI 648596. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.535; BW27855; 160196-0; NSGC 9681. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (637).
- PI 648597. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.506-0Y; BW27856; 160197-1; NSGC 9682. Pedigree - Flamingo/USA2111/Ae tauschii (658).
- PI 648598. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.510-0Y; BW27857; 160198-1; NSGC 9683. Pedigree - CROC_1/Ae tauschii (662).
- PI 648599. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.525-0Y; BW27858; 160199-1; NSGC 9684. Pedigree - CROC_1/Ae tauschii (725).
- PI 648600. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.537-0Y; BW27860; 160201-1; NSGC 9686. Pedigree - 68.111/Rugby//Ward Resel/3/Stifftail/4/Ae tauschii (781).

- PI 648601. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.538-0Y; BW27861; 160202-1; NSGC 9687.
Pedigree - 68.111/Rugby//Ward Resel/3/Stifftail/4/Ae tauschii (783).
- PI 648602. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.531; BW27862; 160203-0; NSGC 9688. Pedigree - Cerceta/Ae tauschii (783).
- PI 648603. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.686; BW27863; 160204-0; NSGC 9689. Pedigree - YAR/Ae tauschii (783).
- PI 648604. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.539-0Y; BW27864; 160205-1; NSGC 9690.
Pedigree - CROC_1/Ae tauschii (784).
- PI 648605. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.661; BW27865; 160206-0; NSGC 9691. Pedigree - Yarmouk/Ae tauschii (784).
- PI 648606. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.767; BW27866; 160207-0; NSGC 9692. Pedigree - YAR/Ae tauschii (809).
- PI 648607. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.545-0Y; BW27867; 160208-1; NSGC 9693.
Pedigree - Cerceta/Ae tauschii (819).
- PI 648608. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.546-0Y; BW27868; 160209-1; NSGC 9694.
Pedigree - CROC_1/Ae tauschii (826).
- PI 648609. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.760; BW27870; 160211-0; NSGC 9696. Pedigree - Yarmouk/Ae tauschii (864).
- PI 648610. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559; BW27872; 160213-0; NSGC 9698. Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648611. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559; BW27873; 160213-0; NSGC 9699. Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648612. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.479-0Y; BW27874; 160214-1; NSGC 9700.
Pedigree - CROC_1/Ae tauschii (879).
- PI 648613. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.561-0Y; BW27875; 160215-1; NSGC 9701.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (882).
- PI 648614. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.543; BW27876; 160216-0; NSGC 9702. Pedigree - Sora/Ae tauschii (884).

- PI 648615. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.563-0Y; BW27877; 160217-1; NSGC 9703.
Pedigree - CROC_1/Ae tauschii (886).
- PI 648616. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.602; BW27879; 160219-0; NSGC 9705. Pedigree -
Rabi//Ganso/Crane/3/Ae tauschii (891).
- PI 648617. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.602; BW27880; 160219-0; NSGC 9706. Pedigree -
Rabi//Ganso/Crane/3/Ae tauschii (891).
- PI 648618. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.603; BW27881; 160220-0; NSGC 9707. Pedigree -
Rabi//Ganso/Crane/3/Ae tauschii (895).
- PI 648619. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.603; BW27882; 160220-0; NSGC 9708. Pedigree -
Rabi//Ganso/Crane/3/Ae tauschii (895).
- PI 648620. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.569-0Y; BW27883; 160221-1; NSGC 9709.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (900).
- PI 648621. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.605; BW27884; 160222-0; NSGC 9710. Pedigree -
Rabi//Ganso/Crane/3/Ae tauschii (904).
- PI 648622. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.571-0Y; BW27886; 160224-1; NSGC 9712.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (905).
- PI 648623. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.606; BW27887; 160225-0; NSGC 9713. Pedigree -
Rabi//Ganso/Crane/3/Ae tauschii (914).
- PI 648624. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.544; BW27888; 160226-0; NSGC 9714. Pedigree -
Sora/Ae tauschii (939).
- PI 648625. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.575-0Y; BW27889; 160227-1; NSGC 9715.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (948).
- PI 648626. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.610; BW27892; 160230-0; NSGC 9718. Pedigree -
YAV_2/Tezontle//Ae tauschii (963).
- PI 648627. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.579-0Y; BW27893; 160231-1; NSGC 9719.
Pedigree - Cerceta/Ae tauschii (976).
- PI 648628. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.545; BW27894; 160232-0; NSGC 9720. Pedigree -
Algerian 86/4/Flamingo/Palestinian//MEXI_1/3/Ruff/Flamingo/5/Ente/6/Ae
tauschii (518).

- PI 648629. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.944-1B-0Y; BW27895; 160233-2; NSGC 9721.
Pedigree - CROC_1/Ae tauschii (518).
- PI 648630. X Aegilotriticum sp.**
Breeding. Pureline. 0B-0PR-0B; BW27896; 152340-3; NSGC 9722. Pedigree -
PBW114/Ae tauschii.
- PI 648631. X Aegilotriticum sp.**
Breeding. Pureline. 0B-0PR-0B; BW27897; 154033-3; NSGC 9723. Pedigree -
Ruff/Ae tauschii.
- PI 648632. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2784-1B-0PR-0B; BW27898; 160602-3; NSGC 9724.
Pedigree - Laru/Ae tauschii (TA2459).
- PI 648633. X Aegilotriticum sp.**
Breeding. Pureline. CIGM87.2779-1B-0PR-0B; BW27899; 161076-3; NSGC 9725.
Pedigree - Altar 84/Ae tauschii (Y86-87 S401).
- PI 648634. X Aegilotriticum sp.**
Breeding. Pureline. CIGM86.3277-1B-0B-0PR-0B; BW27900; 161185-4; NSGC
9726. Pedigree - Altar 84/Ae tauschii (Jbangor).
- PI 648635. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-2B; BW27901; 161077-1; NSGC 9727.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648636. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-2B; BW27902; 161077-1; NSGC 9728.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648637. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-1B; BW27904; 161077-3; NSGC 9730.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648638. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-2B; BW27905; 161077-1; NSGC 9731.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648639. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-4B; BW27906; 161077-4; NSGC 9732.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648640. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-1B; BW27907; 161077-3; NSGC 9733.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648641. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-2B; BW27908; 161077-1; NSGC 9734.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648642. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-1B; BW27910; 161077-3; NSGC 9736.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).

- PI 648643. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-2B; BW27911; 161077-1; NSGC 9737.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648644. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1239-3B; BW27912; 161077-2; NSGC 9738.
Pedigree - YAV_2/Tezontle//Ae tauschii (249).
- PI 648645. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313-3B; BW27913; 159573-1; NSGC 9739.
Pedigree - 68112/Ward//Ae tauschii (369).
- PI 648646. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313-1B; BW27914; 159573-2; NSGC 9740.
Pedigree - 68112/Ward//Ae tauschii (369).
- PI 648647. X Aegilotriticum sp.**
Breeding. Pureline. CIGM88.1313-1B; BW27915; 159573-2; NSGC 9741.
Pedigree - 68112/Ward//Ae tauschii (369).
- PI 648648. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.543-4B; BW27916; 161078-1; NSGC 9742.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (809).
- PI 648649. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.543-4B; BW27917; 161078-1; NSGC 9743.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (809).
- PI 648650. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.543-3B; BW27918; 161078-2; NSGC 9744.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (809).
- PI 648651. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.543-3B; BW27919; 161078-2; NSGC 9745.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (809).
- PI 648652. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.543; BW27920; 161078-0; NSGC 9746. Pedigree -
68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (809).
- PI 648653. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559-2B; BW27921; 160213-1; NSGC 9747.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648654. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559; BW27922; 160213-0; NSGC 9748. Pedigree -
68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648655. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559-4B; BW27923; 160213-2; NSGC 9749.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648656. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559; BW27924; 160213-0; NSGC 9750. Pedigree -
68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).

- PI 648657. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559-4B; BW27925; 160213-2; NSGC 9751.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648658. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559-1B; BW27926; 160213-3; NSGC 9752.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648659. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559-1B; BW27927; 160213-3; NSGC 9753.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648660. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.559-2B; BW27928; 160213-1; NSGC 9754.
Pedigree - 68.111/Rugby//Ward/3/Flamingo/4/Rabi/5/Ae tauschii (878).
- PI 648661. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.567-1B; BW27929; 161079-1; NSGC 9755.
Pedigree - Cerceta/Ae tauschii (895).
- PI 648662. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.567-3B; BW27930; 161079-2; NSGC 9756.
Pedigree - Cerceta/Ae tauschii (895).
- PI 648663. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.567-1B; BW27931; 161079-1; NSGC 9757.
Pedigree - Cerceta/Ae tauschii (895).
- PI 648664. X Aegilotriticum sp.**
Breeding. Pureline. CIGM89.567; BW27932; 161079-0; NSGC 9758. Pedigree -
Cerceta/Ae tauschii (895).
- PI 648665. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.798; BW27933; 161080-0; NSGC 9759. Pedigree -
LCK59.61/Ae tauschii (173).
- PI 648666. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.799; BW27934; 161005-0; NSGC 9760. Pedigree -
Gan/Ae tauschii (180).
- PI 648667. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.807; BW27935; 161081-0; NSGC 9761. Pedigree -
Gan/Ae tauschii (257).
- PI 648668. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90-808; BW27936; 161577-0; NSGC 9762. Pedigree -
D67.2/P66.270//Ae tauschii (257).
- PI 648669. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.809; BW27937; 161186-0; NSGC 9763. Pedigree -
D67.2/P66.270//Ae tauschii (308).
- PI 648670. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.810; BW27938; 161187-0; NSGC 9764. Pedigree -
LCK59.61/Ae tauschii (308).

- PI 648671. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.811; BW27939; 161188-0; NSGC 9765. Pedigree - Arlequin/Ae tauschii (308).
- PI 648672. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.812; BW27940; 161189-0; NSGC 9766. Pedigree - LCK59.61/Ae tauschii (313).
- PI 648673. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.815; BW27941; 161578-0; NSGC 9767. Pedigree - LCK59.61/Ae tauschii (324).
- PI 648674. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.816; BW27942; 161579-0; NSGC 9768. Pedigree - LCK59.61/Ae tauschii (344).
- PI 648675. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.817; BW27943; 161190-0; NSGC 9769. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (358).
- PI 648676. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.818; BW27944; 161006-0; NSGC 9770. Pedigree - Sterna/Ae tauschii (358).
- PI 648677. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.820; BW27945; 161190-0; NSGC 9771. Pedigree - SCOOP_1/Ae tauschii (358).
- PI 648678. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.822; BW27947; 161581-0; NSGC 9773. Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (397).
- PI 648679. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.823; BW27948; 161192-0; NSGC 9774. Pedigree - SCOOP_1/Ae tauschii (407).
- PI 648680. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.824; BW27949; 154095-0; NSGC 9775. Pedigree - Gan/Ae tauschii (408).
- PI 648681. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.826; BW27950; 161193-0; NSGC 9776. Pedigree - Sentry/Celta//Palustris/3/SRN_5/4/Ae tauschii (431).
- PI 648682. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.827; BW27951; 161582-0; NSGC 9777. Pedigree - YAV_2/Tezontle//Ae tauschii (435).
- PI 648683. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.828; BW27952; 161583-0; NSGC 9778. Pedigree - YAV_2/Tezontle//Ae tauschii (437).
- PI 648684. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.830; BW27953; 161584-0; NSGC 9779. Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (443).

- PI 648685. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.832; BW27954; 161585-0; NSGC 9780. Pedigree - Rabi//Ganso/Crane/3/Ae tauschii (457).
- PI 648686. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.833; BW27955; 161586-0; NSGC 9781. Pedigree - YAV_2/Tezontle//Ae tauschii (457).
- PI 648687. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.834; BW27956; 161082-0; NSGC 9782. Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (457).
- PI 648688. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.841; BW27957; 161587-0; NSGC 9783. Pedigree - Yavaros 79//Dackiye/Rabi/3/Snipe/4/Ae tauschii (490).
- PI 648689. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.842; BW27958; 161083-0; NSGC 9784. Pedigree - YAR/Ae tauschii (513).
- PI 648690. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.845; BW27959; 161588-0; NSGC 9785. Pedigree - Scaup/Ae tauschii (518).
- PI 648691. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.846; BW27960; 161589-0; NSGC 9786. Pedigree - YAR/Ae tauschii (518).
- PI 648692. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.847; BW27961; 161084-0; NSGC 9787. Pedigree - TK SN1081/Ae tauschii (519).
- PI 648693. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.849; BW27962; 154096-0; NSGC 9788. Pedigree - Scaup/Ae tauschii (523).
- PI 648694. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.854; BW27963; 161085-0; NSGC 9789. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (528).
- PI 648695. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.863; BW27964; 161086-0; NSGC 9790. Pedigree - Botno/Ae tauschii (617).
- PI 648696. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.864; BW27965; 161087-0; NSGC 9791. Pedigree - Botno/Ae tauschii (620).
- PI 648697. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.865; BW27966; 161590-0; NSGC 9792. Pedigree - Botno/Ae tauschii (625).
- PI 648698. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.866; BW27967; 161088-0; NSGC 9793. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (628).

- PI 648699. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.868; BW27968; 161089-0; NSGC 9794. Pedigree - Cocorit 71/Capest//Ae tauschii (629).
- PI 648700. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.869; BW27969; 161194-0; NSGC 9795. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (629).
- PI 648701. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.871; BW27970; 161591-0; NSGC 9796. Pedigree - D67.2/P66.270//Ae tauschii (633).
- PI 648702. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.872; BW27971; 161091-0; NSGC 9797. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (633).
- PI 648703. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.873; BW27972; 161592-0; NSGC 9798. Pedigree - SCOOP_1/Ae tauschii (634).
- PI 648704. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.876; BW27973; 161593-0; NSGC 9799. Pedigree - D67.2/P66.270//Ae tauschii (646).
- PI 648705. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.878; BW27974; 161594-0; NSGC 9800. Pedigree - D67.2/P66.270//Ae tauschii (659).
- PI 648706. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.879; BW27975; 154097-0; NSGC 9801. Pedigree - SCOOP_1/Ae tauschii (659).
- PI 648707. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.881; BW27976; 161595-0; NSGC 9802. Pedigree - Cerceta/Ae tauschii (661).
- PI 648708. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.883; BW27977; 161596-0; NSGC 9803. Pedigree - SCOOP_1/Ae tauschii (662).
- PI 648709. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.886; BW27978; 161092-0; NSGC 9804. Pedigree - 6973/Ward.7463//74110/3/Ae tauschii (665).
- PI 648710. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.887; BW27979; 161597-0; NSGC 9805. Pedigree - Cerceta/Ae tauschii (665).
- PI 648711. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.888; BW27980; 161195-0; NSGC 9806. Pedigree - Arlequin/Ae tauschii (665).
- PI 648712. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.889; BW27981; 161598-0; NSGC 9807. Pedigree - Botno/Ae tauschii (666).

- PI 648713. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.892; BW27982; 161599-0; NSGC 9808. Pedigree - LCK59.61/Ae tauschii (689).
- PI 648714. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.894; BW27983; 161600-0; NSGC 9809. Pedigree - LCK59.61/Ae tauschii (690).
- PI 648715. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.895; BW27984; 161601-0; NSGC 9810. Pedigree - TK SN1081/Ae tauschii (690).
- PI 648716. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.896; BW27985; 161602-0; NSGC 9811. Pedigree - LCK59.61/Ae tauschii (693).
- PI 648717. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.897; BW27986; 161603-0; NSGC 9812. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (700).
- PI 648718. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.898; BW27987; 161604-0; NSGC 9813. Pedigree - Trinakria/Ae tauschii (700).
- PI 648719. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.900; BW27988; 161605-0; NSGC 9814. Pedigree - LCK59.61/Ae tauschii (783).
- PI 648720. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.901; BW27989; 161007-0; NSGC 9815. Pedigree - Cerceta/Ae tauschii (796).
- PI 648721. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.906; BW27990; 161606-0; NSGC 9816. Pedigree - Snipe/Yavaros 79//Dackiye/Teal/3/Ae tauschii (877).
- PI 648722. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.907; BW27991; 161607-0; NSGC 9817. Pedigree - YAV_2/Tezontle//Ae tauschii (882).
- PI 648723. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.909; BW27992; 161093-0; NSGC 9818. Pedigree - Gan/Ae tauschii (890).
- PI 648724. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.911; BW27993; 161608-0; NSGC 9819. Pedigree - Gan/Ae tauschii (897).
- PI 648725. X Aegilotriticum sp.**
Breeding. Pureline. CIGM90.910; BW27994; 161609-0; NSGC 9820. Pedigree - YAV_2/Tezontle//Ae tauschii (895).
- PI 648726. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1611; BW27995; 161610-0; NSGC 9821. Pedigree - Garza/Boyerros//Ae tauschii (165).

- PI 648727. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1614; BW27996; 161611-0; NSGC 9822. Pedigree
- Garza/Boyerros//Ae tauschii (171).
- PI 648728. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1842; BW27997; 161612-0; NSGC 9823. Pedigree
- Kapude/Ae tauschii (175).
- PI 648729. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1623; BW27999; 161614-0; NSGC 9825. Pedigree
- Garza/Boyerros//Ae tauschii (195).
- PI 648730. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1845; BW28000; 161615-0; NSGC 9826. Pedigree
- Garza/Boyerros//Ae tauschii (232).
- PI 648731. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1627; BW28001; 161616-0; NSGC 9827. Pedigree
- Garza/Boyerros//Ae tauschii (233).
- PI 648732. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1629; BW28002; 161617-0; NSGC 9828. Pedigree
- Garza/Boyerros//Ae tauschii (240).
- PI 648733. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1631; BW28003; 161618-0; NSGC 9829. Pedigree
- Garza/Boyerros//Ae tauschii (241).
- PI 648734. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1637; BW28004; 161619-0; NSGC 9830. Pedigree
- Garza/Boyerros//Ae tauschii (265).
- PI 648735. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1638; BW28005; 161620-0; NSGC 9831. Pedigree
- Garza/Boyerros//Ae tauschii (270).
- PI 648736. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1640; BW28006; 161621-0; NSGC 9832. Pedigree
- Garza/Boyerros//Ae tauschii (276).
- PI 648737. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1642; BW28007; 161622-0; NSGC 9833. Pedigree
- Garza/Boyerros//Ae tauschii (278).
- PI 648738. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1643; BW28008; 161623-0; NSGC 9834. Pedigree
- Garza/Boyerros//Ae tauschii (280).
- PI 648739. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1644; BW28009; 161624-0; NSGC 9835. Pedigree
- Garza/Boyerros//Ae tauschii (281).
- PI 648740. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1646; BW28010; 161625-0; NSGC 9836. Pedigree
- Garza/Boyerros//Ae tauschii (283).

- PI 648741. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1647; BW28011; 161626-0; NSGC 9837. Pedigree - Arlequin/Ae tauschii (283).
- PI 648742. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1649; BW28012; 161627-0; NSGC 9838. Pedigree - Garza/Boyeroyos//Ae tauschii (284).
- PI 648743. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.473; BW28014; 161629-0; NSGC 9840. Pedigree - 6973/Ward.7463//74110/3/Ae tauschii (289).
- PI 648744. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1849; BW28015; 161630-0; NSGC 9841. Pedigree - Decoy 1/Ae tauschii (293).
- PI 648745. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1652; BW28016; 161631-0; NSGC 9842. Pedigree - Garza/Boyeroyos//Ae tauschii (294).
- PI 648746. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1657; BW28017; 161632-0; NSGC 9843. Pedigree - Arlequin/Ae tauschii (295).
- PI 648747. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1850; BW28018; 161633-0; NSGC 9844. Pedigree - DVERD_2/Ae tauschii (295).
- PI 648748. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1655; BW28019; 161634-0; NSGC 9845. Pedigree - Rokel/Kamilaroi//Ae tauschii (295).
- PI 648749. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1659; BW28020; 161635-0; NSGC 9846. Pedigree - CROC_1/Ae tauschii (298).
- PI 648750. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1666; BW28024; 161639-0; NSGC 9850. Pedigree - Rascon/Ae tauschii (312).
- PI 648751. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1669; BW28025; 161640-0; NSGC 9851. Pedigree - Rascon/Ae tauschii (314).
- PI 648752. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1668; BW28026; 161641-0; NSGC 9852. Pedigree - Kapude/Ae tauschii (314).
- PI 648753. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1667; BW28027; 161642-0; NSGC 9853. Pedigree - Scoter/MEXI_1//Ae tauschii (314).
- PI 648754. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1851; BW28028; 161643-0; NSGC 9854. Pedigree - Arlequin/Ae tauschii (317).

- PI 648755. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1675; BW28029; 161644-0; NSGC 9855. Pedigree
- Ajaia/Ae tauschii (330).
- PI 648756. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1680; BW28030; 161645-0; NSGC 9856. Pedigree
- ARLIN_1/Ae tauschii (333).
- PI 648757. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1676; BW28031; 161646-0; NSGC 9857. Pedigree
- Altar 84/Ae tauschii (333).
- PI 648758. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1678; BW28033; 161648-0; NSGC 9859. Pedigree
- Laru/Ae tauschii (333).
- PI 648759. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1679; BW28034; 161649-0; NSGC 9860. Pedigree
- DVERD_2/Ae tauschii (333).
- PI 648760. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1681; BW28035; 161650-0; NSGC 9861. Pedigree
- Rokel/Kamilaroi//Ae tauschii (333).
- PI 648761. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1682; BW28036; 161651-0; NSGC 9862. Pedigree
- Decoy 1/Ae tauschii (333).
- PI 648762. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1684; BW28037; 161652-0; NSGC 9863. Pedigree
- Kapude/Ae tauschii (341).
- PI 648763. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1686; BW28038; 161653-0; NSGC 9864. Pedigree
- Rascon/Ae tauschii (343).
- PI 648764. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1687; BW28039; 161654-0; NSGC 9865. Pedigree
- Decoy 1/Ae tauschii (349).
- PI 648765. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1689; BW28040; 161655-0; NSGC 9866. Pedigree
- Garza/Boyerros//Ae tauschii (350).
- PI 648766. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1692; BW28041; 161656-0; NSGC 9867. Pedigree
- Garza/Boyerros//Ae tauschii (366).
- PI 648767. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1695; BW28042; 161657-0; NSGC 9868. Pedigree
- Rascon/Ae tauschii (367).
- PI 648768. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1696; BW28043; 161658-0; NSGC 9869. Pedigree
- Decoy 1/Ae tauschii (370).

- PI 648769. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1698; BW28044; 161659-0; NSGC 9870. Pedigree - Garza/Boyerros//Ae tauschii (374).
- PI 648770. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1699; BW28045; 161660-0; NSGC 9871. Pedigree - Garza/Boyerros//Ae tauschii (375).
- PI 648771. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1701; BW28046; 161661-0; NSGC 9872. Pedigree - Rascon/Ae tauschii (385).
- PI 648772. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1700; BW28047; 161662-0; NSGC 9873. Pedigree - Kapude/Ae tauschii (385).
- PI 648773. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.496; BW28048; 161663-0; NSGC 9874. Pedigree - Algerian 86/4/Flamingo/Palestinian//MEXI_1/3/Ruff/Flamingo/5/Ente/6/Ae tauschii (389).
- PI 648774. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1702; BW28049; 161664-0; NSGC 9875. Pedigree - Falcinellus/Ae tauschii (389).
- PI 648775. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1706; BW28050; 161665-0; NSGC 9876. Pedigree - Arlequin/Ae tauschii (410).
- PI 648776. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1708; BW28051; 161666-0; NSGC 9877. Pedigree - Decoy 1/Ae tauschii (415).
- PI 648777. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1711; BW28052; 161667-0; NSGC 9878. Pedigree - 68.111/Rugby//Ward/3/Ae tauschii (426).
- PI 648778. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1712; BW28053; 161668-0; NSGC 9879. Pedigree - Garza/Boyerros//Ae tauschii (427).
- PI 648779. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1713; BW28054; 161669-0; NSGC 9880. Pedigree - Decoy 1/Ae tauschii (428).
- PI 648780. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1715; BW28055; 161670-0; NSGC 9881. Pedigree - Garza/Boyerros//Ae tauschii (433).
- PI 648781. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1717; BW28056; 161671-0; NSGC 9882. Pedigree - Garza/Boyerros//Ae tauschii (439).
- PI 648782. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.491; BW28057; 161672-0; NSGC 9883. Pedigree - 68112/Ward//Ae tauschii (451).

- PI 648783. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1721; BW28059; 161674-0; NSGC 9885. Pedigree
- 68.111/Rugby//Ward/3/Ae tauschii (452).
- PI 648784. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1723; BW28060; 161675-0; NSGC 9886. Pedigree
- 68.111/Rugby//Ward/3/Ae tauschii (454).
- PI 648785. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1725; BW28061; 161676-0; NSGC 9887. Pedigree
- 68.111/Rugby//Ward/3/Ae tauschii (456).
- PI 648786. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1727; BW28062; 161677-0; NSGC 9888. Pedigree
- Decoy 1/Ae tauschii (458).
- PI 648787. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1871; BW28064; 161679-0; NSGC 9890. Pedigree
- Greenshank/Ae tauschii (458).
- PI 648788. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1731; BW28065; 161680-0; NSGC 9891. Pedigree
- 68.111/Rugby//Ward/3/Ae tauschii (463).
- PI 648789. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1733; BW28066; 161681-0; NSGC 9892. Pedigree
- Garza/Boyeroyos//Ae tauschii (467).
- PI 648790. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1742; BW28067; 161682-0; NSGC 9893. Pedigree
- Garza/Boyeroyos//Ae tauschii (484).
- PI 648791. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1745; BW28068; 161683-0; NSGC 9894. Pedigree
- Garza/Boyeroyos//Ae tauschii (503).
- PI 648792. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1746; BW28069; 161684-0; NSGC 9895. Pedigree
- Altar 84/Ae tauschii (507).
- PI 648793. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1747; BW28070; 161685-0; NSGC 9896. Pedigree
- CROC_1/Ae tauschii (507).
- PI 648794. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1749; BW28072; 161687-0; NSGC 9898. Pedigree
- DVERD_2/Ae tauschii (507).
- PI 648795. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1750; BW28073; 161688-0; NSGC 9899. Pedigree
- Rokel/Kamilaroi//Ae tauschii (507).
- PI 648796. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1751; BW28074; 161689-0; NSGC 9900. Pedigree
- Decoy 1/Ae tauschii (507).

- PI 648797. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1753; BW28075; 161690-0; NSGC 9901. Pedigree - Garza/Boyeroy//Ae tauschii (520).
- PI 648798. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.1754; BW28076; 161691-0; NSGC 9902. Pedigree - Decoy 1/Ae tauschii (532).
- PI 648799. X Aegilotriticum sp.**
Breeding. Pureline. CIGM92.481; BW28077; 161692-0; NSGC 9903. Pedigree - LCK59.61/Ae tauschii (536).
- PI 648800. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.177; BW28078; 161693-0; NSGC 9904. Pedigree - Gan/Ae tauschii (163).
- PI 648801. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.183; BW28083; 161698-0; NSGC 9909. Pedigree - Cerceta/Ae tauschii (174).
- PI 648802. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.362; BW28084; 161699-0; NSGC 9910. Pedigree - Sentry/Celta//Palustris/3/SRN_5/4/Ae tauschii (174).
- PI 648803. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.185; BW28085; 161700-0; NSGC 9911. Pedigree - CROC_1/Ae tauschii (177).
- PI 648804. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.187; BW28086; 161701-0; NSGC 9912. Pedigree - Decoy 1/Ae tauschii (177).
- PI 648805. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.192; BW28087; 161702-0; NSGC 9913. Pedigree - Gan/Ae tauschii (182).
- PI 648806. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.200; BW28089; 161704-0; NSGC 9915. Pedigree - Scaup/Ae tauschii (248).
- PI 648807. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.202; BW28090; 161705-0; NSGC 9916. Pedigree - Decoy 1/Ae tauschii (255).
- PI 648808. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.203; BW28091; 161706-0; NSGC 9917. Pedigree - CROC_1/Ae tauschii (256).
- PI 648809. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.204; BW28092; 161707-0; NSGC 9918. Pedigree - Cerceta/Ae tauschii (256).
- PI 648810. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.205; BW28093; 161708-0; NSGC 9919. Pedigree - Decoy 1/Ae tauschii (256).

- PI 648811. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.207; BW28094; 161709-0; NSGC 9920. Pedigree - Decoy 1/Ae tauschii (258).
- PI 648812. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.211; BW28096; 161711-0; NSGC 9922. Pedigree - Decoy 1/Ae tauschii (264).
- PI 648813. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.212; BW28097; 161712-0; NSGC 9923. Pedigree - Gan/Ae tauschii (264).
- PI 648814. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.213; BW28098; 161713-0; NSGC 9924. Pedigree - Decoy 1/Ae tauschii (267).
- PI 648815. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.214; BW28099; 161714-0; NSGC 9925. Pedigree - Gan/Ae tauschii (267).
- PI 648816. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.215; BW28100; 161715-0; NSGC 9926. Pedigree - Gan/Ae tauschii (268).
- PI 648817. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.216; BW28101; 161716-0; NSGC 9927. Pedigree - Scaup/Ae tauschii (272).
- PI 648818. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.218; BW28102; 161717-0; NSGC 9928. Pedigree - CROC_1/Ae tauschii (275).
- PI 648819. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.372; BW28103; 161718-0; NSGC 9929. Pedigree - Sentry/Celta//Palustris/3/SRN_5/4/Ae tauschii (277).
- PI 648820. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.374; BW28105; 161720-0; NSGC 9931. Pedigree - Gan/Ae tauschii (285).
- PI 648821. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.377; BW28107; 161722-0; NSGC 9933. Pedigree - SKARV_2/Ae tauschii (304).
- PI 648822. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.233; BW28108; 161723-0; NSGC 9934. Pedigree - Decoy 1/Ae tauschii (318).
- PI 648823. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.225; BW28109; 161724-0; NSGC 9935. Pedigree - Decoy 1/Ae tauschii (322).
- PI 648824. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.226; BW28110; 161725-0; NSGC 9936. Pedigree - Cerceta/Ae tauschii (327).

- PI 648825. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.227; BW28111; 161726-0; NSGC 9937. Pedigree - Decoy 1/Ae tauschii (334).
- PI 648826. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.379; BW28112; 161727-0; NSGC 9938. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (334).
- PI 648827. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.382; BW28113; 161728-0; NSGC 9939. Pedigree - CROC_1/Ae tauschii (362).
- PI 648828. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.229; BW28114; 161729-0; NSGC 9940. Pedigree - Decoy 1/Ae tauschii (372).
- PI 648829. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.233; BW28115; 161730-0; NSGC 9941. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (390).
- PI 648830. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.385; BW28116; 161731-0; NSGC 9942. Pedigree - Decoy 1/Ae tauschii (390).
- PI 648831. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.386; BW28117; 161732-0; NSGC 9943. Pedigree - AAZ_3/Ae tauschii (398).
- PI 648832. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.237; BW28119; 161734-0; NSGC 9945. Pedigree - Scaup/Ae tauschii (409).
- PI 648833. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.388; BW28120; 161735-0; NSGC 9946. Pedigree - Capeiti/Gediz 75/3/Goose//Jori C69/Crane/4/Ae tauschii (409).
- PI 648834. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.238; BW28121; 161736-0; NSGC 9947. Pedigree - Gan/Ae tauschii (413).
- PI 648835. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.239; BW28122; 161737-0; NSGC 9948. Pedigree - Decoy 1/Ae tauschii (418).
- PI 648836. X *Aegilotriticum* sp.**
Breeding. Pureline. CIGM93.240; BW28123; 161738-0; NSGC 9949. Pedigree - Sentry/Celta//Palustris/3/SRN_5/4/Ae tauschii (418).

The following were developed by H. Kuckuck, Institut für Kulturpflanzenforschung, Gatersleben, Saxony-Anhalt, Germany. Donated by Maarten Van Ginkel, International Maize & Wheat Improvement Center, Wheat Germplasm Bank, Mexico City, Federal District 06600, Mexico. Received 05/05/2005.

PI 648837. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.242; BW28124; 161739-0; NSGC 9950. Pedigree - CROC_1/Ae tauschii (436).

The following were developed by A. Mujeeb-Kazi, International Maize & Wheat Improvement Center, Apartado Postal 6-641, Mexico City, Federal District 06600, Mexico. Donated by Maarten Van Ginkel, International Maize & Wheat, Improvement Center, Wheat Germplasm Bank, Mexico City, Federal District 06600, Mexico. Received 05/05/2005.

PI 648838. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.244; BW28125; 161740-0; NSGC 9951. Pedigree - CROC_1/Ae tauschii (444).

PI 648839. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.245; BW28126; 161741-0; NSGC 9952. Pedigree - Gan/Ae tauschii (459).

PI 648840. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.259; BW23180; 161745-0; NSGC 9956. Pedigree - Cerceta/Ae tauschii (499).

PI 648841. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.261; BW28131; 161746-0; NSGC 9957. Pedigree - Sentry/Celta//Palustris/3/SRN_5/4/Ae tauschii (502).

PI 648842. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.395; BW28132; 161747-0; NSGC 9958. Pedigree - Altar 84/Ae tauschii (502).

PI 648843. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.396; BW28133; 161748-0; NSGC 9959. Pedigree - Sentry/Celta//Palustris/3/SRN_5/4/Ae tauschii (502).

PI 648844. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.264; BW28134; 161749-0; NSGC 9960. Pedigree - CROC_1/Ae tauschii (516).

PI 648845. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.265; BW28135; 161757-0; NSGC 9961. Pedigree - Decoy 1/Ae tauschii (516).

PI 648846. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.266; BW28136; 161750-0; NSGC 9962. Pedigree - CROC_1/Ae tauschii (517).

PI 648847. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.267; BW28137; 161751-0; NSGC 9963. Pedigree - Decoy 1/Ae tauschii (517).

PI 648848. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.268; BW28138; 161752-0; NSGC 9964. Pedigree - Cerceta/Ae tauschii (525).

- PI 648849. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.271; BW28139; 161753-0; NSGC 9965. Pedigree - Decoy 1/Ae tauschii (526).
- PI 648850. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.275; BW28141; 161755-0; NSGC 9967. Pedigree - ARLIN_1/Ae tauschii (536).
- PI 648851. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.399; BW28142; 161756-0; NSGC 9968. Pedigree - Cerceta/Ae tauschii (540).
- PI 648852. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.292; BW28146; 161761-0; NSGC 9972. Pedigree - Altar 84/Ae tauschii (1012).
- PI 648853. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.294; BW28147; 161762-0; NSGC 9973. Pedigree - Decoy 1/Ae tauschii (1016).
- PI 648854. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.402; BW28148; 161763-0; NSGC 9974. Pedigree - DVERD_2/Ae tauschii (1016).
- PI 648855. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.403; BW28149; 161764-0; NSGC 9975. Pedigree - Cerceta/Ae tauschii (1016).
- PI 648856. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.295; BW28150; 161765-0; NSGC 9976. Pedigree - DVERD_2/Ae tauschii (1022).
- PI 648857. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.296; BW28151; 161766-0; NSGC 9977. Pedigree - Cerceta/Ae tauschii (1022).
- PI 648858. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.404; BW28152; 161767-0; NSGC 9978. Pedigree - CROC_1/Ae tauschii (1023).
- PI 648859. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.297; BW28153; 161768-0; NSGC 9979. Pedigree - Cerceta/Ae tauschii (1024).
- PI 648860. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.298; BW28154; 161769-0; NSGC 9980. Pedigree - Decoy 1/Ae tauschii (1024).
- PI 648861. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.299; BW28155; 161770-0; NSGC 9981. Pedigree - Cerceta/Ae tauschii (1025).
- PI 648862. X Aegilotriticum sp.**
Breeding. Pureline. CIGM93.300; BW28156; 161771-0; NSGC 9982. Pedigree - DVERD_2/Ae tauschii (1027).

PI 648863. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.302; BW28157; 161772-0; NSGC 9983. Pedigree - Decoy 1/Ae tauschii (1027).

PI 648864. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.406; BW28158; 161773-0; NSGC 9984. Pedigree - Cerceta/Ae tauschii (1027).

PI 648865. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.305; BW28159; 161774-0; NSGC 9985. Pedigree - Cerceta/Ae tauschii (1030).

PI 648866. X Aegilotriticum sp.

Breeding. Pureline. CIGM93.306; BW28160; 161775-0; NSGC 9986. Pedigree - Decoy 1/Ae tauschii (1030).

The following were developed by Michigan State University, Department of Crop Science, East Lansing, Michigan, United States. Received 07/11/2007.

PI 648867 PVPO. Solanum tuberosum L.

Cultivar. "LIBERATOR". PVP 200200168.

PI 648868 PVPO. Solanum tuberosum L.

Cultivar. "MICHIGAN PURPLE". PVP 200200169.

PI 648869 PVPO. Solanum tuberosum L.

Cultivar. "JACQUELINE LEE". PVP 200200170.

The following were collected by D.A. Tavares da Silva, Instituto Superior de Agronomia, Lisbon, Lisboa, Portugal. Received 01/1923.

PI 648870. Triticum turgidum subsp. durum (Desf.) Husn.

Landrace. Ribeiro; NSGC 18382. Collected in Lisboa, Portugal. Latitude 39° 0' N. Longitude 9° 8' W. Separation of species from PI 56206.

The following were collected by V. Taysi, Agricultural Institute, Ankara, Ankara, Turkey. Donated by Jack R. Harlan, USDA-ARS, New Crops Research Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 06/16/1948.

PI 648871. Triticum turgidum subsp. durum (Desf.) Husn.

Landrace. 757; Sahman; NSGC 18383. Collected in Ankara, Turkey. Latitude 38° 56' 40" N. Longitude 33° 32' 31" E. Serefli Kochisar. Separation of species from PI 165131.

PI 648872. Triticum turgidum subsp. durum (Desf.) Husn.

Landrace. 793; Sahman; NSGC 18384. Collected in Nevsehir, Turkey. Latitude 38° 42' 54" N. Longitude 34° 50' 48" E. Avanos. Separation of species from PI 165167.

PI 648873. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 824; Bolvadin; NSGC 18385. Collected in Konya, Turkey.
Latitude 37° 40' 35" N. Longitude 31° 43' 34" E. Beysehir.
Separation of species from PI 165199.

PI 648874. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 1308; Kirmizi; NSGC 18386. Collected in Malatya, Turkey.
Latitude 38° 12' N. Longitude 38° 53' E. Poturge. Separation of
species from PI 166895.

The following were collected by Jack R. Harlan, USDA-ARS, New Crops Research
Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United
States. Received 01/1949.

PI 648875. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 8020; Menceki; NSGC 18387. Collected 09/1948 in Elazig, Turkey.
Latitude 38° 43' N. Longitude 39° 5' E. village of Erzuruk.
Separation of species from PI 173476.

PI 648876. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 10366; Kurt; NSGC 18388. Collected 1948 in Bursa, Turkey.
Latitude 40° 21' 43" N. Longitude 29° 7' 33" E. Kurtul, Gemlik.
Separation of species from PI 178234.

The following were collected by J. Kovacevic, Federal Institute for Plant
Breeding and Production, Zemun, Serbia. Received 08/1949.

PI 648877. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. Bijela Brkulja; NSGC 18389. Collected in Bosnia and
Herzegovina. Latitude 45° 6' 14" N. Longitude 17° 35' 23" E.
Kaoce. Separation of species from PI 184174.

The following were collected by W.A. Archer, USDA-ARS, Horticultural Crops
Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350,
United States. Received 04/1951.

PI 648878. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9309; NSGC 18390. Collected 12/31/1950 in Gonder, Ethiopia.
Latitude 12° 36' N. Longitude 37° 28' E. Gondar. market.
Separation of species from PI 195093.

PI 648879. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9347; NSGC 18391. Collected 12/31/1950 in Gonder, Ethiopia.
Latitude 12° 36' N. Longitude 37° 28' E. Gondar. market.
Separation of species from PI 195096.

PI 648880. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9603; NSGC 18393. Collected 02/1951 in Ethiopia. Latitude
8° 0' N. Longitude 38° 0' E. Barristorante. Separation of
species from PI 195708.

PI 648881. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9861; NSGC 18394. Collected 02/1951 in Welo, Ethiopia.
Latitude 11° 11' N. Longitude 40° 1' E. Batie. market.
Separation of species from PI 195718.

PI 648882. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9863; NSGC 18395. Collected 02/1951 in Welo, Ethiopia.
Latitude 11° 11' N. Longitude 40° 1' E. Batie. market.
Separation of species from PI 195720.

PI 648883. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9648; NSGC 18396. Collected 1951 in Welo, Ethiopia. Latitude
11° 8' N. Longitude 39° 38' E. Dessie. Separation of species
from PI 196078.

PI 648884. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 9656; NSGC 18397. Collected 1951 in Welo, Ethiopia. Latitude
11° 8' N. Longitude 39° 38' E. Dessie. Separation of species
from PI 196085.

The following were collected by L.D. Schweng, FAO, Amman, Jordan. Received
10/02/1952.

PI 648885. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. NSGC 18398. Collected in Jordan. Latitude 31° 43' N.
Longitude 35° 48' E. near Madaba. Separation of species from PI
203153.

The following were collected by P.F. Knowles, University of California, Dept.
of Agronomy and Range Sciences, Davis, California 98230, United States.
Received 08/13/1958.

PI 648886. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. K876; NSGC 18400. Collected 06/1958 in Khuzestan, Iran.
Latitude 32° 0' N. Longitude 48° 33' E. Ahvaz-Dizful road, via
Shush and Andimishk. Separation of species from PI 250048.

The following were collected by D.E. Symon, Adelaide University, Waite
Agricultural Institute, Adelaide, South Australia, Australia. Received
04/25/1960.

PI 648887. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. 55; NSGC 18401. Collected 1956 in Central Greece, Greece.
Latitude 38° 25' N. Longitude 23° 5' E. plain of Kopais.
Separation of species from PI 264988.

The following were collected by Institute for Plant Production &
Qualification, Research Centre for Agrobotany, Tapioszele, Pest H-2766,
Hungary. Received 03/13/1961.

PI 648888. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Cultivated. Veneny 3787; NSGC 18403. Collected in Pest, Hungary.
Latitude 47° 25' N. Longitude 19° 20' E. Separation of species
from PI 272457.

The following were collected by E.L. Smith, USDA, ARS, 1301 N. Western St.,
Stillwater, Oklahoma 74075, United States; C.E.H. Thomas, University of
Reading, Reading, England, United Kingdom. Received 06/17/1964.

PI 648889. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. ELS 6304-37; NSGC 18405. Collected in Shewa, Ethiopia.
Latitude 8° 51' N. Longitude 38° 26' E. 45mi. southwest of Addis
Ababa. Separation of species from PI 298546.

The following were collected by Institute of Agricultural Research, Addis
Ababa, Shewa, Ethiopia. Received 04/23/1974.

PI 648890. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Landrace. IAR/W/14-1; NSGC 18410. Collected in Ethiopia. Latitude 8°
0' N. Longitude 38° 0' E. Separation of species from PI 387288.

The following were collected by Harry Vaughn Harlan, USDA-Bureau of Plant
Industry, Division of Cereal Crops & Diseases, Washington, District of
Columbia, United States. Received 02/26/1924.

PI 648891. *Triticum aestivum* L. subsp. *aestivum*
Landrace. 341; NSGC 18411. Collected 11/17/1923 in Shewa, Ethiopia.
Latitude 9° 2' N. Longitude 38° 42' E. Addis Ababa. market.
Separation of species from CItr 7856.

The following were donated by Jack R. Harlan, USDA-ARS, New Crops Research
Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United
States. Received 09/1948.

PI 648892. *Triticum aestivum* L. subsp. *aestivum*
Landrace. 3518; Kokana; NSGC 18412. Collected in Ankara, Turkey.
Latitude 39° 55' N. Longitude 32° 52' E. Yenisehir. obtained in
market, Bursa. Separation of species from PI 167639.

The following were collected by Erzurum Seed Improvement Station, Erzurum,
Erzurum, Turkey. Donated by Jack R. Harlan, USDA-ARS, New Crops Research
Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United
States. Received 03/30/1949.

PI 648893. *Triticum aestivum* L. subsp. *aestivum*
Cultivated. 6460; 143/4; NSGC 18413. Collected in Erzurum, Turkey.
Separation of species from PI 178715.

The following were collected by Instituto de Fitotecnia, Ministerio de
Agricultura, Buenos Aires, Buenos Aires, Argentina. Received 09/06/1962.

PI 648894. *Triticum aestivum* L. subsp. *aestivum*

Cultivated. Dickson's No. 444; NSGC 18414. Collected in Buenos Aires, Argentina. Separation of species from PI 282924.

The following were collected by E.L. Smith, USDA, ARS, 1301 N. Western St., Stillwater, Oklahoma 74075, United States; C.E.H. Thomas, University of Reading, Reading, England, United Kingdom. Received 06/17/1964.

PI 648895. *Triticum aestivum* L. subsp. *aestivum*

Landrace. ELS 6404-45; NSGC 18415. Collected in Kefa, Ethiopia. Latitude 7° 9' N. Longitude 37° 8' E. Elevation 2592 m. 54mi. southeast of Jimma. Separation of species from PI 298577.

The following were collected by R. Gerek, Plant Breeding Station, Eskisehir, Eskisehir, Turkey. Received 03/18/1969.

PI 648896. *Triticum aestivum* L. subsp. *aestivum*

Landrace. NSGC 18416. Collected in Isparta, Turkey. Latitude 38° 0' N. Longitude 31° 0' E. Separation of species from PI 341291.

PI 648897. *Triticum aestivum* L. subsp. *aestivum*

Landrace. B-146; Menceki; NSGC 18417. Collected in Elazig, Turkey. Latitude 38° 30' N. Longitude 39° 30' E. Separation of species from PI 341357.

PI 648898. *Triticum aestivum* L. subsp. *aestivum*

Landrace. Som; NSGC 18418. Collected in Tokat, Turkey. Latitude 40° 25' N. Longitude 36° 35' E. Separation of species from PI 341368.

PI 648899. *Triticum aestivum* L. subsp. *aestivum*

Landrace. Kunduru; NSGC 18419. Collected in Malatya, Turkey. Latitude 38° 30' N. Longitude 38° 0' E. Separation of species from PI 341374.

PI 648900. *Triticum aestivum* L. subsp. *aestivum*

Landrace. Sari; NSGC 18420. Collected in Konya, Turkey. Latitude 37° 50' N. Longitude 32° 30' E. Separation of species from PI 341387.

PI 648901. *Triticum aestivum* L. subsp. *aestivum*

Landrace. Bugday; NSGC 18422. Collected in Urfa, Turkey. Latitude 37° 15' N. Longitude 39° 0' E. Separation of species from PI 341723.

The following were collected by Gustav A. Wiebe, USDA-ARS, Crops Research Division, Plant Industry Station, Beltsville, Maryland 20705, United States. Received 12/30/1973.

PI 648902. *Triticum aestivum* L. subsp. *aestivum*

Landrace. 10-1; NSGC 18426. Collected 1970 in Gonder, Ethiopia. Latitude 12° 39' N. Longitude 37° 29' E. 6km north of Gondar. Separation of species from PI 384110.

The following were collected by M. Romero Loli, Universidad Nacional Agraria, La Molina, Lima, Peru. Received 04/1983.

PI 648903. *Triticum aestivum* L. subsp. *aestivum*

Landrace. PLT 76-1955; NSGC 18428. Collected in Ancash, Peru. Latitude 9° 16' S. Longitude 77° 38' W. Carhuaz. Separation of species from PI 477887.

The following were collected by Consiglio Nazionale delle Ricerche, Istituto del Germoplasma, Via G. Amendola, 165A, Bari, Apulia 70126, Italy. Received 06/1983.

PI 648904. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31108; NSGC 18429. Collected 12/07/1973 in Shewa, Ethiopia. Latitude 9° 12' N. Longitude 38° 33' E. Separation of species from PI 480009.

PI 648905. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31318; NSGC 18431. Collected 12/10/1973 in Ethiopia. Separation of species from PI 480179.

PI 648906. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31488; NSGC 18432. Collected 12/12/1973 in Ethiopia. Separation of species from PI 480266.

PI 648907. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31497; NSGC 18433. Collected 12/12/1973 in Ethiopia. Separation of species from PI 480275.

PI 648908. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31513; NSGC 18434. Collected 12/12/1973 in Ethiopia. Separation of species from PI 480291.

PI 648909. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31655; NSGC 18435. Collected 12/13/1973 in Shewa, Ethiopia. Latitude 9° 5' N. Longitude 38° 25' E. Separation of species from PI 480402.

PI 648910. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 31713; NSGC 18436. Collected 12/14/1973 in Shewa, Ethiopia. Latitude 9° 7' N. Longitude 38° 23' E. Separation of species from PI 480459.

The following were collected by International Board for Plant Genetic Resources, AGPG, FAO, Via della terme de Caracalla, Rome, Latium 00100, Italy. Received 1988.

PI 648911. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 07710; NSGC 18437. Collected 12/08/1973 in Shewa, Ethiopia. Latitude 9° 10' N. Longitude 38° 49' E. Separation of species from PI 534274.

PI 648912. *Triticum aestivum* L. subsp. *aestivum*

Landrace. MG 18185; NSGC 18438. Collected 07/08/1976 in Algeria.
Latitude 28° 0' N. Longitude 3° 0' E. Separation of species
from PI 534396.

The following were developed by Phil Bregitzer, USDA-ARS, National Small Grains Germplasm Research Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States; Dolores W. Mornhinweg, USDA, ARS, Plant Science Research Laboratory, 1301 N. Western Street, Stillwater, Oklahoma 74075, United States; Juliet M. Windes, University of Idaho, Aberdeen Research & Extension Center, P.O. Box 870, Aberdeen, Idaho 83210, United States; Don Obert, USDA-ARS, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States. Received 07/25/2007.

PI 648913. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. RWA 1758; 01ST1758; NSGC 18439. CV-336; PVP 200700405. Pedigree - Baronesse*4/STARS 9577B. Released 2007. Russian wheat aphid resistant two-rowed spring feed barley.

The following were collected by Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador; David E. Williams, Internat'l Plant Genetic Resources Inst., Regional Office for the Americas, c/o CIAT, Int'l Ctr. for Tropical Agric., Cali, Valle, Colombia. Received 11/17/1995.

PI 648914. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WWT-1350; nuse; Grif 12561. Collected 10/30/1995 in Ecuador. Latitude 2° 27' 42" S. Longitude 78° 10' 16" W. Elevation 890 m. Prov. Morona Santiago, Canton Sucua, Parroquia Sucua, Localidad Sucua. Programs de Comercializacion de la Federacion Shuar. Pedigree - Selection from mixture with Grif 12560 based on seed coat color. Seeds large, elongate, tan with purple streaks. Plants said to be erect.

PI 648915. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WWT-1352; mani; Grif 12564. Collected 10/31/1995 in Ecuador. Latitude 3° 37' 49" S. Longitude 78° 35' 23" W. Elevation 885 m. Prov. Zamora Chinchipe, Canton El Pangui, Parroquia El Pangui, Localidad El Pangui. Store. Mixed seed.

The following were collected by Charles E. Simpson, Texas A&M University, P. O. Box 292, Stephenville, Texas 76401, United States; Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador. Received 10/07/1996.

PI 648916. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-15; mani; Grif 13800. Collected 08/27/1996 in Pichincha, Ecuador. Latitude 0° 10' 43" N. Longitude 78° 38' 31" W. Elevation 1140 m. Canton Quito, Parroquia Nanegal, Localidad Chacapata.

Farm. Planted in October, harvest in 3 months. Seeds purple, size medium.

PI 648917. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-20; mani nacional; Grif 13804. Collected 08/27/1996 in Pichincha, Ecuador. Latitude 0° 7' 5" N. Longitude 79° 15' 6" W. Elevation 300 m. Canton Puerto Quito, Localidad Puerto Quito. Store. Seeds purple, tips tan, size medium. Seeds larger than any known var. aequatoriana seeds.

PI 648918. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-23; mani; Grif 13807. Collected 08/27/1996 in Esmeraldas, Ecuador. Latitude 0° 8' 9" N. Longitude 79° 24' 16" W. Elevation 340 m. Canton Quininde, Parroquia La Union, Localidad La Union. Store. Seeds tan, size medium to large.

PI 648919. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-33; mani; Grif 13816. Collected 08/28/1996 in Pichincha, Ecuador. Latitude 0° 4' 16" S. Longitude 79° 26' 44" W. Elevation 340 m. Canton Santo Domingo de los Colorados, Parroquia La Concordia, Localidad Las Villegas. House. Seeds purple, tips tan, size medium.

PI 648920. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-35; chirayo; Grif 13818. Collected 08/28/1996 in Pichincha, Ecuador. Latitude 0° 6' 36" S. Longitude 79° 26' 48" W. Elevation 360 m. Canton Santo Domingo de los Colorados, Localidad Mocache 1. House. Seeds purple, tips tan, size medium. This is not the typical 'purple with tan tips'. The tan extends down the suture. Pods strongly reticulated, beak pronounced (approx. 5), 3-4 (maybe 5) seeds per pod.

The following were collected by Charles E. Simpson, Texas A&M University, P. O. Box 292, Stephenville, Texas 76401, United States; Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Eriberto Mendoza, INIAP, Estacion Experimental Portoviejo, Km. 12 via Portoviejo, Santa Ana, Manabi, Ecuador; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador. Received 10/07/1996.

PI 648921. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-51; mani negro; Grif 13832. Collected 08/29/1996 in Manabi, Ecuador. Latitude 0° 50' 41" S. Longitude 80° 20' 46" W. Elevation 350 m. Canton Tosagua, Parroquia Tosagua, Localidad Cerro del Junco. Farm. Seeds reddish-purple, size medium to large. Pods strongly reticulated, humps distinct, beak moderate, 2-4 seeds per pod.

PI 648922. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-53; mani; Grif 13834. Collected 08/29/1996 in Manabi, Ecuador. Latitude 0° 50' 51" S. Longitude 80° 9' 54" W. Elevation 180 m. Canton Bolivar, Parroquia Calceta, Localidad Calceta. Store. Seeds tan with purple flecks, size medium.

PI 648923. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-54; mani; Grif 13835. Collected 08/29/1996 in Manabi,
Ecuador. Latitude 0° 50' 51" S. Longitude 80° 9' 54" W.
Elevation 180 m. Canton Bolivar, Parroquia Calceta, Localidad Calceta.
Store. Seeds tan, size medium.

PI 648924. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-56; mani; Grif 13837. Collected 08/29/1996 in Manabi,
Ecuador. Latitude 0° 50' 51" S. Longitude 80° 9' 54" W.
Elevation 180 m. Canton Bolivar, Parroquia Calceta, Localidad Calceta.
Store. Seeds purple, some with tan tips, size medium to large.

PI 648925. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-62; mani; Grif 13843. Collected 08/29/1996 in Manabi,
Ecuador. Latitude 0° 50' 51" S. Longitude 80° 9' 54" W.
Elevation 180 m. Canton Bolivar, Parroquia Calceta, Localidad Calceta,
Store. Seeds purple, tips tan, size medium to large.

The following were collected by Charles E. Simpson, Texas A&M University, P.
O. Box 292, Stephenville, Texas 76401, United States; Karen A. Williams,
USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402,
BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia,
Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento
Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta.
Catalina, Santa Catalina, Pichincha, Ecuador. Received 10/07/1996.

PI 648926. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-65; mani; Grif 13846. Collected 08/31/1996 in Guayas,
Ecuador. Latitude 1° 53' 32" S. Longitude 79° 33' 32" W.
Elevation 140 m. Canton Babahoyo, Parroquia Jujan, Localidad Jujan.
Market. Seeds purple, most with tan tips, size small.

PI 648927. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-76; mani; Grif 13857. Collected 08/31/1996 in Los Rios,
Ecuador. Latitude 1° 19' 37" S. Longitude 79° 42' 52" W.
Elevation 200 m. Canton Palenque, Parroquia Palenque, Localidad Mate de
Cacao. Roadside stand. Seeds tan with purple flecks, size medium to
large. Pods strongly reticulated, beaks moderate, humps on most, 3-4
seeds per pod.

PI 648928. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-83; mani; Grif 13864. Collected 08/31/1996 in Los Rios,
Ecuador. Latitude 1° 14' 20" S. Longitude 79° 40' 14" W.
Elevation 210 m. Canton Palenque, Parroquia Jauneche, Localidad
Jauneche. Farmer's house. Seeds tan, size large. Pods strongly
reticulated, most with humps, beak moderate, 2-4 seeds per pod.

PI 648929. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-85; mani morado; Grif 13866. Collected 09/01/1996 in Los
Rios, Ecuador. Latitude 0° 57' 15" N. Longitude 79° 21' 15" W.
Elevation 230 m. Canton Quevedo, Parroquia Valencia, Localidad Valencia.
Market. Seeds purple, tips tan, size small to medium.

PI 648930. *Arachis hypogaea* subsp. *fastigiata* Waldron
Landrace. WTS-86; mani; Grif 13867. Collected 09/01/1996 in Los Rios,
Ecuador. Latitude 0° 56' 39" S. Longitude 79° 13' 22" W.

Elevation 330 m. Canton Quevedo, Parroquia La Mana, Localidad La Mana. Market. Seeds purple, some with tan tips, size medium.

PI 648931. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-89; mani; Grif 13870. Collected 09/01/1996 in Cotopaxi, Ecuador. Latitude 1° 10' 33" S. Longitude 79° 13' 24" W. Elevation 510 m. Canton Pangua, Parroquia Moraspungo, Localidad Moraspungo. Store. Seeds purple, some with tan tips, size small.

PI 648932. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-91; Grif 13872. Collected 09/01/1996 in Los Rios, Ecuador. Latitude 1° 12' 26" S. Longitude 79° 18' 53" W. Elevation 320 m. Canton Ventanas, Parroquia Quinsaloma, Localidad Quinsaloma. Store. Seeds purple, tips tan, size medium.

PI 648933. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-96; mani blanco; Grif 13876. Collected 09/03/1996 in Morona-Santiago, Ecuador. Latitude 2° 27' 42" S. Longitude 78° 10' 16" W. Elevation 940 m. Canton Sucua, localidad Sucua. Shuar store. Seeds tan, size medium.

PI 648934. *Arachis hypogaea* subsp. *fastigiata* Waldron

Landrace. WTS-110; nuse (Shuar); Grif 13889. Collected 09/04/1996 in Morona-Santiago, Ecuador. Latitude 2° 5' 44" S. Longitude 78° 0' 59" W. Elevation 1250 m. Canton Huamboya, Parroquia Chiguaza, Localidad San Jose. Shuar farm. Seeds purple, tips tan, size medium. Pods strongly reticulated, beak moderate, 1-4 seeds per pod.

The following were collected by Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador; David E. Williams, Internat'l Plant Genetic Resources Inst., Regional Office for the Americas, c/o CIAT, Int'l Ctr. for Tropical Agric., Cali, Valle, Colombia. Received 11/17/1995.

PI 648935. *Arachis hypogaea* var. *fastigiata* (Waldron) Krapov. & W. C. Greg.

Cultivar. WWT-1355; colorado; Grif 12572. Collected 11/01/1995 in Loja, Ecuador. Latitude 3° 59' 46" S. Longitude 79° 39' 32" W. Elevation 1140 m. Provincia Loja, Canton Paltas, Parroquia San Antonio. Localidad Sacapianga. Farmer's house. Pedigree - Selection from mixture with Grif 12573 and Grif 12574 based on seed coat color. Seed red. Plants smaller than criollo. Fruits with subdued reticulation, with humps, small beak and little constriction. Four seeds per pod.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 09/20/1999.

PI 648936. *Spinacia oleracea* L.

Cultivated. G050; Ames 25467. Collected 08/19/1999 in Epirus, Greece. Latitude 39° 30' 39" N. Longitude 20° 26' 14" E. Elevation 180 m. Neohori, Thesprotia.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 648937. *Spinacia oleracea* L.

Landrace. S019; Ames 25788. Collected 07/27/1999 in Syria. Latitude 36° 11' 57" N. Longitude 37° 9' 10" E. Elevation 0 m. Bab Alfraj seed market, Aleppo.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 648938. *Spinacia oleracea* L.

Landrace. T075; Ames 25861. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 45' 56" N. Longitude 28° 48' 34" E. Elevation 11 m. Dalaman Market. Smooth seed.

PI 648939. *Spinacia oleracea* L.

Landrace. T076; Ames 25862. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 45' 56" N. Longitude 28° 48' 34" E. Elevation 11 m. Dalaman Market. Rough seed.

The following were donated by Xi Xiang Li, Institute of Vegetables and Flowers, Chinese Academy of Agricultural Sciences, 30 Baishiqiao Road, Beijing, Beijing 100081, China. Received 04/10/2001.

PI 648940. *Spinacia oleracea* L.

Landrace. V09A0150; II9A0112; Ames 26238.

PI 648941. *Spinacia oleracea* L.

Landrace. V09A0134; II9A0113; Ames 26239.

PI 648942. *Spinacia oleracea* L.

Landrace. II9A0169; V09A0204; Ames 26240.

- PI 648943. *Spinacia oleracea* L.**
Landrace. II9A0175; V09A0298; Ames 26241.
- PI 648944. *Spinacia oleracea* L.**
Landrace. II9A0190; V09A0158; Ames 26242.
- PI 648945. *Spinacia oleracea* L.**
Landrace. II9A0216; V09A0181; Ames 26243.
- PI 648946. *Spinacia oleracea* L.**
Landrace. II9A0245; V09A0185; Ames 26244.
- PI 648947. *Spinacia oleracea* L.**
Landrace. II9A0271; V09A0154; Ames 26245.
- PI 648948. *Spinacia oleracea* L.**
Landrace. II9A0286; V09A0258; Ames 26246.
- PI 648949. *Spinacia oleracea* L.**
Landrace. II9A0323; V09A0318; Ames 26247.

The following were donated by USDA, ARS, Plant Science Research Division, Beltsville, Maryland 20705, United States. Received 1961.

- PI 648950. *Spinacia oleracea* L.**
Breeding. 139 X 135; Cornell ID #274; S 583; NSL 4649.
- PI 648951. *Spinacia oleracea* L.**
Breeding. 257 X 251; Cornell ID #275; NSL 4650.
- PI 648952. *Spinacia oleracea* L.**
Breeding. 134 X 129; Cornell ID #276; S 582; NSL 4651.
- PI 648953. *Spinacia oleracea* L.**
Breeding. 132 X 129; Cornell ID #277; NSL 4652.
- PI 648954. *Spinacia oleracea* L.**
Breeding. 102 X 99; Cornell ID #278; S 676; NSL 4653.
- PI 648955. *Spinacia oleracea* L.**
Breeding. 86 X 83; Cornell ID #279; S 602; NSL 4654.
- PI 648956. *Spinacia oleracea* L.**
Breeding. 83 X 81; Cornell ID #280; S 570; NSL 4655.
- PI 648957. *Spinacia oleracea* L.**
Breeding. 76 X 71; S 569; NSL 4656.
- PI 648958. *Spinacia oleracea* L.**
Breeding. 62 X 60; Cornell ID #286; S 576; NSL 4657.
- PI 648959. *Spinacia oleracea* L.**
Breeding. 41 X 38; Cornell ID #287; S 575; NSL 4658.
- PI 648960. *Spinacia oleracea* L.**
Breeding. 16 X 15; Cornell ID #288; S 658; NSL 4659.

PI 648961. *Spinacia oleracea* L.
Breeding. 224 X 223; S 496; NSL 4660.

PI 648962. *Spinacia oleracea* L.
Breeding. 5 X 1; S 567; NSL 4661.

PI 648963. *Spinacia oleracea* L.
Breeding. 214; Cornell ID #289; S 491; NSL 4662.

The following were developed by P.G. Smith, University of California, Department of Vegetable Crops, Davis, California 95616, United States. Donated by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1961.

PI 648964. *Spinacia oleracea* L.
Cultivar. "CALIFLAY"; C 005-23; Cornell ID #265; NSL 6692. Pedigree - Cross of 'Viroflay' X PI 140467 then back crossed four times with 'Viroflay'. Selecting for resistance to race 2 of downey mildew at each stage. Immune plants were allowed to interpollinate. After the final cross a single plant was selected that had both male and female flowers. This relatively rare hermaphroditic plant was segregated as C 005-23. Released 1956. Immune to races 1 and 2 of downy mildew. The immunity is inherited as a single dominant gene. Adapted for commercial production in California.

The following were donated by USDA, ARS, Plant Science Research Division, Beltsville, Maryland 20705, United States. Received 1979.

PI 648965. *Spinacia oleracea* L.
Breeding. 99 X 95; Cornell ID #238; NSL 101759.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 05/22/1995.

PI 648966. *Coronilla scorpioides* (L.) W. D. J. Koch
Wild. Ames 23848; W6 17035. Collected 05/15/1995 in Syria. Latitude 36° 12' N. Longitude 37° 10' E. Elevation 300 m. ICARDA Center at Tel Hadya, near Aleppo.

The following were collected by Kimberlie McCue, Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166-0299, United States. Donated by Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166-0299, United States. Received 03/19/2001.

PI 648967. *Dalea foliosa* (A. Gray) Barneby
Wild. 2001-0043; 2001-0044; 2001-0035; 2001-0036; 2001-0037; 2001-0038; 2001-0039; 2001-0040; 2001-0042; 2001-0053; 2001-0049; 2001-0045;

2001-0046; 2001-0047; 2001-0048; 2001-0050; 2001-0051; Hall Farm; Ames 26199. Collected 10/17/2000 in Tennessee, United States. Latitude 35° 52' 15" N. Longitude 86° 17' W. Hall Farm. Deeper soil, areas of cedar glade.

PI 648968. *Dalea foliosa* (A. Gray) Barneby

Wild. 2001-0056; 2001-0054; Cedars of Lebanon; Ames 26200. Collected 10/17/2000 in Tennessee, United States. Latitude 36° 5' 28" N. Longitude 86° 22' 31" W. Cedars of Lebanon State Park. Deeper soil, areas of cedar glade.

PI 648969. *Dalea foliosa* (A. Gray) Barneby

Wild. 2001-0059; 2001-0060; 2001-0058; 2001-0061; Nancy Branch; Ames 26201. Collected 10/17/2000 in Tennessee, United States. Latitude 35° 36' 20" N. Longitude 86° 54' 7" W. Nancy Branch. Deeper soil, areas of cedar glade.

The following were developed by Denver Botanical Gardens, 909 York St., Denver, Colorado 80206, United States. Received 03/05/1990.

PI 648970. *Dalea purpurea* Vent.

Wild. Denver No.44; Ames 12976. Collected in Colorado, United States. Elevation 1660 m. Jefferson County, Colorado. The plants are 40 to 50 cm tall, with purple flowers, and orange anthers.

The following were collected by Daryl Smith, University of Northern Iowa, Native Roadside Vegetation Center, Cedar Falls, Iowa 50614-0293, United States. Donated by Greg Houseal, University of Northern Iowa, Iowa Ecotype Project, Native Roadside Vegetation Center, Cedar Falls, Iowa 50614-0294, United States. Received 01/15/2003.

PI 648971. *Dalea purpurea* Vent.

Wild. DP1-36; Ames 26964. Collected 09/22/2002 in Iowa, United States. Armstrong Roadside, SE 1/4 of Section 14, T99N, R31W, Emmet County.

The following were collected by Howard Scott Gentry, Crops Research Division - USDA-ARS, Horticultural Crops Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 06/10/1997.

PI 648972. *Marina parryi* (Torr. & A. Gray) Barneby

Wild. 20599; NU 45528; Ames 23824. Slender, ultimately woody at base, perennial, but often flowering during the first season (as this species is described in R.C. Barneby 1977, *Daleae Imagines*, Mem. NY Bot. Gard. 27).

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 648973. *Securigera varia* (L.) Lassen

Wild. B96-295; Ames 24011. Collected 07/13/1996 in Gabrovo, Bulgaria.
Latitude 42° 55' 41" N. Longitude 24° 58' 16" E. Elevation 305
m. Edge of an oak woodland with a western exposure.

The following were collected by K. E. Prasada Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Begumpet, Hyderabad, Andhra Pradesh, India; Ismut Mustafa Hussein, Gezira Agricultural Research Station, Wad Medani, Sudan; Gebisa Ejeta, ICRISAT, Wad Medani, Sudan. Donated by N. Murthi Anishetty, IBPGR thru FAO of U.N., Seed & Plant Genetic Resources Service, Via Delle Terme Di Caracalla, Rome, Latium 00100, Italy. Received 09/1980.

PI 648974. *Setaria pumila* (Poir.) Roem. & Schult. *subsp. pumila*

Uncertain. PGI 12; NSL 112393. Collected 11/1979 in Sudan. Gedaref, Kassala Province.

Unknown source. Received 01/17/1992.

PI 648975. *Tridens flavus* (L.) Hitchc.

Wild. 9041748; Ames 18943. Collected in Kentucky, United States. Breathitt Co., Kentucky.

Unknown source. Received 01/17/1992.

PI 648976. *Tridens flavus* (L.) Hitchc.

Wild. 9041749; Ames 18944. Collected in Virginia, United States. Charlotte Co., Virginia.

Unknown source. Received 01/17/1992.

PI 648977. *Tridens flavus* (L.) Hitchc.

Wild. 9041747; Ames 18945. Collected in Virginia, United States. Madison Co., Virginia.

Unknown source. Received 01/17/1992.

PI 648978. *Tridens flavus* (L.) Hitchc.

Wild. 9041750; Ames 18946. Collected in Ohio, United States. Belmont Co., Ohio.

Unknown source. Received 01/17/1992.

PI 648979. *Tridens flavus* (L.) Hitchc.

Wild. 9041755; Ames 18949. Collected in West Virginia, United States. Monogalia Co., West Virginia.

Unknown source. Received 01/17/1992.

PI 648980. *Tridens flavus* (L.) Hitchc.
Wild. 9041756; Ames 18950. Collected in West Virginia, United States.
Fayette Co., West Virginia.

Unknown source. Received 01/17/1992.

PI 648981. *Tridens flavus* (L.) Hitchc.
Wild. 0041757; Ames 18951. Collected in Pennsylvania, United States.
Greene Co., Pennsylvania.

Unknown source. Received 01/17/1992.

PI 648982. *Tridens flavus* (L.) Hitchc.
Wild. 9041758; Ames 18952. Collected in Pennsylvania, United States.
Washington Co., Pennsylvania.

Unknown source. Received 01/17/1992.

PI 648983. *Tridens flavus* (L.) Hitchc.
Wild. 9041760; Ames 18953. Collected in West Virginia, United States.
Madison Co., West Virginia.

Unknown source. Received 01/17/1992.

PI 648984. *Tridens flavus* (L.) Hitchc.
Wild. 9041761; Ames 18954. Collected in West Virginia, United States.
Brooke Co., West Virginia.

Unknown source. Received 01/17/1992.

PI 648985. *Tridens flavus* (L.) Hitchc.
Wild. 9041766; Ames 18955. Collected in West Virginia, United States.
Mineral Co., West Virginia.

Unknown source. Received 01/17/1992.

PI 648986. *Tridens flavus* (L.) Hitchc.
Wild. 9041767; Ames 18956. Collected in Ohio, United States. Monroe Co.,
Ohio.

Unknown source. Received 01/17/1992.

PI 648987. *Tridens flavus* (L.) Hitchc.
Breeding. 9041768; Ames 18957. Collected in Kentucky, United States.
Quicksand, Kentucky Plant Materials Center; 8 clone composite.

Unknown source. Received 01/17/1992.

PI 648988. *Tridens flavus* (L.) Hitchc.
Breeding. 9041769; Ames 18958. Collected in Kentucky, United States.
Quicksand, Kentucky Plant Materials Center; 27 accession polycross
nursery.

Unknown source. Received 01/17/1992.

PI 648989. *Tridens flavus* (L.) Hitchc.
Breeding. 9041780; Ames 18959. Collected in Kentucky, United States.
Wolfe Co., Kentucky. Quicksand, Kentucky Plant Materials Center;
Coffeenville Plant Materials Center selection.

The following were collected by James Wolfe, USDA, SCS, Suite 1321, Federal
Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States.
Received 01/17/1992.

PI 648990. *Tridens flavus* (L.) Hitchc.
Wild. 9021722; Ames 18960. Collected 11/01/1980 in Tennessee, United
States. Hawkins Co., Tennessee.

The following were collected by D. Vanderburg. Received 01/17/1992.

PI 648991. *Tridens flavus* (L.) Hitchc.
Wild. 9021723; Ames 18961. Collected 12/01/1980 in Arkansas, United
States. Miller Co., Arkansas.

The following were collected by L. Carter; L. Jacks. Received 01/17/1992.

PI 648992. *Tridens flavus* (L.) Hitchc.
Wild. 9028245; Ames 18962. Collected in Arkansas, United States. Ashley
Co., Arkansas.

The following were collected by Caudle and Jacks. Received 01/17/1992.

PI 648993. *Tridens flavus* (L.) Hitchc.
Wild. 9028247; Ames 18963. Collected in Arkansas, United States.

The following were collected by Whitehurst. Received 01/17/1992.

PI 648994. *Tridens flavus* (L.) Hitchc.
Wild. 9028315; Ames 18964. Collected in Arkansas, United States. Lincoln
Co., Arkansas.

The following were collected by Meghan Mendenhall, University of Texas,
Department of Biology, Austin, Texas 78713-7640, United States. Received
01/17/1992.

PI 648995. *Tridens flavus* (L.) Hitchc.
Wild. 9028350; Ames 18965. Collected in Arkansas, United States.

The following were collected by Steve Jacks. Received 01/17/1992.

PI 648996. *Tridens flavus* (L.) Hitchc.
Wild. 9028359; Ames 18966. Collected 09/01/1982 in Arkansas, United States. Woodruff Co., Arkansas.

The following were collected by J. Parkman; Mike Lane. Received 01/17/1992.

PI 648997. *Tridens flavus* (L.) Hitchc.
Wild. 9028364; Ames 18967. Collected in Mississippi, United States.

The following were collected by D. Summers. Received 01/17/1992.

PI 648998. *Tridens flavus* (L.) Hitchc.
Wild. 9028372; Ames 18968. Collected 10/01/1982 in Mississippi, United States. Prentiss Co., Mississippi.

The following were collected by Cloutier. Received 01/17/1992.

PI 648999. *Tridens flavus* (L.) Hitchc.
Wild. 9028373; Ames 18969. Collected in Arkansas, United States.

The following were collected by Howard Scott Gentry, Crops Research Division - USDA-ARS, Horticultural Crops Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350, United States. Received 01/17/1992.

PI 649000. *Tridens flavus* (L.) Hitchc.
Wild. 9028376; Ames 18970. Collected 10/01/1982 in Arkansas, United States.

The following were collected by J. Tapp. Received 01/17/1992.

PI 649001. *Tridens flavus* (L.) Hitchc.
Wild. 9028386; Ames 18971. Collected 10/01/1982 in Arkansas, United States. Chicot Co., Arkansas.

The following were collected by Shows; Bain. Received 01/17/1992.

PI 649002. *Tridens flavus* (L.) Hitchc.
Wild. 9028398; Ames 18972. Collected in Mississippi, United States.

The following were collected by J. Caudle. Received 01/17/1992.

PI 649003. *Tridens flavus* (L.) Hitchc.
Wild. 9028402; Ames 18973. Collected 10/01/1982 in Arkansas, United States. Composite from Brinkley area.

The following were collected by B. Cook. Received 01/17/1992.

- PI 649004. *Tridens flavus* (L.) Hitchc.**
Wild. 9028411; Ames 18974. Collected in Arkansas, United States.
Composite from Magnolia area.

The following were collected by Hankins. Received 01/17/1992.

- PI 649005. *Tridens flavus* (L.) Hitchc.**
Wild. 9028417; Ames 18975. Collected 11/01/1982 in Arkansas, United States. Fulton Co., Arkansas.

The following were collected by Benton. Received 01/17/1992.

- PI 649006. *Tridens flavus* (L.) Hitchc.**
Wild. 9028420; Ames 18976. Collected in Arkansas, United States.
Montgomery Co., Arkansas.

The following were collected by Mathis. Received 01/17/1992.

- PI 649007. *Tridens flavus* (L.) Hitchc.**
Wild. 9028442; Ames 18977. Collected in Arkansas, United States.
Composite from eastern Boston mts.

The following were collected by P. Clinton. Received 01/17/1992.

- PI 649008. *Tridens flavus* (L.) Hitchc.**
Wild. 9028450; Ames 18978. Collected 09/01/1982 in Arkansas, United States. Mississippi Co., Arkansas.

The following were collected by Bodenhamer. Received 01/17/1992.

- PI 649009. *Tridens flavus* (L.) Hitchc.**
Wild. 9028455; Ames 18979. Collected in Arkansas, United States.
Composite from Jonesboro area.

The following were collected by D.S. Bullock, U.S. Legation, Agricultural Trade Commission, Buenos Aires, Buenos Aires, Argentina. Received 01/17/1992.

- PI 649010. *Tridens flavus* (L.) Hitchc.**
Wild. 9028456; Ames 18980. Collected 11/01/1982 in Mississippi, United States. Leflore Co., Mississippi.

The following were collected by D. Sudmeyer. Received 01/17/1992.

- PI 649011. *Tridens flavus* (L.) Hitchc.**
Wild. 9028462; Ames 18981. Collected in Arkansas, United States.
Composite from Morrilton area.

The following were collected by R. Davis, NRCS. Received 01/17/1992.

PI 649012. *Tridens flavus* (L.) Hitchc.
Wild. 9028464; Ames 18982. Collected in Louisiana, United States.
Composite from Laurel vicinity.

The following were collected by J. Copeland, NRCS. Received 01/17/1992.

PI 649013. *Tridens flavus* (L.) Hitchc.
Wild. 9028473; Ames 18983. Collected 10/01/1982 in Mississippi, United States. Amite Co., Mississippi.

The following were collected by Roger T. Bass, Philip Morris Research Center, P.O. Box 26583, Richmond, Virginia 23261, United States. Received 01/17/1992.

PI 649014. *Tridens flavus* (L.) Hitchc.
Wild. 9028474; Ames 18984. Collected in Louisiana, United States.
Composite from Arkadelphia area.

The following were collected by A. Irvin. Received 01/17/1992.

PI 649015. *Tridens flavus* (L.) Hitchc.
Wild. 9028477; Ames 18985. Collected in Louisiana, United States.
Composite from Alexandria vicinity.

The following were collected by J. Cutshall. Received 01/17/1992.

PI 649016. *Tridens flavus* (L.) Hitchc.
Wild. 9028493; Ames 18987. Collected in Louisiana, United States.
Beauregard Co., Louisiana.

The following were collected by J.C. Clement, Office de la Recherche Scientifique et, Technique Outre-Mer, Paris, Ville-de-Paris 75008, France. Received 01/17/1992.

PI 649017. *Tridens flavus* (L.) Hitchc.
Wild. 9028505; Ames 18988. Collected 11/02/1982 in Louisiana, United States. Jefferson Davis Co., Louisiana.

Unknown source. Received 01/17/1992.

PI 649018. *Tridens flavus* (L.) Hitchc.
Wild. 9028511; Ames 18989. Collected in Louisiana, United States. Caddo Co., Louisiana.

The following were collected by Madden. Received 01/17/1992.

PI 649019. *Tridens flavus* (L.) Hitchc.

Wild. 9029020; Ames 18990. Collected 10/01/1981 in Louisiana, United States. Sabine Co., Louisiana.

The following were collected by F. Curry. Received 01/17/1992.

PI 649020. *Tridens flavus* (L.) Hitchc.

Wild. 9029387; Ames 18991. Collected 10/01/1981 in Mississippi, United States. Grenada Co., Mississippi.

The following were collected by Scott F. Woodbury, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States; Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Boyce Tankersley, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 12/29/2004.

PI 649021. *Actaea racemosa* L.

Wild. 46; Ames 27718. Collected 10/21/2004 in Missouri, United States. Latitude 36° 44' 8" N. Longitude 93° 25' 29" W. Elevation 373 m. ~25 meters from road, Roaring River State Park, Barry County. Oak-hickory forest, White. Steep, 45 degrees of slope with an eastern aspect. Rocky soil, pure gravel, shallow. 1 meter tall.

PI 649022. *Actaea racemosa* L.

Wild. 68; Ames 27719. Collected 10/22/2004 in Arkansas, United States. Latitude 36° 13' 46" N. Longitude 93° 33' 11" W. Elevation 428 m. Private land in Ninestone Land Trust, Carroll County. Oak-hickory forest. Southeastern aspect. Rich, heavy organic layer. 30-35 feet tall.

The following were collected by Scott Mori, New York Botanical Garden, 200th Street and Kazimiroff Boulevard, Bronx, New York 10458-5126, United States; Lorna Lueck, University of Massachusetts, Department of Plant and Soil Sciences, Stockbridge Hall, Amherst, Massachusetts 01003, United States. Donated by Lorna Lueck, University of Massachusetts, Department of Plant and Soil Sciences, Stockbridge Hall, Amherst, Massachusetts 01003, United States. Received 07/27/2005.

PI 649023. *Actaea racemosa* L.

Wild. NY2; Ames 27821. Collected 07/24/1998 in New York, United States. Latitude 41° 18' 6" N. Longitude 73° 33' 52" W. Elevation 120 m. Along Lake Rippowan, near South Salem, Westchester County. Mainly south facing slope. Fine sandy loam soil; pH 5.6.

The following were collected by Eric P. Burkhart, The Pennsylvania State University, School of Forest Resources, 7 Ferguson Building, University Park, Pennsylvania 16802, United States; Lorna Lueck, University of Massachusetts, Department of Plant and Soil Sciences, Stockbridge Hall, Amherst, Massachusetts 01003, United States. Donated by Lorna Lueck, University of

Massachusetts, Department of Plant and Soil Sciences, Stockbridge Hall, Amherst, Massachusetts 01003, United States. Received 07/27/2005.

PI 649024. *Actaea racemosa* L.

Wild. PA1; Ames 27822. Collected 07/04/1998 in Pennsylvania, United States. Latitude 40° 55' 56" N. Longitude 80° 13' 56" W. Elevation 312 m. Along Slippery Rock Creek and Hell Run, McConnells Mill State Park, near McConnells Mill, Lawrence County. Rocky and steep hillside. East facing slope. Silt loam soil; pH 5.4.

The following were collected by Gwynn Ramsey, Lynchburg College, 1501 Lakeside Drive, Lynchburg, Virginia 24501, United States; Lorna Lueck, University of Massachusetts, Department of Plant and Soil Sciences, Stockbridge Hall, Amherst, Massachusetts 01003, United States. Donated by Lorna Lueck, University of Massachusetts, Department of Plant and Soil Sciences, Stockbridge Hall, Amherst, Massachusetts 01003, United States. Received 07/27/2005.

PI 649025. *Actaea racemosa* L.

Wild. VA1; Ames 27825. Collected 07/22/1999 in Virginia, United States. Latitude 37° 2' 9" N. Longitude 78° 56' 49" W. Elevation 137 m. South of Staunton River, southwest of Bridge/Route 501, just south of Brookneal, Halifax County. Hillside partially with cliffs. Very moist soil. Silt loam soil; pH 5.5.

The following were collected by Stuart Wagenius, Chicago Botanic Garden, 1000 Lake Cook Road, Glencoe, Illinois 60022, United States. Received 10/16/2001.

PI 649026. *Echinacea angustifolia* DC.

Wild. Ames 26428. Collected 09/2001 in Minnesota, United States. Latitude 45° 50' N. Longitude 95° 45' W. West 1/2 of Section 6, Solem township, T127N, R40W, Douglas County. Abandoned pasture. (Associated vegetation listed in General Narrative.). Associated vegetation: *Amorpha canescens*, *Andropogon gerardii*, *Aster laevis*, *Bouteloua curtipendula*, *Bromus inermis*, *Dalea purpurea*, *Galium boreale*, *Liatris aspera*, *Solidago rigida*, *Sorghastrum nutans*, *Schizachyrium scoparium*, *Poa pratensis*, *Pulsatilla nuttalliana*, and *Stipa spartea*.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 10/01/1997.

PI 649027. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. 3; Ames 23927. Collected 09/29/1997 in Iowa, United States. Latitude 42° 51' N. Longitude 94° 32' W. Elevation 360 m. Near Rolfe, Pocahontas County. Please contact curator for specific site location. Small prairie remnant. Full sun with ~20% slope and an eastern aspect. Well drained, eroded Storden loam (sandy, very light color looks like subsoil) soil with very high stoniness. Plants were occasional and 42-50 cm tall.

The following were collected by Stephen Pitt, Palo Alto County Conservation Board, 3259 355th Avenue, Ruthven, Iowa 51358-8521, United States. Donated by

Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 10/01/1997.

PI 649028. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. 4; Ames 23928. Collected 09/26/1997 in Iowa, United States. Latitude 43° 4' N. Longitude 94° 48' W. Elevation 395 m. Near Ayrshire, Palo Alto County. Please contact curator for specific site location. High, dry prairie, covering <10 acres. Well drained, likely Storden loam soil. 10 coneflowers collected from a population of 20 Flowering plants. Associated vegetation: *Schizachyrium scoparium*, *Bouteloua curtipendula*, and *Stipa spartea*.

PI 649029. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. 9076757; Ames 24999. Collected 06/1998 in North Dakota, United States. J. Clark Salyer National Wildlife Refuge, east of Bantry, McHenry County.

The following were collected by David Still, California State Polytechnic University - Pomona, Department of Plant Sciences, Building 30, Pomona, California 91768, United States. Received 12/02/2002.

PI 649030. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. ND001; Ames 26938. Collected 09/12/2000 in North Dakota, United States. Latitude 46° 58' N. Longitude 103° 29' W. Theodore Roosevelt National Memorial Park. Please contact curator for specific site location. Westward facing slope.

PI 649031. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. ND008; Ames 26939. Collected 09/14/2000 in North Dakota, United States. Latitude 47° 35' N. Longitude 103° 20' W. Theodore Roosevelt National Memorial Park. Please contact curator for specific site location. Northward facing slope.

The following were collected by Hillary Loring, United States. Donated by David Still, California State Polytechnic University - Pomona, Department of Plant Sciences, Building 30, Pomona, California 91768, United States. Received 12/02/2002.

PI 649032. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. OKWD001; Ames 26940. Collected 09/08/2000 in Oklahoma, United States. Latitude 36° 57' N. Longitude 99° 5' W. Near Camp Houston. Please contact curator for specific site location. Along roadside in a lightly grazed open range area. Westward facing slope. Mixed grass prairie dominated by little bluestem.

The following were collected by David Still, California State Polytechnic University - Pomona, Department of Plant Sciences, Building 30, Pomona, California 91768, United States. Received 12/02/2002.

PI 649033. *Echinacea angustifolia* DC. var. *angustifolia*

Wild. SD002; Ames 26941. Collected 09/10/2000 in South Dakota, United States. Latitude 43° 54' N. Longitude 102° 18' W. Badlands National Park. Please contact curator for specific site location.

The following were collected by I.M. Cull, Horticultural and Special Crops Lab., Northern Regional Research Center, Peoria, Illinois, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649034. *Echinacea pallida* (Nutt.) Nutt.

Wild. NU 63463; Ames 24306. Collected 01/1998 in Illinois, United States. County line near Prairie.

The following were collected by Greg Houseal, University of Northern Iowa, Iowa Ecotype Project, Native Roadside Vegetation Center, Cedar Falls, Iowa 50614-0294, United States. Received 01/15/2003.

PI 649035. *Echinacea pallida* (Nutt.) Nutt.

Wild. EP2-73; Ames 26965. Collected 09/19/2001 in Iowa, United States. Breen Prairie, SE 1/4 of SE 1/4 of Section 4, T86N, R3W, Jones County.

PI 649036. *Echinacea pallida* (Nutt.) Nutt.

Wild. EP2-74; Ames 26966. Collected 09/19/2001 in Iowa, United States. Manikowski, NE 1/4 of NE 1/4 of Section 28, T83N, R5E, Clinton County State Preserve.

The following were collected by Scott F. Woodbury, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States; Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Boyce Tankersley, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 12/29/2004.

PI 649037. *Echinacea pallida* (Nutt.) Nutt.

Wild. 26; Ames 27722. Collected 10/19/2004 in Missouri, United States. Latitude 37° 44' 58" N. Longitude 92° 34' 48" W. Roadside along Interstate 44, Laclede County. Prairie remnant. Limestone glade. Bluff top. 1-5 degrees of slope. 0.5-0.75 meter tall.

PI 649038. *Echinacea pallida* (Nutt.) Nutt.

Wild. 32; Ames 27723. Collected 10/20/2004 in Missouri, United States. Latitude 37° 5' 33" N. Longitude 93° 43' 50" W. Elevation 394 m. Woods Prairie, Ozark Regional Land Trust, Lawrence County. 5-10 degrees of slope with a northern aspect.

The following were collected by Shannon Binns, University of Ottawa, Biology Department, 30 Marie Curie Street, Ottawa, Ontario K1N 6N5, Canada; Luc St-Laurent, Universite de Montreal, 4101, rue Sherbrooke est, IRBV-Dept. de Sciences Biologiques, Montreal, Quebec H1X 2B2, Canada. Donated by Shannon Binns, University of Ottawa, Biology Department, 30 Marie Curie Street, Ottawa, Ontario K1N 6N5, Canada. Received 07/13/2001.

PI 649039. *Echinacea paradoxa* var. *neglecta* McGregor

Wild. EPN005; Ames 26349. Collected in Oklahoma, United States. Southwest of Mill Creek, Johnston County. Flat, medium rockiness. Associated vegetation: Euphorbia, short grasses. Paleas red, stigmas dark purple. Disk flowers much shorter than paleas. Hybrids apparent in large populations. Variety with G2 protection status in Texas.

The following were collected by Kathy McKeown, University of Massachusetts, Department of Plant & Soil Sciences, French Hall, Amherst, Massachusetts 01003-2910, United States. Received 10/26/1998.

PI 649040. *Echinacea purpurea* (L.) Moench

Wild. 083; Ames 25107. Collected 10/10/1998 in Alabama, United States. Latitude 33° 0' N. Longitude 87° 0' W. Elevation 140 m. Centreville, Bibb County. Glade. Partial exposure on level ground. Calcareous soil. Plants were in occasional abundance.

The following were collected by Shannon Binns, University of Ottawa, Biology Department, 30 Marie Curie Street, Ottawa, Ontario K1N 6N5, Canada; Luc St-Laurent, Université de Montréal, 4101, rue Sherbrooke est, IRBV-Dept. de Sciences Biologiques, Montréal, Québec H1X 2B2, Canada. Donated by Shannon Binns, University of Ottawa, Biology Department, 30 Marie Curie Street, Ottawa, Ontario K1N 6N5, Canada. Received 07/13/2001.

PI 649041. *Echinacea purpurea* (L.) Moench

Wild. EP010; Ames 26353. Collected in Missouri, United States. Bay Creek, Shannon County.

The following were collected by Kathy McKeown, University of Massachusetts, Department of Plant & Soil Sciences, French Hall, Amherst, Massachusetts 01003-2910, United States. Received 08/22/1997.

PI 649042. *Echinacea sanguinea* Nutt.

Wild. 004; Spit-a-River; Pale Purple Coneflower; Ames 23872. Collected 08/06/1997 in Louisiana, United States. Latitude 30° 17' N. Longitude 93° 39' W. Elevation 110 m. Near Starks, Calcasieu Parish. Please contact curator for specific site location. Roadside. Full exposure on level ground. Sandy soil with low stoniness and good drainage. Plants were 1-2 feet high in frequent abundance with some branching near base.

PI 649043. *Echinacea sanguinea* Nutt.

Wild. 005; Spit-a-River; Pale Purple Coneflower; Ames 23873. Collected 08/06/1997 in Louisiana, United States. Latitude 30° 28' N. Longitude 93° 38' W. Elevation 120 m. Near Fields, Beauregard Parish. Please contact curator for specific site location. Sloping roadbank. Full exposure with ~30 degrees of slope facing east and west. Clay/sand soil with high stoniness and fair drainage. Plants were 1-2 feet tall in frequent abundance with very light pink (almost white) flowers and occasional branching near base.

The following were collected by Kathy McKeown, University of Massachusetts, Department of Plant & Soil Sciences, French Hall, Amherst, Massachusetts

01003-2910, United States; Rhonda Stewart, USDA, FS, Kisatchie National Forest, 12458 Lake Charles Highway, Leesville, Louisiana 71446, United States; Linda Branning, USDA, FS, c/o Rhonda Stewart, Kisatchie National Forest, Leesville, Louisiana 71446, United States. Donated by Kathy McKeown, University of Massachusetts, Department of Plant & Soil Sciences, French Hall, Amherst, Massachusetts 01003-2910, United States. Received 08/22/1997.

PI 649044. *Echinacea sanguinea* Nutt.

Wild. 008; Spit-a-River; Pale Purple Coneflower; Ames 23876. Collected 08/07/1997 in Louisiana, United States. Latitude 31° 0' N. Longitude 93° 10' W. Elevation 160 m. Kisatchie National Forest, near Leesville, Vernon Parish. Please contact curator for specific site location. Upland long-leaf pine. ~70% exposure on level ground. Sandy soil with no stones and fair drainage. Plants were 2-2.5 feet tall in occasional abundance with light pink flowers and some branching.

The following were collected by Susanne Masi, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022-0400, United States; J. Epting, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022-0400, United States; H. Nguyen, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022-0400, United States. Donated by Susanne Masi, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022-0400, United States. Received 09/27/1996.

PI 649045. *Echinacea simulata* McGregor

Wild. 689; Ames 23191. Collected 09/17/1996 in Illinois, United States. Hum Prairie. Marengo, McHenry County. About 50 feet west of Ritz Road, north of Hwy 20, south side of railroad tracks. Dry mesic prairie remnant adjacent to railroad. Purple coneflower. Herb with dried brown seed heads and persistent rays. Cauline leaves dried brown. Basal leaves green. White seed. Relatively short specimens. Abundant in area.

The following were collected by Kathy McKeown, University of Massachusetts, Department of Plant & Soil Sciences, French Hall, Amherst, Massachusetts 01003-2910, United States. Received 10/26/1998.

PI 649046. *Echinacea simulata* McGregor

Wild. 082; Ames 25108. Collected 10/10/1998 in Alabama, United States. Latitude 34° 0' N. Longitude 85° 0' W. Elevation 180 m. Hokes Bluff, Etowah County. Prairie edge. Full exposure on level ground. Plants were in occasional abundance. A smooth (glabrous) race of *E. simulata* (undescribed).

The following were collected by Scott F. Woodbury, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States; Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Boyce Tankersley, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 12/29/2004.

PI 649047. *Echinacea simulata* McGregor

Wild. 15; Ames 27726. Collected 10/19/2004 in Missouri, United States. Latitude 38° 2' 51" N. Longitude 91° 23' 48" W. Elevation 314 m. Roadside along Highway 19, city limits of Cuba, Crawford County. Bank of degraded sandstone, along road. 10-20 degrees of slope with a western aspect. Sandy, dry, acidic, chert and sandstone.

The following were collected by Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 07/10/2002.

PI 649048. *Hypericum androsaemum* L.

Wild. Index Seminum 649; Ames 26858. Collected 09/06/2000 in Coimbra, Portugal. Latitude 40° 12' N. Longitude 8° 22' W. Vale de Canas, near Coimbra.

The following were donated by Sara L. Crockett, P.O. Box 2055, Orofino, Idaho 83544, United States. Received 05/26/2004.

PI 649049. *Hypericum ascyron* subsp. *pyramidatum* (Aiton) N. Robson

Wild. JM2004001; Ames 27655; Ames 27470. Collected in Iowa, United States. Latitude 42° 2' 24" N. Longitude 93° 38' 12" E. Elevation 288 m. Behind school, Ames. Prairie remnant site.

The following were collected by Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States. Received 07/07/2004.

PI 649050. *Hypericum ascyron* subsp. *pyramidatum* (Aiton) N. Robson

Cultivated. 37918; Ames 27593. Collected 10/24/2003 in Illinois, United States. Adams County.

The following were collected by Sara L. Crockett, P.O. Box 2055, Orofino, Idaho 83544, United States; W.M. Schuhly, United States. Donated by Sara L. Crockett, P.O. Box 2055, Orofino, Idaho 83544, United States. Received 05/26/2004.

PI 649051. *Hypericum gentianoides* (L.) Britton et al.

Wild. C-H148; H-148; Ames 27480. Collected 11/03/2000 in Florida, United States. Adjacent to a pine plantation, south side of Highway 231, 5 miles south Alford, Washington County. Associated vegetation: *Andropogon gerardii*, *Senecio* sp., *Ilex cassine*, *Quercus falcata*, *Hypericum hypericoides* subsp. *hypericoides*, *Conradina glabra*, and *Pluchea* sp. Plant about 1 meter tall.

The following were donated by Petr Hanzelka, Prague Botanical Garden, Nadvorní 134, Prague, Central Bohemia 171 00, Czech Republic. Received 02/19/2004.

PI 649052. *Hypericum hirsutum* L.

Wild. Ames 27424. Collected in Central Bohemia, Czech Republic. Elevation 240 m. Rozdalovice (village).

The following were collected by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/19/2004.

PI 649053. *Hypericum mitchellianum* Rydb.

Wild. JM2004018; Ames 27661. Collected 10/08/2004 in North Carolina, United States. Latitude 36° 6' 6" N. Longitude 82° 7' 36" W. Elevation 1754 m. Roan Mountain, Highway NC261 to Secondary Road 1348 to Forest Service Road 130, Pisgah National Forest, Mitchell County. Roadside heath/bald spruce/fir community. 30-40 degrees of slope with a northeastern aspect. 0.3 to 1 meter tall.

The following were collected by Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 07/10/2002.

PI 649054. *Hypericum perforatum* L.

Wild. Index Seminum 654; Ames 26862. Collected 09/13/2001 in Coimbra, Portugal. Latitude 40° 6' N. Longitude 8° 43' W. Souzelas.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, U.S. Peace Corps, Cuerpo de Paz, Casilla #749, Sucre, Chuquisaca, Bolivia; Isabella Arevshatyan, Yerevan, Armenia; Eleonora Gabrielian, Department of Plant Systemics, Geography National Academie of Sciences, Institute of Botany, Yerevan, Armenia; Samvel M. Gasparian, Scientific Research Center of Viticulture, Fruit Growing and Wine Making, Merdzavan, Armenia; Vrez Manakyan, Armenia Academie of Science, Institute of Botany, Yerevan, Armenia; Ashot A. Charchoglian, National Academie of Sciences, Institute of Botany, Yerevan, Armenia. Donated by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 06/24/2002.

PI 649055. *Hypericum perforatum* L.

Wild. ARM 478; W6 24094; Ames 27342. Collected 08/20/2001 in Gegark'unik', Armenia. Latitude 40° 34' 40" N. Longitude 44° 59' 23" E. Elevation 2006 m. Area known as Archanots (bear place), south side of Lake Sevan. Mountainside. Very steep, grazed slope.

PI 649056. *Hypericum perforatum* L.

Wild. ARM 046; W6 23829; Ames 27343. Collected 08/09/2001 in Ararat, Armenia. Latitude 40° 5' 40" N. Longitude 44° 46' 22" E. Elevation 1331 m. Khosrov Reserve. Bottom of steep canyon.

The following were donated by Petr Hanzelka, Prague Botanical Garden, Nadvorni 134, Prague, Central Bohemia 171 00, Czech Republic. Received 02/19/2004.

PI 649057. *Hypericum perforatum* L.

Wild. Ames 27427. Collected in East Bohemia, Czech Republic. Elevation 320 m. Sobotka (town).

PI 649058. *Hypericum perforatum* L.
Uncertain. Ames 27428. Collected in Germany.

PI 649059. *Hypericum perforatum* L.
Wild. Ames 27429. Collected in East Bohemia, Czech Republic. Elevation 320 m. Sobotka (town).

The following were collected by Tiecheng Cui, Xian Botanic Garden, Cuihua South Rd., Xian City, Shaanxi 710061, China. Received 02/2002.

PI 649060. *Hypericum perforatum* L.
Wild. Cui 2001-075; NA 72079; Ames 27443. Collected 11/06/2001 in Shaanxi, China. Latitude 34° 4' 20" N. Longitude 107° 57' 30" E. Elevation 1400 m. East river to West Channel, Taibaishan, Meixian County. Slope 45 degrees, western aspect. Associated vegetation: *Acer davidii*, *Spieaea fortunei*, *Viburnum betulifolium*, *Helwingia japonica*. Common Name: Guan Ye Lian Qiao.

The following were collected by Konza Prairie Biological Station, Kansas State University, Division of Biology, Manhattan, Kansas 66506-0112, United States. Donated by Sara L. Crockett, P.O. Box 2055, Orofino, Idaho 83544, United States. Received 05/26/2004.

PI 649061. *Hypericum perforatum* L.
Wild. Site A; Ames 27491. Collected 09/06/2003 in Kansas, United States.

PI 649062. *Hypericum perforatum* L.
Wild. Site C; Ames 27493. Collected 09/27/2003 in Kansas, United States.

The following were donated by Jolita Radusiene, Kaunas Botanical Garden of Vytautas Magnus University, Z.E. Zilibero 6, Kaunas, Lithuania. Received 05/20/2004.

PI 649063. *Hypericum perforatum* L.
Wild. 99EB013; 410; Ames 27510. Collected 1999 in Lithuania. Latitude 55° 25' 35" N. Longitude 26° 1' 35" E. Tauragnai, Utena District. Wasteland.

PI 649064. *Hypericum perforatum* L.
Wild. 99EB014; 411; Ames 27511. Collected 1999 in Lithuania. Latitude 55° 43' 3" N. Longitude 25° 43' E. Davainiai, Zarasai District. Wasteland.

PI 649065. *Hypericum perforatum* L.
Wild. 99EB002; 412; Ames 27512. Collected 1999 in Lithuania. Latitude 54° 48' 49" N. Longitude 24° 10' 51" E. Slope of Kaunas Sea, Kaunas District. Grassland.

PI 649066. *Hypericum perforatum* L.
Wild. 99EB016; 413; Ames 27513. Collected 1999 in Lithuania. Latitude 54° 18' 44" N. Longitude 23° 50' 43" E. Miroslavas, Alytus District. Wasteland.

PI 649067. *Hypericum perforatum* L.
Wild. 98JR021; 421; Ames 27515. Collected 1998 in Lithuania. Latitude 55° 28' 4" N. Longitude 25° 3' 11" E. Kurkliai, Anyksciai District. Grassland.

PI 649068. *Hypericum perforatum* L.
Wild. 99EB004; 405; Ames 27516. Collected 1999 in Lithuania. Latitude 54° 31' 25" N. Longitude 24° 5' 32" E. Punia Forest. Grassland.

PI 649069. *Hypericum perforatum* L.
Wild. 98JR007; 417; Ames 27518. Collected 1998 in Lithuania. Latitude 55° 15' 53" N. Longitude 25° 46' 8" E. Labanoras. Grassland.

PI 649070. *Hypericum perforatum* L.
Wild. 98JR025; 418; Ames 27519. Collected 1998 in Lithuania. Latitude 55° 15' 53" N. Longitude 25° 22' 39" E. Svedasai, Anyksciai District. Wet grassland.

PI 649071. *Hypericum perforatum* L.
Wild. 98JR006; 420; Ames 27520. Collected 1998 in Lithuania. Latitude 55° 15' 43" N. Longitude 25° 46' 17" E. Labanoras. Grassland.

The following were donated by Sara L. Crockett, P.O. Box 2055, Orofino, Idaho 83544, United States. Received 06/16/2004.

PI 649072. *Hypericum perforatum* L.
Wild. Ames 27522. Collected in Turkey. North of Zigana Pass. Moist roadside. Associated vegetation: *Cornus mas*, *Sisely*, *Corylus*, *Echium*, *Clematis*, and *Campanula*.

The following were donated by Petr Hanzelka, Prague Botanical Garden, Nadvorni 134, Prague, Central Bohemia 171 00, Czech Republic. Received 12/28/2004.

PI 649073. *Hypericum perforatum* L.
Wild. Ames 27703. Collected 2001 in South Moravia, Czech Republic. Between Zelesice and Vodarna Brna.

PI 649074. *Hypericum perforatum* L.
Wild. Ames 27705. Collected 2002 in South Moravia, Czech Republic. Between Zelesice and Zahrada.

PI 649075. *Hypericum perforatum* L.
Wild. Ames 27710. Collected 2004 in East Bohemia, Czech Republic. Jerice, Jicin District.

PI 649076. *Hypericum perforatum* L.
Wild. Ames 27711. Collected 2004 in East Bohemia, Czech Republic. Jicin.

PI 649077. *Hypericum perforatum* L.
Wild. Ames 27716. Collected 2004 in West Bohemia, Czech Republic. Dolni Lukavice.

The following were collected by Barbara Hellier, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Furkat O. Khassanov, Uzbek Academy of Sciences, Scientific Center of Plant Production 'Botanika', Geobotany Department, Tashkent, Uzbekistan; Habib Shomuradov, Uzbek Academy of Sciences, Scientific Center of Plant Production 'Botanika', Geobotany Department, Tashkent, Uzbekistan. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 12/30/2004.

PI 649078. *Hypericum perforatum* L.

Wild. Z013; Ames 27753. Collected 08/2004 in Uzbekistan. Latitude 41° 43' 26" N. Longitude 70° 4' 17" E. Elevation 1047 m. Foothills of the Ugam Mountains, outside of the village of Sijjak. Brichmulla forest (Juglans forest) in the foothills.

PI 649079. *Hypericum perforatum* L.

Wild. Z103; Ames 27757. Collected 08/14/2004 in Uzbekistan. Latitude 41° 40' 6" N. Longitude 69° 45' 5" E. Elevation 1314 m. Outside the village of Oqtosh. Up a draw with a stream and populated with rest houses.

The following were collected by Zakariah Weinstein, USDA Forest Service, Pacific Northwest Research Station, Corvallis FSL, Resource Management & Productivity, Corvallis, Oregon 97331, United States. Donated by Nan C. Vance, USDA Forest Service, Pacific Northwest Research Station, Corvallis FSL, Resource Management & Productivity, Corvallis, Oregon 97331, United States. Received 10/20/2005.

PI 649080. *Hypericum perforatum* L.

Wild. Ames 27861. Collected 07/12/2005 in Oregon, United States. Latitude 44° 34' 13" N. Longitude 123° 20' 9" W. Bald Hill, near Corvallis, Benton County. Detailed directions to the site may be found in the General Narrative. West side of a hill amongst weeds. 1/3 light forest cover. Slight to very little slope. Dry clay soil. Associated with *Daucus carota*, *Leucanthemum vulgare*, *Cirsium vulgare*, *Achillea millefolium*, and *Bromus*. From Corvallis, go west on NW Harrison Boulevard (becomes NW Oak Creek Drive at intersection with NW 53rd Street), turn into Bald Hill access parking lot, walk on paved trail until you reach the barn, go towards the barn and continue straight past a bench under an oak tree and onto a gravel path, keep going straight at intersection with another path, path should go around an oak tree on the right side, continue until you reach a small seasonal stream bed, there should be a small oak tree in a grouping of large oak trees, the plants may be found between you and the trees (close to the trees).

The following were donated by Jolita Radusiene, Kaunas Botanical Garden of Vytautas Magnus University, Z.E. Zilibero 6, Kaunas, Lithuania. Received 05/20/2004.

PI 649081. *Hypericum punctatum* Lam.

Wild. 98JR022; 422; Ames 27521. Collected 1998 in Lithuania. Latitude 55° 34' 45" N. Longitude 25° 12' 18" E. Cekonys, Anyksciai District. Grassland.

The following were collected by Scott F. Woodbury, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States; Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Boyce Tankersley, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 12/29/2004.

PI 649082. *Hypericum punctatum* Lam.

Wild. 60; Ames 27735. Collected 10/22/2004 in Arkansas, United States. Latitude 36° 13' 45" N. Longitude 93° 33' 4" W. Elevation 399 m. Home of Don Matt and Judy Griffith, Ninestone Land Trust, 973 County Road 512, Berryville, Carroll County. Wet, seeping bog. Western aspect. 5-10 feet tall.

PI 649083. *Hypericum punctatum* Lam.

Wild. 7.5; Ames 27737. Collected 10/19/2004 in Missouri, United States. Latitude 38° 8' 9" N. Longitude 91° 15' 49" W. Elevation 311 m. Private land, roadside, across from Bourbon High School, Crawford County. Remnant prairie beside railroad/roadside. 0-5 degrees of slope with a northeastern aspect. 0.3-0.5 meter tall.

PI 649084. *Hypericum punctatum* Lam.

Wild. 17; Ames 27739. Collected 10/19/2004 in Missouri, United States. Latitude 38° 2' 7" N. Longitude 91° 31' 11" W. Elevation 325 m. Railroad tracks, roadside along Interstate 44, Phelps County. Prairie remnant, partly mowed. 1-5 degrees of slope with a western aspect.

The following were collected by Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Boyce Tankersley, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; James Trager, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 12/29/2004.

PI 649085. *Hypericum punctatum* Lam.

Wild. 130; Ames 27747. Collected 10/28/2004 in Missouri, United States. Latitude 38° 49' 39" N. Longitude 91° 15' 30" W. Elevation 286 m. Roadside, west edge of Hawn State Park, Ste. Genevieve County. Short leaf pine forest.

The following were donated by Petr Hanzelka, Prague Botanical Garden, Nadvorní 134, Prague, Central Bohemia 171 00, Czech Republic. Received 02/19/2004.

PI 649086. *Hypericum tetrapterum* Fr.

Wild. Ames 27430. Collected in East Bohemia, Czech Republic. Elevation 320 m. Sobotka (town).

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 649087. *Brassica aucheri* Boiss.

Wild. 539-3735-75; Ames 21450. Collected in Iran. Arid slopes E. Quasr-el-Shirin, W. Iran.

The following were collected by Manuel Cardoso Alves, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Jaime Ventura Forte, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Armenio Da Costa Matos, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal. Donated by Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 05/24/1999.

PI 649088. *Brassica barrelieri* (L.) Janka

Wild. Index Seminum 530; Ames 25290. Collected 05/22/1998 in Coimbra, Portugal. Latitude 40° 12' N. Longitude 8° 25' W. Coimbra.

Unknown source. Received 01/16/1984.

PI 649089. *Brassica carinata* A. Braun

Ames 2781. Collected in Ethiopia.

Unknown source. Received 01/16/1984.

PI 649090. *Brassica carinata* A. Braun

Ames 2782. Collected in Ethiopia.

Unknown source. Received 01/16/1984.

PI 649091. *Brassica carinata* A. Braun

Ames 2786. Collected in Ethiopia.

Unknown source. Received 01/16/1984.

PI 649092. *Brassica carinata* A. Braun

Ames 2788. Collected in Ethiopia.

Unknown source. Received 01/16/1984.

PI 649093. *Brassica carinata* A. Braun

Ames 2789. Collected in Ethiopia.

Unknown source. Received 01/16/1984.

PI 649094. *Brassica carinata* A. Braun
Ames 2790. Collected in Ethiopia.

Unknown source. Received 01/16/1984.

PI 649095. *Brassica carinata* A. Braun
Ames 2791. Collected in Ethiopia.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain.
Received 08/23/1993.

PI 649096. *Brassica deflexa* subsp. *leptocarpa* (Boiss.) Hedge
Wild. 90-3713-75; Ames 21296. Collected in Iran. Slopes near Karadj, N. Iran.

PI 649097. *Brassica fruticulosa* Cirillo
Wild. 97-7704-88; Ames 21302. Collected in Morocco. Latitude 36° N.
Longitude 3° W. Chafarinas, N. Morocco.

PI 649098. *Brassica fruticulosa* subsp. *glaberrima* (Pomel) Batt.
Wild. 98-1960-71; Ames 21303. Collected in Algeria. Coastal sands near Mostagnam, Algeria.

PI 649099. *Brassica fruticulosa* subsp. *pomeliana* Maire
Wild. 100-6519-84; Ames 21305. Collected in Algeria. Arid pasturelands, Songueur, S. Oran, Algeria.

PI 649100. *Brassica gravinae* var. *brachyloma* (Boiss. & Reut.) O. E. Schulz
Wild. 102-1947-72; Ames 21307. Collected in Algeria. Latitude 35° N.
Longitude 4° E. Rocks near El Kantara, Algeria.

Unknown source. Received 06/25/1965.

PI 649101. *Brassica juncea* (L.) Czern.
Cultivated. Oriental Mustard; Ames 725. Collected in Minnesota, United States. A standard variety in Minnesota. Used as a check variety.

Unknown source. Received 06/25/1965.

PI 649102. *Brassica juncea* (L.) Czern.
Cultivated. Brown Mustard; Ames 726. Collected in Minnesota, United States. A standard variety in Minnesota. Used as a check variety.

Unknown source. Received 08/26/1988.

PI 649103. *Brassica juncea* (L.) Czern.
NU 47859; BJ 9; Ames 8604. Collected in India.

Unknown source. Received 08/26/1988.

PI 649104. Brassica juncea (L.) Czern.
NU 48125; I.B. 213; Ames 8637. Collected in India.

Unknown source. Received 08/26/1988.

PI 649105. Brassica juncea (L.) Czern.
NU 48135; I.B. 391; Ames 8644. Collected in India.

Unknown source. Received 08/26/1988.

PI 649106. Brassica juncea (L.) Czern.
NU 48152; I.B. 600; Ames 8657. Collected in India.

Unknown source. Received 08/26/1988.

PI 649107. Brassica juncea (L.) Czern.
NU 48156; I.B. 623; Ames 8660. Collected in India.

Unknown source. Received 08/26/1988.

PI 649108. Brassica juncea (L.) Czern.
NU 48515; I.B. 551; Ames 8674. Collected in India.

Unknown source. Received 08/26/1988.

PI 649109. Brassica juncea (L.) Czern.
NU 49748; I.B. 701; Ames 8709. Collected in India.

Unknown source. Received 08/26/1988.

PI 649110. Brassica juncea (L.) Czern.
NU 49793; I.B. 688; Ames 8754. Collected in India.

Unknown source. Received 08/26/1988.

PI 649111. Brassica juncea (L.) Czern.
NU 49871; I.B. 950; Ames 8831. Collected in India.

Unknown source. Received 08/26/1988.

PI 649112. Brassica juncea (L.) Czern.
NU 49931; I.B. 1095; Ames 8887. Collected in India.

Unknown source. Received 08/26/1988.

PI 649113. *Brassica juncea* (L.) Czern.
NU 49982; I.B. 1165; Ames 8935. Collected in India.

Unknown source. Received 08/26/1988.

PI 649114. *Brassica juncea* (L.) Czern.
NU 49992; I.B. 1184; Ames 8944. Collected in India.

Unknown source. Received 08/26/1988.

PI 649115. *Brassica juncea* (L.) Czern.
NU 60936; I.B. 1873; Ames 9128. Collected in India.

Unknown source. Received 08/26/1988.

PI 649116. *Brassica juncea* (L.) Czern.
NU 60949; I.B. 1926; Ames 9141. Collected in India.

Unknown source. Received 08/26/1988.

PI 649117. *Brassica juncea* (L.) Czern.
NU 60958; I.B. 2004; Ames 9150. Collected in India.

Unknown source. Received 08/26/1988.

PI 649118. *Brassica juncea* (L.) Czern.
NU 61280; I.B. 28; Ames 9196. Collected in India.

Unknown source. Received 08/26/1988.

PI 649119. *Brassica juncea* (L.) Czern.
NU 61290; I.B. 1490; Ames 9206. Collected in India.

The following were donated by N.I. Vavilov Research Institute of Plant Industry, 44, B. Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 07/20/1992.

PI 649120. *Brassica juncea* (L.) Czern.
WIR 4400; Ames 19196; VNIIMK 14. Collected 1986 in Russian Federation.

The following were donated by David Spooner, USDA, ARS, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706-1590, United States; Horticultural Research Station, Marpha, Nepal. Received 03/20/1995.

PI 649121. *Brassica juncea* (L.) Czern.
Landrace. 7049; Marpha; Ames 22383.

The following were developed by Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 01/08/2001.

- PI 649122. *Brassica juncea* (L.) Czern.**
Ames 26158; Ames 8722; Ames 8724; Ames 8843; Ames 8948; Ames 8949; Ames 8725.
- PI 649123. *Brassica juncea* (L.) Czern.**
Ames 26159; Ames 8904; Ames 9253.
- PI 649124. *Brassica juncea* (L.) Czern.**
Ames 26160; Ames 8906; Ames 8910.
- PI 649125. *Brassica juncea* (L.) Czern.**
Ames 26161; Ames 8936; Ames 8937.

The following were developed by Agriculture Canada, Saskatchewan Research Station, Saskatoon, Saskatchewan, Canada. Received 07/23/1975.

- PI 649126. *Brassica napus* L.**
Cultivated. Ames 1670; Golden. Collected in Saskatchewan, Canada.

The following were donated by Wallace D. Beversdorf, University of Guelph, Department of Crop Science, Guelph, Ontario N1G 2W1, Canada. Received 08/01/1986.

- PI 649127. *Brassica napus* L.**
Ames 6073; Jet Neuf. Check variety. Do not use for anything but a check var.

The following were donated by D.L. Auld, University of Idaho, Dept. of Plant, Soil and Entomology, Moscow, Idaho 83843, United States. Received 08/25/1986.

- PI 649128. *Brassica napus* L.**
Cultivar. 49364; Ames 6096; Per. Developed in Sweden. Winter hardy.

The following were donated by A.K. Topinka, Lethbridge, Alberta, Canada. Received 08/29/1986.

- PI 649129. *Brassica napus* L.**
Ames 6101; LB2125. Developed in Canada. Pedigree - Selection from BCSV0212 (Svalof Company cultivar). 1986 Lethbridge selection of BCSV0212, a Svalof Company B. *napus* canola quality cultivar.

The following were donated by Myra Manoah, Ministry of Agriculture, The Volcani Center, The Israeli Gene Bank for Agricultural Crops, Bet Dagan, Central 50250, Israel. Received 03/01/1991.

- PI 649130. *Brassica napus* L.**
WW1427; 47-557; Ames 15939; Comet. Collected in Sweden.

The following were donated by Pioneer, Buxtehude, Germany. Received 06/10/1992.

PI 649131. Brassica napus L.
Ames 19144; WINFRED.

The following were donated by Instytut Hodowli i Aklimatyzacji Roslin, Ogród Botaniczny, Ul. Jezdziecka 5, Bydgoszcz, Bydgoszcz 85-687, Poland. Received 06/16/1995.

PI 649132. Brassica napus L.
Cultivar. "BRONOWSKI"; Ames 22548; 160001.

PI 649133. Brassica napus L.
Cultivar. "MAZOWIECKI"; Ames 22550; 160003.

The following were donated by Hogg & Lytle Ltd., Oakwood, Ontario, Canada; USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649134. Brassica napus L.
Uncertain. NU 40665; Ames 24221.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649135. Brassica napus L.
Wild. 474; NU 41737; Ames 24222. Collected 01/1998 in Turkey.

The following were donated by Barenbrug's Saatzucht GmbH, Germany. Received 04/18/1994.

PI 649136. Brassica napus L.
Cultivar. G 31838; Ames 26628; Helga.

PI 649137. Brassica napus L.
Cultivar. G 31843; Ames 26631; Baraska.

PI 649138. Brassica napus L.
Cultivar. G 31844; Ames 26632; Barcoli.

PI 649139. Brassica napus L.
Cultivar. G 31845; Ames 26633; Barnapoli.

PI 649140. Brassica napus L.
Cultivar. G 31846; Ames 26634; Barsica.

Unknown source. Received 01/01/1994.

PI 649141. Brassica napus L.
RFR/002/C 830H; Ames 26637; G 31952; Sparta.

Unknown source. Received 01/01/1994.

PI 649142. Brassica napus L.
RSA/055/Q 7053; Ames 26638; G 31955; Ruby.

Unknown source. Received 01/01/1994.

PI 649143. Brassica napus L.
RSA/073/W 4065; Ames 26639; G 31957; Doon Major.

Unknown source. Received 01/01/1994.

PI 649144. Brassica napus L.
RKA/093/S 382G; Ames 26640; G 31958; Prover.

Unknown source. Received 01/01/1994.

PI 649145. Brassica napus L.
RSA/064/V C023; Ames 26641; G 31959; Marian.

Unknown source. Received 01/01/1994.

PI 649146. Brassica napus L.
RSA/057/K 7059; Ames 26642; G 31962; Magres.

Unknown source. Received 01/01/1994.

PI 649147. Brassica napus L.
BO/CS/416/2105; Ames 26644; G 31968; Ruta Otofte.

The following were collected by Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States; Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 1996.

PI 649148. Brassica napus L.
G 32327; Ames 26646. Collected 01/01/1996 in Albania. Market.

The following were donated by Institut für Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany. Received 04/29/1996.

PI 649149. *Brassica napus* L. var. *napus*
Cultivar. "Leonessa"; CR 687/81; Ames 22974.

The following were donated by D.L. Auld, University of Idaho, Dept. of Plant, Soil and Entomology, Moscow, Idaho 83843, United States. Received 05/10/1991.

PI 649150. *Brassica napus* L. var. *napus*
Cultivar. G 30110; Ames 26653; Westar.

PI 649151. *Brassica napus* L. var. *napus*
Cultivar. G 30111; Ames 26654; Tobin.

PI 649152. *Brassica napus* L. var. *napus*
Cultivar. G 30112; Ames 26655; Reston.

The following were donated by Agriculture Canada, Genetic and Plant Breeding Institute, Ottawa, Ontario, Canada. Received 01/01/1990.

PI 649153. *Brassica napus* L. var. *napus*
Cultivar. G 30830; Ames 26656; Span.

The following were donated by Suzanne Warwick, Agriculture Canada, K.W. Neatby Bldg., C.E.F., Ottawa, Ontario K1A 0C6, Canada. Received 08/27/1991.

PI 649154. *Brassica nigra* (L.) W. D. J. Koch
Wild. BCN 3023; Ames 25399; G 30177.

The following were donated by Royal Botanic Garden, Wakehurst Place, Haywards Heath, Sussex, England RH17 6TN, United Kingdom. Received 10/27/1992.

PI 649155. *Brassica nigra* (L.) W. D. J. Koch
Ames 25400; G 30663. Collected in United Kingdom.

The following were donated by B.E. International Foods, United Kingdom. Received 01/01/1990.

PI 649156. *Brassica nigra* (L.) W. D. J. Koch
Cultivar. G 30837; Ames 25401; Rajah. Collected in India.

The following were collected by Manuel Cardoso Alves, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Jaime Ventura Forte, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal. Donated by Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 06/02/1998.

PI 649157. *Brassica oxyrrhina* Coss.
Wild. Index Seminum 531; Ames 24675. Collected 06/17/1997 in Coimbra, Portugal. Foja, in the vicinity of Quiaios.

The following were collected by Otto Jahn, USDA/ARS, NCGR-Corvallis, 33447 Peoria Road, Corvallis, Oregon 97333, United States. Received 09/16/1985.

PI 649158. Brassica rapa L.

Cultivated. Ames 4555. Collected in Finland. Elevation 80 m. Near Mikkeli. Traditional (historic) farm. Small plot with maturing seed (~50 cm). Old selection, possibly held in Nordic Gene Bank.

The following were donated by A.K. Topinka, Lethbridge, Alberta, Canada. Received 08/29/1986.

PI 649159. Brassica rapa L.

Cultivar. 34354; Ames 6098; Arktus. Developed in Germany. Old B. campestris winter cultivar from Europe. Very good winterhardiness, double high. Winter rape. Check variety.

Unknown source. Received 08/26/1988.

PI 649160. Brassica rapa L.

NU 47394; BC 17; Ames 9244. Collected in India. Received as Brassica campestris L.

Unknown source. Received 08/26/1988.

PI 649161. Brassica rapa L.

NU 47801; BCB 1; Ames 9251. Collected in India. Received as Brassica campestris L.

The following were donated by Myra Manoah, Ministry of Agriculture, The Volcani Center, The Israeli Gene Bank for Agricultural Crops, Bet Dagan, Central 50250, Israel. Received 03/01/1991.

PI 649162. Brassica rapa L.

47-560; Ames 15942. Collected in Sweden.

PI 649163. Brassica rapa L.

47-559; Ames 15943. Collected in Sweden.

The following were collected by P.F. Knowles, University of California, Dept. of Agronomy and Range Sciences, Davis, California 98230, United States. Donated by Paul H. Williams, University of Wisconsin, Department of Plant Pathology, Madison, Wisconsin 53706, United States. Received 06/08/1992.

PI 649164. Brassica rapa L.

K-100; Ames 21757. Collected in Pakistan.

Unknown source. Received 08/26/1988.

PI 649165. Brassica rapa subsp. dichotoma (Roxb.) Hanelt

NU 49532; I.B. 1456; Ames 9260. Collected in India. Rec. as Brassica campestris var. dichotoma (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649166. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 49535; I.B. 1516; Ames 9263. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649167. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60143; I.B. 432; Ames 9285. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649168. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60144; I.B. 468; Ames 9286. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649169. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60162; I.B. 704; Ames 9304. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649170. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60818; I.B. 1887; Ames 9390. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649171. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60823; I.B. 2036; Ames 9395. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649172. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60824; I.B. 2038; Ames 9396. Collected in India. Rec. as *Brassica campestris* var. *dichotoma* (ROXB. ex FLEM.).

Unknown source. Received 08/26/1988.

PI 649173. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 47198; BCT 4; Ames 9411. Collected in India. Rec. as *Brassica campestris* var. *toria* (DUTH. AND FULL.).

Unknown source. Received 08/26/1988.

PI 649174. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 47202; BCT 5; Ames 9412. Collected in India. Rec. as *Brassica*
campestris var. *toria* (DUTH. AND FULL.).

Unknown source. Received 08/26/1988.

PI 649175. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 47207; BCT 11; Ames 9416. Collected in India. Rec. as *Brassica*
campestris var. *toria* (DUTH. AND FULL.).

Unknown source. Received 08/26/1988.

PI 649176. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 48212; I.B. 308; Ames 9474. Collected in India. Rec. as *Brassica*
campestris var. *toria* (DUTH. AND FULL.).

Unknown source. Received 08/26/1988.

PI 649177. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 49306; BCT 26; Ames 9492. Collected in India. Rec. as *Brassica*
campestris var. *toria* (DUTH. AND FULL.).

Unknown source. Received 08/26/1988.

PI 649178. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 49311; BCT 39; Ames 9495. Collected in India. Rec. as *Brassica*
campestris var. *toria* (DUTH. AND FULL.).

Unknown source. Received 08/26/1988.

PI 649179. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
NU 60838; I.B. 1764; Ames 9624. Collected in India. Rec. as *Brassica*
campestris var. *toria* (DUTH. AND FULL.).

The following were developed by Rick Luhman, Iowa State University, Regional
Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received
01/08/2001.

PI 649180. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
Ames 26162; Ames 9288; Ames 9291. This accession is a bulk of
accessions originally from India. See accession names and identifiers
for those accessions.

PI 649181. *Brassica rapa* subsp. *dichotoma* (Roxb.) Hanelt
Ames 26165; Ames 9452; Ames 9467.

The following were donated by Institut fur Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany; Central Agency for Plant Variety Registration, Former GDR, Nossen, Saxony, Germany. Received 11/30/1998.

PI 649182. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
"Ludowy"; CR 1542/85b; BRA 357/85; Ames 24965. Collected in Poland.

The following were donated by Institut fur Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany; Botanical Garden of the Universitaet fuer Bodenkultur Wien, Vienna, Vienna, Austria. Received 11/30/1998.

PI 649183. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
CR 2190/77; BRA 245/77; Ames 24967. Collected in Unknown.

The following were donated by Federal Centre for Breeding Research on Cultivated Plants, Plant Genetic Resources Collection, Bundesallee 50, Braunschweig, Lower Saxony 38116, Germany. Received 10/14/1998.

PI 649184. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Perko PVH"; 7313; Ames 25109. Developed in Germany.

The following were developed by M. Von Schmieder, Saatzucht Steinach, 8441 Steinach ub. Straubing, Germany. Donated by Federal Centre for Breeding Research on Cultivated Plants, Plant Genetic Resources Collection, Bundesallee 50, Braunschweig, Lower Saxony 38116, Germany. Received 10/14/1998.

PI 649185. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Steinacher Frueher Winterruebsen"; 18101; Ames 25110.

The following were donated by Federal Centre for Breeding Research on Cultivated Plants, Plant Genetic Resources Collection, Bundesallee 50, Braunschweig, Lower Saxony 38116, Germany. Received 10/14/1998.

PI 649186. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Opava"; 28617; Ames 25111. Developed in Czech Republic.

PI 649187. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Szczecinski"; 28618; Ames 25112. Developed in Poland.

PI 649188. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Leielander"; 28620; Ames 25113. Developed in Belgium.

PI 649189. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Waaslander"; 28621; Ames 25114. Developed in Belgium.

PI 649190. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Matjeslander"; 28622; Ames 25115. Developed in Belgium.

PI 649191. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Primax"; 28623; Ames 25116. Developed in Netherlands.

PI 649192. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Heges Winterruebsen"; 34335; Ames 25117. Developed in Germany.

PI 649193. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Buko"; 34351; Ames 25118. Developed in Germany.

PI 649194. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Ado"; 51786; Ames 25119. Developed in Germany.

PI 649195. *Brassica rapa* subsp. *oleifera* (DC.) Metzg.
Cultivar. "Pasja"; 57885; Ames 25120. Developed in Netherlands.

Unknown source. Received 08/26/1988.

PI 649196. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 46761; BC 4; Ames 9668. Collected in India. Received as *Brassica campestris* var. *sarson* (PRAIN).

Unknown source. Received 08/26/1988.

PI 649197. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 49288; BC 29; Ames 9677. Collected in India. Received as *Brassica campestris* var. *sarson* (PRAIN).

Unknown source. Received 08/26/1988.

PI 649198. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 49485; I.B. 1588; Ames 9706. Collected in India. Received as *Brassica campestris* var. *sarson* (PRAIN).

Unknown source. Received 08/26/1988.

PI 649199. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 49511; I.B. 1648; Ames 9731. Collected in India. Received as *Brassica campestris* var. *sarson* (PRAIN).

Unknown source. Received 08/26/1988.

PI 649200. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 49524; I.B. 1469; Ames 9741. Collected in India. Received as *Brassica campestris* var. *sarson* (PRAIN).

Unknown source. Received 08/26/1988.

PI 649201. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 49527; I.B. 1487; Ames 9744. Collected in India. Received as *Brassica campestris* var. *sarson* (PRAIN).

Unknown source. Received 08/26/1988.

PI 649202. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
NU 60790; I.B. 1916; Ames 9888. Collected in India. Received as
Brassica campestris var. *sarson* (PRAIN).

The following were developed by Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 01/08/2001.

PI 649203. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
Ames 26166; Ames 9675; Ames 9676.

PI 649204. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
Ames 26167; Ames 9680; Ames 9681; Ames 9682; Ames 9683; Ames 9685; Ames 9686; Ames 9687; Ames 9688; Ames 9691; Ames 9694; Ames 9696; Ames 9715; Ames 9690; Ames 9693.

PI 649205. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
Ames 26168; Ames 9698; Ames 9699; Ames 9701; Ames 9702; Ames 9718; Ames 9719. This accession is a bulk of accessions originally from India. See accession names and identifiers for those accessions.

PI 649206. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
Ames 26169; Ames 9738; Ames 9739; Ames 9740; Ames 9737; Ames 9736.

PI 649207. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
Ames 26170; Ames 9900; Ames 9889; Ames 9895. This accession is a bulk of accessions originally from India. See accession names and identifiers for those accessions.

PI 649208. *Brassica rapa* subsp. *trilocularis* (Roxb.) Hanelt
Ames 26171; Ames 9893; Ames 9898; Ames 9920; Ames 9925; Ames 9919. This accession is a bulk of accessions originally from India. See accession names and identifiers for those accessions.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 649209. *Brassica repanda* subsp. *cadevallii* (Font Quer) Heywood
Wild. 137-6359-83; Ames 21316. Collected in Spain. Rocky slopes, Portell Torradells, N. Lerida, Spain.

PI 649210. *Brassica repanda* subsp. *cantabrica* (Font Quer) Heywood
Wild. 138-5840-81; Ames 21317. Collected in Spain. Summits, Pena Mayor de Mena, N. Burgos, Spain.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649211. *Brassica repanda* subsp. *maritima* (Willk.) Heywood
Wild. NU 46288; Ames 24231. Collected 01/1998 in Spain.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 649212. Brassica spinescens Pomel

Wild. 147-1800-70; Ames 21323. Collected in Algeria. Latitude 36° N. Longitude 1° W. Maritime rocks. Cap Falcon, Oran. Algeria.

Unknown source. Received 08/26/1988.

PI 649213. Brassica tournefortii Gouan

NU 49305; BT 1; Ames 9928. Collected in India.

The following were donated by Myra Manoah, Ministry of Agriculture, The Volcani Center, The Israeli Gene Bank for Agricultural Crops, Bet Dagan, Central 50250, Israel. Received 03/01/1991.

PI 649214. Brassica tournefortii Gouan

E-68; 47-691; Ames 16060. Collected in France.

PI 649215. Brassica tournefortii Gouan

E-70; 47-693; Ames 16061. Collected in France.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649216. Brassica tournefortii Gouan

Wild. 9-53; NU 43192; Ames 24233. Collected 01/1998 in Israel.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States; A. Pena. Donated by Carolyn Reider, Rodale Research Center, Box 323, R.D. 1, Kutztown, Pennsylvania 19530, United States. Received 06/07/1990.

PI 649217. Amaranthus caudatus L.

Cultivated. LFD 154; RRC 879; Kiwicha; Ames 14987. Collected 05/24/1982 in Cuzco, Peru. Latitude 15° 13' S. Longitude 70° 10' W. Elevation 2950 m. Cochapampa, Paruro, Cuzco, Peru. The seeds are white, flowers green, leaves green. The RRC class type is: South American. The local name is: 'Kiwicha.' In the greenhouse it had slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed that the plants are green and about 1.8m tall. It was planted in November and harvested in April and May. It is associated with corn. The people eat it and use it as medicine for the lungs. The small leaves are eaten.

PI 649218. Amaranthus caudatus L.

Cultivated. LFD 155; RRC 880; Kiwicha; Ames 14988. Collected 05/24/1982 in Cuzco, Peru. Latitude 15° 13' S. Longitude 70° 10' W.

Elevation 2950 m. Cochopampo, Paruro, Cuzco, Peru. The seeds are dark brown, flowers pink, green and red, leaves green and light rufescent. The RRC class type is: South American. The local name is: 'Kiwicha.' In the greenhouse it had slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Red plants with large glomerules. Primarily used for lung medicine. Planted in Nov. and harvested in April and May. Associated with corn. They eat leaves of small plants and toasted milled seeds.

The following were collected by Carlos A. Alvarez, University of Georgia, Department of Biochemistry, Athens, Georgia 30602, United States; L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Carolyn Reider, Rodale Research Center, Box 323, R.D. 1, Kutztown, Pennsylvania 19530, United States. Received 06/07/1990.

PI 649219. *Amaranthus caudatus* L.

Wild. LFD 157; RRC 882; Kiwicha; Ames 14989. Collected 05/27/1982 in Cuzco, Peru. Elevation 3000 m. Panteonpunco, Pillpinto, Paruro, Cuzco, Peru. The seeds are dark brown, flowers pinkish-green, leaves green. The RRC class type is: South American. Not a cultivated plant. The local name is: 'Kiwicha.' In the green house it had unusually long bracts for *A. caudatus*. Most had glomerule type flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The Collectors observed: Red and green plants. 120 cm. Bulk of garden plants. Used as lung medicine. toasted, eaten in soup, or for breakfast with milk. Seeded spontaneously.

The following were collected by Laurie Feine-Dudley, 15 Center Street, Cazenovia, New York 13035, United States. Donated by Carolyn Reider, Rodale Research Center, Box 323, R.D. 1, Kutztown, Pennsylvania 19530, United States. Received 06/07/1990.

PI 649220. *Amaranthus caudatus* L.

Wild. LFD 164; RRC 889; Kiwillo; Ames 14996. Collected 06/01/1982 in Cuzco, Peru. Llanza, Acomayo, Cusco, Peru. Plants not cultivated. Pedigree - The collection data indicate that this is the same as PI 490525, which has white seeds, and this has dark seeds. So they should be maintained separately. David Brenner June 1999. The seeds are dark brown, flowers pink, leaves light rufescent. The RRC class type is: South American. The local name is: 'Kiwillo.' In the greenhouse it was uniform and all plants had glomerule type flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Spontaneous, mix of plants in the field. Just a few plants, approx. 5. Used for medicine.

PI 649221. *Amaranthus caudatus* L.

Cultivated. LFD 170; RRC 895; Achis; Ames 15002. Collected 06/01/1982 in Ancash, Peru. Pedigree - The passport data indicate duplication with PI 490528 which has no brown seeds. These two accessions should be maintained separately since this one has unusual light brown seeds. David Brenner June 1999. The seeds are white and gold, flowers pink and green, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' It is predominately white-seeded. In the greenhouse it had both drooping and erect flowers with uneven height.

Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Mixed white and brown seeds. Plants red, with panicles. Already harvested. Associated with maize.

PI 649222. *Amaranthus caudatus* L.

Cultivated. LFD 171; RRC 896; Achis; Ames 15003. Collected 06/01/1982 in Ancash, Peru. Pedigree - The passport data indicate duplication with PI 490529 which has opaque seeds. These two accessions should be maintained separately since this one has translucent seeds. David Brenner June 1999. The seeds are tan and white, flowers pink, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achia.' In the greenhouse it had uneven height and slightly drooping and erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Red plants, range from 1.5 to 1.8 m tall. Associated with corn and cabbage.

PI 649223. *Amaranthus caudatus* L.

Cultivated. LFD 172; RRC 897; Achis; Ames 15004. Collected 06/01/1982 in Ancash, Peru. Pedigree - The passport data indicate duplication with PI 490530 which has translucent seeds. These two accessions should be maintained separately since this one has opaque seeds. David Brenner June 1999. The seeds are white, flowers green, leaves green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: A bulk of red plants with panicles from a house. Associated with corn.

PI 649224. *Amaranthus caudatus* L.

Cultivated. LFD 174; RRC 899; Achis; Ames 15006. Collected 06/01/1982 in Ancash, Peru. Pedigree - The passport data indicate duplication with PI 490532 which has opaque seeds. These two accessions should be maintained separately because this one has translucent seeds. David Brenner June 1999. The seeds are tan and brown, flowers pink and green, leaves light rufescent and green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Bulk from a house, grown for own consumption. They say there is disease present. Used in soup, candy, and masamores.

The following were collected by Carlos A. Alvarez, University of Georgia, Department of Biochemistry, Athens, Georgia 30602, United States; L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Carolyn Reider, Rodale Research Center, Box 323, R.D. 1, Kutztown, Pennsylvania 19530, United States. Received 06/07/1990.

PI 649225. *Amaranthus caudatus* L.

Wild. LFD 181; RRC 906; Achis; Ames 15013. Collected 06/02/1981 in Ancash, Peru. Elevation 2820 m. Huachin-Anta, Carhuaz, Ancash, Peru. The seeds are dark brown, flowers pink, leaves rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was of uniform type with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. Seed shipped with closing of Rodale Amaranthus program.

PI 649226. *Amaranthus caudatus* L.

Cultivated. LFD 185; RRC 910; Achis; Ames 15017. Collected 06/03/1982 in Ancash, Peru. Elevation 3060 m. Huarimayo-Caserio, Chauin, Huari, Ancash, Peru. The seeds are tan, flowers pink and green, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was of uniform type with erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Two red and green plants from a person's garden.

PI 649227. *Amaranthus caudatus* L.

Cultivated. LFD 186; RRC 911; Achis; Ames 15018. Collected 06/03/1982 in Ancash, Peru. Elevation 2910 m. Opayaco, San Marcos, Huari, Ancash, Peru cultivated. The seeds are tan, flowers dark pink, leaves rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Last years seeds from a woman's house. Eaten as toasted candy and in soup.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Carolyn Reider, Rodale Research Center, Box 323, R.D. 1, Kutztown, Pennsylvania 19530, United States. Received 06/07/1990.

PI 649228. *Amaranthus caudatus* L.

Cultivated. LFD 188; RRC 913; Achis; Ames 15020. Collected 06/03/1982 in Ancash, Peru. Elevation 2910 m. Opayaco, San Marcos, Huari, Ancash, Peru. Pedigree - Although they are both LFD 188, this accession and PI 490536 have unlike seeds, and should both be kept. The seeds are black, flowers light pink, leaves rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it is uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus. PA. The collectors observed: Rose colored flowers, black seed. In field with corn.

PI 649229. *Amaranthus caudatus* L.

Cultivated. LFD 190; RRC 915; Achis; Ames 15022. Collected 06/03/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 2870 m. Succha, Huantar, Huari, Ancash, Peru. The seeds are tan, flowers are pink, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it is uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Seeded Oct.-Nov and harvested in June. Found in large field of corn. quinoa (a little) and achis (a little). Plants bright red. Toasted for breakfast, harina, masamora.

PI 649230. *Amaranthus caudatus* L.

Cultivated. LFD 194; RRC 919; Achis; Ames 15026. Collected 06/03/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 2740 m. Pomachaca, Lucma Pampa, Huari, Huari, Ancash, Peru. The seeds are tan, flowers green, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it is

uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Rose, red, and green plants planted in bunches close together. Associated with large field of corn. (2 meters tall).

PI 649231. *Amaranthus caudatus* L.

Cultivated. LFD 199; RRC 924; Achis; Ames 15030. Collected 06/04/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3050 m. Huari, Huari, Huari, Ancash, Peru. The seeds are tan, flowers light pink and dark pink, leaves rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Bulk collection. Garden of tall mixed colored plants with white seeds. Up to 2 meters tall. Eaten toasted, ground for flour, or used to make candy.

PI 649232. *Amaranthus caudatus* L.

Cultivated. LFD 200; RRC 925; Achis; Ames 15031. Collected 06/04/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3050 m. Huari, Huari, Huari, Ancash, Peru. The seeds are tan, flowers pink, leaves rufescent. The RRC class type is: 'Achis.' In the greenhouse it is uniform with erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: One red plant. Eaten toasted, ground for flour, or used in soup and candy. Young leaves are sometimes used for picante.

PI 649233. *Amaranthus caudatus* L.

Wild. LFD 202; RRC 927; Achis; Ames 15033. Collected 06/04/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 2920 m. Huari, Huari, Huari, Ancash, Peru. The seeds are black, flowers pink and green, leaves light rufescent and green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had very long prickly bracts and slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: One plant with red flowers and black seeds from field of corn and squash. (1.3 meters tall).

PI 649234. *Amaranthus caudatus* L.

Wild. LFD 205; RRC 930; Jataco; Ames 15036. Collected 06/04/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 2870 m. Succha, Huanta, Huari, Ancash, Peru. The seeds are black and white, flowers light pink and green, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had erect and slightly drooping flowers. Some plants had long prickly bracts. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Brownish red plants with black and white seeds. Found in field of corn and squash.

PI 649235. *Amaranthus caudatus* L.

Cultivated. LFD 210; RRC 935; Achis; Ames 15040. Collected 06/05/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3120 m. Huarez, Huarez, Huarez, Ancash, Peru. The seeds are tan and dark brown, the flowers pink, leaves light rufescent. The RRC class

type is: South American. The local name is: 'Achis.' In the greenhouse it had erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Red plants with white seeds found in garden. (1m tall) Eaten in soup, candy, segundo, and breakfast foods. Also ground into flour.

PI 649236. *Amaranthus caudatus* L.

Cultivated. LFD 211; RRC 936; Achis; Ames 15041. Collected 06/05/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3120 m. Huaraz, Huaraz, Huaraz, Ancash, Peru. The seeds are black, flowers pink, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform and had slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Red plant with black seeds found in garden. (approx. 1m tall) Eaten in segundo, candy, and breakfast foods. Also toasted and ground into flour.

PI 649237. *Amaranthus caudatus* L.

Cultivated. LFD 212; RRC 937; Achis; Ames 15042. Collected 06/05/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3120 m. Huaraz, Huaraz, Huaraz, Ancash, Peru. The seeds are dark brown and dark gold, flowers pink and green, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Prickly red and yellow plants with black seeds found in garden. (1m or less).

PI 649238. *Amaranthus caudatus* L.

Cultivated. LFD 213; RRC 938; Achis; Ames 15043. Collected 06/05/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3120 m. Huaraz, Huaraz, Huaraz, Ancash, Peru. Pedigree - The seeds of this and PI 490540 are unlike even though both are LFD 213. They should both be kept. David Brenner July 1999. The seeds are tan and black, flowers pink and green, leaves light rufescent and green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649239. *Amaranthus caudatus* L.

Wild. LFD 214; RRC 939; Ames 15044. Collected 06/05/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 3120 m. Huaraz, Huaraz, Huaraz, Ancash, Peru. The seeds are black, flowers pinkish-green, leaves light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform and had erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Plants had red flowers and black seeds. Not used for anything.

PI 649240. *Amaranthus caudatus* L.

Cultivated. LFD 215; RRC 940; Achis; Ames 15045. Collected 06/05/1982 in Ancash, Peru. Elevation 2900 m. Picop, Huaraz, Huaraz, Ancash, Peru. Pedigree - The seeds of this and PI 490541 are unlike even though both are LFD 215. They should both be kept. David Brenner July 1999. The

seeds are white and black, flowers green and light pink, leaves green and light rufescent. The RRC class type is: South American. The local name is: 'Achis.' It predominately white-seeded. In the greenhouse it was of uniform type with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Bulk collection associated with corn.

PI 649241. *Amaranthus caudatus* L.

Cultivated. LFD 216; RRC 941; Achis; Ames 15046. Collected 06/05/1982 in Ancash, Peru. Elevation 2900 m. Picop, Huaraz, Huaraz, Ancash, Peru. Pedigree - The seeds of this and PI 490542 are unlike even though both are LFD 216. They should both be kept. David Brenner July 1999. The seeds are dark brown, flowers green, leaves green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform and had slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: One plant with black seeds. Eaten in soup, candy, and breakfast foods. Also ground into flour and toasted.

PI 649242. *Amaranthus caudatus* L.

Cultivated. LFD 218; RRC 943; Achis; Ames 15048. Collected 06/05/1982 in Ancash, Peru. Latitude 9° 0' S. Longitude 77° 0' W. Elevation 2900 m. Jangas, Huaraz, Huaraz, Ancash, Peru. Pedigree - The seeds of this and PI 490543 are unlike even though both are LFD 218. They should both be kept. David Brenner July 1999. The seeds are dark brown, flowers green, leaves green and light rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: One plant with black seeds from field of corn. Eaten as main dish; used in candy, soup, and breakfast foods; toasted, and ground into flour.

PI 649243. *Amaranthus caudatus* L.

Cultivated. LFD 220; RRC 945; Achis; Ames 15050. Collected 06/05/1982 in Ancash, Peru. Elevation 2900 m. Picop, Huaraz, Huaraz, Ancash, Peru. The seeds are black and gold, flowers pink and green, leaves green and rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uneven for height with erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Bulk of seeds collected from field of corn. Eaten as main dish; used in candy, soups, and breakfast foods; toasted and ground into flour.

PI 649244. *Amaranthus caudatus* L.

Cultivated. LFD 221; RRC 946; Achis; Ames 15051. Collected 06/05/1982 in Ancash, Peru. Elevation 2900 m. Comunidad Santa Isabel de Marcac, Huaraz, Huaraz, Ancash, Peru. The seeds are black and white, flowers pink and green, leaves green and rufescent. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uneven for height with erect flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: Bulk of plants associated with corn, tarwi (lupinus) beans, quinua, squash. Eaten as main dish; used in soups, candy, and breakfast foods; toasted, and ground into flour.

PI 649245. *Amaranthus caudatus* L.

Cultivated. LFD 224; RRC 949; Achis; Ames 15054. Collected 06/06/1982 in Ancash, Peru. Huaraz, Huaraz, Huaraz, Ancash, Peru. Donated by a cook at a hotel. The seeds are white, flowers green, leaves green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it was uniform with slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: From a cook at a hotel.

PI 649246. *Amaranthus quitensis* Kunth

Wild. LFD 203; RRC 928; Jataco; Ames 15034. Collected 06/04/1982 in Ancash, Peru. Elevation 2770 m. Uranchacra, Huanta, Ancash, Peru. Collected in a corn field. "Possibly wild.". The seeds are black, flowers light pinkish-green, leaves green. The RRC class type is: South American. The local name is: 'Achis.' In the greenhouse it had very long prickly bracts and slightly drooping flowers. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. The collectors observed: From one plant with rose colored flowers and black seeds (possibly wild).

Unknown source. Received 1959.

PI 649247. *Ammi majus* L.

Uncertain. NU 14534; Ames 12702. Collected in Louisiana, United States. ECON. BOT. VOL. 16, 221-250 (1962) 1959 Glenn Dale, MD increase seed.

The following were donated by Goncalo Sampaio, Instituto de Botanica, Universidade Do Porto, 1191 Rua do Campo Alegre, Porto, Porto 4100, Portugal. Received 08/13/1992.

PI 649248. *Ammi majus* L.

Wild. No. 405; 890809; Ames 19333. Collected in Portugal. Lordelo-Porto, Douro Litoral Province.

The following were collected by Botanical Garden of Iran, Research Institute of Forests and Rangel, P.O. Box 13185-116, Tehran, Tehran, Iran. Received 10/01/1996.

PI 649249. *Ammi majus* L.

Wild. 481; Ames 23225. Collected 1996 in Khuzestan, Iran. Ahvaz to Khorramshahr.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649250. *Ammi majus* L.

Wild. 18-51; NU 42068; Ames 24178. Collected 01/1998 in Israel. It grew 67 cm tall, had white flowers, and was an annual in a field planting in Ames, Iowa 2000. David Brenner.

The following were collected by A. S. Barclay, USDA, ARS, Crops Research Division, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649251. *Ammi majus* L.

Wild. 3109; NU 60701; Ames 24179. Collected 01/1998 in Texas, United States.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649252. *Ammi majus* L.

Uncertain. S001; Ames 25706; SY-SW(1). Collected 1999 in Syria.

PI 649253. *Ammi majus* L.

Wild. S050; Ames 25725. Collected 07/28/1999 in Syria. Latitude 35° 46' 27" N. Longitude 36° 9' 41" E. Elevation 510 m. Qastal, 39 km northeast of Al Ladhigiyah. 80 cm plant, like *D. carota*, but very few spines on the seed.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; University of Lisbon, Botanical Garden, Lisbon, Lisboa 1600, Portugal. Received 06/21/1996.

PI 649254. *Ammi visnaga* (L.) Lam.

Uncertain. AMMI 7/93; Ames 23078.

The following were donated by Hortus Botanicus Academie Scientiarum, Tashkent, Karamurtakaja, Tashkent, Uzbekistan; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 649255. *Ammi visnaga* (L.) Lam.

Uncertain. D 2219; AMMI 10/78; AMMI 10; Ames 23079.

The following were collected by Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States; Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States; Lufter Xhuvëli, Agricultural University of Tirana, Dept. of Agronomy, Rr. "Myslym Shyri", Tirana, Albania.

Donated by Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 09/30/1996.

PI 649256. *Ammi visnaga* (L.) Lam.

Wild. Al 007; Ames 23194. Collected 08/09/1996 in Albania. Latitude 40° 57' 4" N. Longitude 19° 41' 4" E. Elevation 60 m. Ditch along road going to field plots of Wheat Institute: Lavdi Deshmoreye, Lushnje. Height approx. 1.3m. (Long and slender pedicel known locally as teeth cleaners).

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649257. *Ammi visnaga* (L.) Lam.

Wild. 17-51; NU 42067; Ames 24180. Collected 01/1998 in Israel.

PI 649258. *Ammi visnaga* (L.) Lam.

Wild. 472; NU 42798; Ames 24181. Collected 01/1998 in Pakistan.

The following were donated by Pakistan Forest Institute, Peshawar, North-West Frontier, Pakistan; USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649259. *Ammi visnaga* (L.) Lam.

Uncertain. NU 60573; Ames 24182.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649260. *Ammi visnaga* (L.) Lam.

Wild. T088; Ames 25874. Collected 08/11/1999 in Mugla, Turkey. Latitude 36° 17' 32" N. Longitude 29° 19' 41" E. Elevation 39 m. Along road to Patara. Field.

The following were collected by Giovanni Figliuolo, University of Basilicata, Via N. Sauro, 85, Potenza, Basilicata 85100, Italy. Received 04/10/1998.

PI 649261. *Ammi visnaga* (L.) Lam.

Cultivated. 20; W6 20666; Ames 26155. Collected 10/1996 in Basilicata, Italy. Latitude 40° 38' N. Longitude 15° 38' E. Elevation 750 m. Picerno, Potenza. Catalog field, Eu-Mediterranean climate. Use: aromatic.

The following were collected by Frances Nekolny, 6421 West 28th Street, Berwyn, Illinois 60402, United States. Received 09/01/1985.

PI 649262. *Anethum graveolens* L.

Cultivated. Ames 4544; Ames 4714. Collected 09/1985 in Illinois, United States. Berwyn. Private garden of collector. Population maintained in donor's garden for many years.

The following were donated by Tomya Wilson, Northern Regional Research Center, 1815 N University, Peoria, Illinois 61604, United States. Received 03/21/1986.

PI 649263. *Anethum graveolens* L.

Uncertain. 850; NU 45264; Ames 5016. Collected 03/1986 in Former Serbia and Montenegro.

Unknown source. Received 04/06/1987.

PI 649264. *Anethum graveolens* L.

Uncertain. Ames 7787.

The following were developed by Agricultural Research Organization, Division of Plant Introduction, Volcani Center, P.O. Box 6, Bet Dagan, Central, Israel. Received 03/13/1989.

PI 649265. *Anethum graveolens* L.

Uncertain. M (61)14; 41-986; Ames 10233. Collected in Israel.

The following were collected by Nigel Maxted, Univ. of Southampton - Dept. of Biology, Med. & Biological Science Building, Bassett Crescent East, Southampton, England SO9 3TU, United Kingdom; Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Donated by Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 10/09/1991.

PI 649266. *Anethum graveolens* L.

Cultivated. 7087; Ames 17822. Collected 06/24/1991 in Kyrgyzstan. Bishkek market stalls (Dzungar store holders), Bishkek, Kyrgyzstan.

The following were donated by A.T. Whittimore, Missouri Botanical Garden, Biology Department, P.O. Box 299, St. Louis, Missouri 63166-0299, United States. Received 04/28/1992.

PI 649267. *Anethum graveolens* L.

Cultivated. Ames 19087. Collected 07/20/1991 in Kazakhstan. Private vendor, Alma Ata Market, Kazakh.

The following were donated by N.I. Vavilov Research Institute of Plant Industry, 44, B. Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 07/20/1992.

- PI 649268. *Anethum graveolens* L.**
Uncertain. WIR 444; VIR 444; Ames 19171. Collected 1988 in Kyrgyzstan.
- PI 649269. *Anethum graveolens* L.**
Uncertain. WIR 454; VIR 454; Ames 19172. Collected 1988 in Russian Federation.
- PI 649270. *Anethum graveolens* L.**
Uncertain. WIR 435; VIR 435; Ames 19173. Collected 1990 in Russian Federation.
- PI 649271. *Anethum graveolens* L.**
Uncertain. VIR 455; WIR 455; Ames 19174; Kaskelenskii. Collected 1989 in Kazakhstan.
- PI 649272. *Anethum graveolens* L.**
Uncertain. VIR 417; WIR 417; Ames 19175; Uzbeks kij. Collected 1988 in Uzbekistan.
- PI 649273. *Anethum graveolens* L.**
Uncertain. WIR 386; VIR 386; Ames 19176. Collected 1989 in Russian Federation.
- PI 649274. *Anethum graveolens* L.**
Uncertain. WIR 332; VIR 332; Ames 19177. Collected 1989 in Azerbaijan.
- PI 649275. *Anethum graveolens* L.**
Uncertain. WIR 385; VIR 385; Ames 19178. Collected 1988 in Ukraine.
- PI 649276. *Anethum graveolens* L.**
Uncertain. WIR 18; VIR 18; Ames 19179. Collected 1987 in Georgia.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 09/20/1999.

- PI 649277. *Anethum graveolens* L.**
Cultivated. G052; Ames 25460. Collected 08/19/1999 in Epirus, Greece. Latitude 39° 30' 39" N. Longitude 20° 26' 14" E. Elevation 180 m. Neohori, Thesprotia.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of

Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649278. *Anethum graveolens* L.

Landrace. T073; Ames 25859. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 45' 56" N. Longitude 28° 48' 34" E. Elevation 11 m. Dalaman Market.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 01/04/2000.

PI 649279. *Anethum graveolens* L.

Cultivated. P005; POL 248514; Ames 25917. Collected 07/13/1999 in Ostroleka, Poland. Latitude 52° 41' 42" N. Longitude 21° 59' 10" E. Klukowo 13.

PI 649280. *Anethum graveolens* L.

Cultivated. P024; POL 248516; Ames 25918. Collected 07/13/1999 in Lomza, Poland. Latitude 52° 41' 39" N. Longitude 22° 33' 41" E. Bujenka 30.

PI 649281. *Anethum graveolens* L.

Cultivated. P048; POL 248517; Ames 25919. Collected 07/14/1999 in Bialystok, Poland. Latitude 52° 43' 3" N. Longitude 23° 27' 8" E. Mochmate.

PI 649282. *Anethum graveolens* L.

Cultivated. P112; POL 248520; Ames 25920. Collected 07/15/1999 in Biala Podlaska, Poland. Latitude 51° 48' 6" N. Longitude 23° 1' 24" E. Woroniec 60.

PI 649283. *Anethum graveolens* L.

Cultivated. P125; POL 248521; Ames 25921. Collected 07/15/1999 in Biala Podlaska, Poland. Latitude 51° 42' 55" N. Longitude 23° 29' 7" E. Hanna 82.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 08/24/1992.

PI 649284. *Anethum graveolens* L.

Landrace. B92-81; Ames 26036; W6 10745. Collected 06/30/1992 in Bulgaria. Dobrich market. Local landrace.

The following were donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States; R.R. Harwood, Winrock International, Petit Jean Mt., Morrilton, Arkansas 72110, Morrilton, Arkansas, United States. Received 02/20/1981.

PI 649285. *Celosia argentea* L.

Cultivated. RRC 134; Ames 2232. Collected in Nepal. Latitude 27° 42' N. Longitude 85° 19' E. Originally from Kathmandu, Nepal (RRC packet). An ornamental. The seeds are black, flowers red, leaves green. The RRC class type is: cockscomb. It has vivid flower colors and red stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649286. *Celosia argentea* L.

Cultivated. RRC 135; Ames 2233. Collected 09/06/1977 in Nepal. Latitude 28° 14' N. Longitude 83° 58' E. Originally from Pokhara, Nepal (RRC packet). An ornamental. The seeds are black, flowers yellow and red, leaves green. The RRC class type is: cockscomb. It has very vivid flower colors. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649287. *Celosia argentea* L.

Cultivated. RRC 139; Ames 2236. Collected 08/23/1977 in Nepal. Originally from Rampur, Nepal (RRC packet). An ornamental. The seeds are black, flowers red, orange and pink, leaves green. The RRC class type is: cockscomb. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by Carlos R. Spehar, EMBRAPA-Cerrados, C. Postal 08223, CEP 73301-970, Planaltina, Federal District, Brazil. Received 11/20/1996.

PI 649288. *Celosia argentea* L.

Wild. CPAC 96-12; Ames 23380. Collected 10/1996 in Federal District, Brazil. Latitude 15° 38' S. Longitude 47° 39' W. Elevation 1000 m. Millet field near Planaltina. Upright with pink flower.

The following were collected by Hassan G. Adewusi, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649289. *Celosia argentea* L.

Cultivated. CEN/IB/97/CEL 006; Ames 25141. Collected 10/31/1997 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. First flat after the second gate, on a farm opposite the Oysadea Caf, Abeokuta Road, Moor Plantation, Ibadan. Cultivated farmland. Erect, sturdy herb, almost 1.5 m high. Leaf lanceolate and narrow. Inflorescence with purplish red tip. Stem ribbed.

The following were collected by Hassan G. Adewusi, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria; J.O. Oyelour, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria; V.A.

Babatunde, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649290. *Celosia argentea* L.

Cultivated. CEN/IB/97/CEL 007; Ames 25142. Collected 11/11/1997 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. Urban Day Secondary School Garden, Jericho Nursing Home Compound, Jericho Hills, Ibadan. Derived savannah. Sturdy herb, erect with ribbed stem. Leaves lanceolate and narrow, white margin and prominent midrib. Inflorescence with purplish red tip.

The following were collected by National Institute for Horticultural Research (NIHORT), Idi-Ishin, Ibadan, Oyo, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649291. *Celosia argentea* L.

Cultivated. "TLV8"; CEN/IB/97/CEL 010; Ames 25144. Collected 01/02/1998 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. National Institute for Horticultural Research, Idi-Ishin, Jericho, Ibadan. Vegetable garden, forest-savannah transition. Improved variety.

The following were collected by David O. Ladipo, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649292. *Celosia argentea* L. var. *argentea*

Cultivated. "White Type"; CEN/IB/97/CEL 001; Ames 25137. Collected 09/17/1997 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. Abeokuta Road, Moor Plantation, southwest of Ibadan. Forest-savannah transition. An erect annual plant. Light green, narrow leaves, and midrib whitish. Few branches. Flower pinkish at the base and silvery white when seeds are ripe. Seed dark and shiny. David Brenner observed in the summers of 2004 and 2005 that most plants of this accessions do not flower during the field-growing season in Ames, Iowa. They require shorter daylengths as in a short-day winter greenhouse.

The following were collected by National Institute for Horticultural Research (NIHORT), Idi-Ishin, Ibadan, Oyo, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649293. *Celosia argentea* L. var. *argentea*

Cultivated. CEN/IB/97/CEL 009; Ames 25143. Collected 12/1997 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. National Institute for Horticultural Research, Idi-Ishin, Jericho, Ibadan. Vegetable plot, forest-savannah transition. Erect, sturdy herb, stem ribbed. Leaves broad with red patches, margin reddish. Inflorescence spicate with red tip.

The following were collected by Howard Scott Gentry, Crops Research Division - USDA-ARS, Horticultural Crops Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350, United States. Received 07/22/1985.

PI 649294. *Celosia argentea* var. *cristata* (L.) Kuntze

Cultivated. 12832; B-44252; Selection from PI 211586; Ames 10168.
Collected 10/17/2007 in Kondoz, Afghanistan. Selection from PI 211586.
This accession was received as *Ocimum basilicum* at NC-7 on 7/22/85 from NSSL. The accession was received at Glenn Dale as *Celosia* sp. and was reidentified to *Ocimum basilicum* per QS #9 SL #4476 April- June 1962. Inventory of the contents of the original packet was approximately 300 *Ocimum* seeds and 2,000 *Celosia* seeds.

The following were donated by David G. Lemon, Bodger Seeds, Ltd., P.O. Box 607, Lompoc, California 93438-0607, United States. Received 1962.

PI 649295. *Celosia argentea* var. *plumosa* Voss

Cultivar. "PAMPAS PLUME"; NSL 15576. An ornamental cultivar.

The following were collected by Hassan G. Adewusi, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649296. *Celosia leptostachya* Benth.

Wild. CEN/IB/97/CEL 011; Ames 25146. Collected 01/26/1998 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. Cassave farmland at Letmank army barracks, opposite golf course, by the rail track, Makola, Ibadan. Forest transition. Short, less than 50 cm tall.

PI 649297. *Celosia trigyna* L.

Wild. CEN/IB/97/CEL 013; Ames 25145. Collected 01/26/1998 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. Letmank army barracks, along railroad curve 261, opposite golf course, Makola, Ibadan. Forest transition. The growth form is prostrate, as observed in a greenhouse planting 2001, David Brenner.

The following were collected by Hassan G. Adewusi, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria; E.A. Ladipo, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649298. *Celosia trigyna* L.

Wild. CEN/IB/97/CEL 008; Ames 25148. Collected 12/02/1997 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. About 50 m along railway track, behind Onirene High School and Letmank barrack, Ibadan. Derived savannah, farmland. Herb with pinkish angled stem. Leaves simple, alternate, and glabrous. Inflorescence spike with whitish flower. Fruit whitish, seed dark brown.

The following were collected by Hassan G. Adewusi, CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Donated by CENRAD, 5 Akinola Maja Avenue, Jericho Hills, Ibadan, Oyo PMB 5052, Nigeria. Received 10/22/1998.

PI 649299. *Celosia trigyna* L.

Wild. CEN/IB/97/CEL 012; Ames 25149. Collected 01/26/1998 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. Letmank army barracks, opposite golf course, by the rail track, Ibadan. Forest transition. An erect herb, sturdy, stem light green, pinkish at the base, ribbed. Inflorescence spike, flower whitish-green, petals silvery pinkish. Fruit whitish, stem angled. Leaves small, alternately arranged.

PI 649300. *Celosia trigyna* L.

Wild. CEN/IB/97/CEL 014; Ames 25150. Collected 01/26/1998 in Oyo, Nigeria. Latitude 7° 23' N. Longitude 3° 54' E. Letmank army barracks, opposite golf course, by the rail track, Makola, Ibadan.

The following were collected by Donald Pratt, Iowa State University, Botany Department, 353 Bessey Hall, Ames, Iowa 50011, United States. Received 10/19/2001.

PI 649301. *Amaranthus blitoides* S. Watson

Wild. 211; Ames 26435. Collected 10/08/2001 in Texas, United States. Latitude 30° 37' 27" N. Longitude 104° 16' 27" W. Elevation 1643 m. Highway 166, Davis Mountains, Jeff Davis County. Wash under road. Rocky-sandy soil. Associated with Collection Number 212 and *Amaranthus palmeri*.

PI 649302. *Amaranthus crassipes* Schltldl.

Wild. 214; Ames 26431. Collected 10/09/2001 in Texas, United States. Latitude 30° 16' 10" N. Longitude 103° 33' 32" W. Elevation 1697 m. 9 miles southeast of Alpine on Mile High Road, Brewster County. Rocky-sandy soil around a house. Oak-Juniper forest.

The following were collected by David Brenner, Iowa State University, Regional Plant Introduction Station, Room G212, Agronomy Building, Ames, Iowa 50011-1170, United States. Received 11/02/2006.

PI 649303. *Amaranthus deflexus* L.

Wild. DB 2006186; Ames 28342. Collected 10/19/2006 in California, United States. Latitude 32° 42' 28" N. Longitude 117° 9' 26" W. Elevation 7 m. Within 500 meters of the Petco Park baseball stadium, San Diego. An urban weed growing on the edges of parking areas and by trolley tracks, sometimes erect and sometimes prostrate due to traffic. Estimated population size of 150. Some plants had recently germinated and were too young to have seeds.

The following were donated by Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 07/10/2002.

PI 649304. *Amaranthus hybridus* L.

Wild. Index Seminum 110; Ames 26852. Collected 07/27/2000 in Coimbra, Portugal. Latitude 40° 12' N. Longitude 8° 25' W. Coimbra.

The following were collected by Peter Bristol, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44060-5172, United States; Paul Meyer, The

University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Tae Shan Jin, Heilongjiang Academy of Forestry, Harbin, China; Kris Bachtell, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States. Donated by Edward J. Garvey, USDA, ARS, National Germplasm Repository, U.S. National Arboretum, Washington, District of Columbia 20002, United States. Received 12/29/1993.

PI 649305. *Amaranthus hypochondriacus* L.

Cultivated. HLJ-037; Ames 21766. Collected 09/02/1993 in Heilongjiang, China. Elevation 370 m. Ping Shan. Cultivated in sunny fields. 1 meter tall, yellow to red flowers. Grown for pig feed and baby food.

The following were donated by Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 07/10/2002.

PI 649306. *Amaranthus powellii* S. Watson

Wild. Index Seminum 111; Ames 26853. Collected 09/08/1999 in Coimbra, Portugal. Latitude 40° 12' N. Longitude 8° 25' W. Coimbra.

The following were donated by The Plant Cell Research Institute, Inc., 6560 Trinity Court, Dublin, California 94568, United States. Received 03/18/1991.

PI 649307. *Amaranthus powellii* subsp. *bouchonii* (Thell.) Costea & Carretero
Ames 15706; AO-29. Herbicide resistant (atrazine?).

PI 649308. *Amaranthus powellii* subsp. *bouchonii* (Thell.) Costea & Carretero
Wild. Ames 15707; AO-30. Herbicide susceptible (atrazine?).

The following were collected by Candice Gardner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by David Brenner, Iowa State University, Regional Plant Introduction Station, Room G212, Agronomy Building, Ames, Iowa 50011-1170, United States. Received 12/27/2005.

PI 649309. *Amaranthus powellii* S. Watson subsp. *powellii*

Wild. CG 2005002; Ames 27957. Collected 10/20/2005 in New Mexico, United States. Latitude 36° 40' 56" N. Longitude 108° 18' 54" W. New Mexico State University Agricultural Science Center, Farmington. Zea mays research plot. Very sandy soil. Almost daily artificial irrigation, delivered from an overhead center pivot system. Erect agricultural weed.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 08/28/1995.

PI 649310. *Amaranthus retroflexus* L.

Cultivated. E94193; Ames 22592. Collected 09/14/1994 in Mongolia. Latitude 48° 3' 56" N. Longitude 104° 36' E. Elevation 564 m. Outskirts of Choibalson City. Grass steppe (cultivated river terrace). Approximately 2 ha in area, fenced, and irrigated with water from the

Herlen River. Soils light brown, loamy river terrace soils with high gravel content. Aspect and slope horizontal.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Vilmorin-Andrieux S.A., Centre de Recherches et Sélection, Verrieres-Le-Buisson, France. Received 06/21/1996.

PI 649311. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivated. SET 12/85; Ames 23160.

The following were donated by Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; H.L. Spence, UN-FAO, Kabul, Kabul, Afghanistan. Received 06/27/2003.

PI 649312. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivated. Separation from PI 212862; Ames 27262.

The following were donated by E.E. Smith, USDA-ARS, New Crops Research Branch, Plant Industry Station, Beltsville, Maryland 20705-2350, United States; Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 06/27/2003.

PI 649313. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivated. Separation from PI 222811; Ames 27263. Collected 11/1954 in Iran.

The following were donated by P.F. Knowles, Crops Research Division - USDA-ARS, New Crops Research Branch, Plant Industry Station, Beltsville, Maryland 20705-2350, United States; Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 06/27/2003.

PI 649314. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivated. Separation from PI 251388; Ames 27264. Collected in Iran.

PI 649315. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivated. Separation from PI 253955; Ames 27265; Separation from ARZAN . Collected in Afghanistan.

The following were developed by Office de L'Cléage (Livestock Service), Morocco. Donated by Melvin D. Rumbaugh, USDA-ARS, Utah State University, Forage & Range Research Lab, Logan, Utah 84322-6300, United States; Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Walter Graves, University of California Cooperative Ext. Service (retired), 7665 Volclay Drive, San Diego, California 92119-1219, United States. Received 06/27/2003.

PI 649316. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivated. Separation from GR 658; Separation from PI 517017; Ames 27266. Collected 07/30/1983 in Ouarzazate, Morocco. 50 km north of Ouarzazate at Ait-Benhaddou.

The following were donated by L.O. Fine, South Dakota State College, College Station, Brookings, South Dakota, United States. Received 11/30/1962.

PI 649317. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Manta; SIT-4; NSL 20632.

The following were donated by Colorado State University, Colorado Agric. Exp. Station, Fort Collins, Colorado 80523, United States. Received 05/20/1965.

PI 649318. *Setaria italica* (L.) P. Beauv. subsp. *italica*
White Wonder; SIT-5; NSL 40329. Observed in Minnesota: Late maturity. Good lodging resistance. Reported to be less drought resistant than other varieties, but not observed. Small white or yellow seed. Too late for good seed production some years.

The following were donated by R. N. Mills, Mgr. Foundation Seed Div, 3115 N. 70th, Lincoln, Nebraska 68507, United States. Received 06/03/1980.

PI 649319. *Setaria italica* (L.) P. Beauv. subsp. *italica*
Cultivar. "Sno-Fox"; ISc 474; SIT-6; NSL 110224. CV-71. Selected and tested by the Nebraska AES. Original line was obtained by Dr. N.R. Malm as part of the World Collection of *Setaria* Millets assembled by the Rockefeller Foundation in the mid-1960's. Tested for grain and forage production beginning in 1969 mainly at the High Plains Agricultural Laboratory near Sidney, NE. Can be grown anywhere Italian millet can be grown and can be used for both forage and grain production. Its early maturity makes it especially well suited to high elevations, short growing seasons, and late plantings. It is susceptible to Wheat Streak Mosaic and is not recommended for use next to areas where winter wheat is to be planted unless it is removed prior to the emergence of the wheat. Early maturing, short statured variety with light colored seed similar to Golden German, but not as white as White Wonder. Its early maturity makes seed production easier than other Italian millets. In spite of its short stature, it has good forage yields and has a high quality forage. Planting rates would be similar to other Italian millets but planting dates could be later.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/24/1999.

PI 649320. *Setaria italica* subsp. *viridis* (L.) Thell.
Wild. 98HT-80; Ames 25356. Collected 08/31/1998 in Mongolia. Latitude 48° 8' 2" N. Longitude 110° 13' 41" E. Elevation 1219 m. State Farm, Horha Sum, Henti Aimag. Cultivated, fallow fields overgrown with weedy species on the former state farm. Soils are very gravelly. 1% slope with a western aspect. Weed.

The following were donated by USDA Soil Conservation Service, National Plant Materials Center, B509, BARC-East, Beltsville, Maryland 20705, United States. Received 10/08/1990.

PI 649321. *Setaria macrostachya* Kunth
T17041; Ames 14352.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649322. *Setaria pumila* (Poir.) Roem. & Schult.
Wild. 1583; NU 46980; Ames 24474. Collected 01/1998 in Former Serbia and Montenegro.

PI 649323. *Setaria verticillata* (L.) P. Beauv.
Wild. 282; NU 43770; Ames 24475. Collected 01/1998 in Former Serbia and Montenegro.

Unknown source. Received 07/29/1985.

PI 649324. *Echinochloa colona* (L.) Link
Uncertain. I.Pmr. 225; Ames 22102. Collected in India. Uttar Pradesh State. Separation from PI 463627 which is in the genus *Panicum*.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/15/1995.

PI 649325. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. 107; Ames 22536. Collected 1995 in Hungary. Irrigation-canal sides near BEKES.

The following were donated by Hortus Botanicus, Universitatis Mariae Curie-Sklodowska, UL. Slawinkowska 3, Lublin, Lublin 20-818, Poland. Received 07/28/1997.

PI 649326. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. Index Seminum 2159; Ames 23861. Collected 1996 in Poland.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 09/03/1997.

PI 649327. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. Index Seminum 527; Ames 23896. Collected 1997 in Saxony, Germany. Latitude 51° 20' N. Longitude 12° 29' E. Baalsdorf.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649328. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. 105; NU 43664; Ames 24308. Collected 01/1998 in Former Serbia and Montenegro.

PI 649329. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. 1137; NU 45647; Ames 24309. Collected 01/1998 in Former Serbia and Montenegro.

The following were collected by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/11/1998.

PI 649330. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. Index Seminum 248; Ames 24560. Collected 1998 in Bas-Rhin, France. Latitude 48° 46' N. Longitude 7° 59' E. Near Dalhunden.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 05/14/1999.

PI 649331. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. Index Seminum 1518; Ames 25278. Collected 1998 in Brandenburg, Germany. Latitude 52° 15' N. Longitude 13° 56' E. Storkow.

The following were collected by Manuel Cardoso Alves, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Jaime Ventura Forte, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Armenio Da Costa Matos, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal. Donated by Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 05/24/1999.

PI 649332. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. Index Seminum 1453; Ames 25293. Collected 09/20/1998 in Coimbra, Portugal. Latitude 40° 12' N. Longitude 8° 25' W. Coimbra.

The following were collected by Armando De Jesus Machado, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Jose Loureiro Martins, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Donated by Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Received 06/30/1999.

PI 649333. *Echinochloa crus-galli* (L.) P. Beauv.
Wild. Index Seminum 73; Ames 25384. Collected 08/13/1998 in Viseu,
Portugal. Latitude 40° 58' N. Longitude 7° 35' 30" W. Between
Rua and Moimenta da Beira.

The following were donated by Rockefeller Foundation, Indian Agricultural
Programs, New Delhi, Delhi, India. Received 03/1981.

PI 649334. *Echinochloa colona* (L.) Link
Uncertain. I.Ec. 224; I.Pmr. 224; Separation from PI 463626; Ames 26307.
Collected in Uttar Pradesh, India.

PI 649335. *Echinochloa colona* (L.) Link
Uncertain. I.Pm. 232; I.Pmr. 232; I.Ec. 232; Separation from PI 463634;
Ames 26309. Collected in Uttar Pradesh, India.

PI 649336. *Echinochloa colona* (L.) Link
Uncertain. I.Pmr. 237; I.Ec. 237; I.Pm. 237; Separation from PI 463639;
Ames 26310. Collected in Uttar Pradesh, India.

PI 649337. *Echinochloa colona* (L.) Link
Uncertain. I.Pmr. 1204; Separation from PI 463819; Ames 26311. Collected
in Madhya Pradesh, India.

PI 649338. *Echinochloa colona* (L.) Link
Uncertain. I.Pmr. 1206; Separation from PI 463821; Ames 26312. Collected
in Madhya Pradesh, India.

PI 649339. *Echinochloa crus-galli* (L.) P. Beauv.
Uncertain. I.Pmr. 221; I.Ec. 221; Separation from PI 463623; Ames 26313.
Collected in Uttar Pradesh, India.

PI 649340. *Echinochloa crus-galli* (L.) P. Beauv.
Uncertain. I.Pmr. 223; I.Ec. 223; Separation from PI 463625; Ames 26314.
Collected in Uttar Pradesh, India.

PI 649341. *Echinochloa crus-galli* (L.) P. Beauv.
Uncertain. I.Pmr. 358; Separation from PI 463653; Ames 26315. Collected
in Madhya Pradesh, India.

PI 649342. *Echinochloa frumentacea* Link
Cultivated. I.Ec. 36; I.Pmr. 36; Separation from PI 463536; Ames 26316.
Collected in Bihar, India.

PI 649343. *Echinochloa frumentacea* Link
Cultivated. I.Pmr. 42; I.Ec. 42; Separation from PI 463539; Ames 26317.
Collected in Bihar, India.

PI 649344. *Echinochloa frumentacea* Link
Cultivated. I.Pm. 47; I.Pmr. 47; I.Ec. 47; Separation from PI 463542;
Ames 26318. Collected in Bihar, India.

PI 649345. *Echinochloa frumentacea* Link
Cultivated. I.Pmr. 141; I.Ec. 141; Separation from PI 463573; Ames 26319.
Collected in Madhya Pradesh, India.

- PI 649346. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 176; I.Ec. 176; Separation from PI 463596; Ames 26320.
Collected in Orissa, India.
- PI 649347. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 178; I.Ec. 178; Separation from PI 463597; Ames 26321.
Collected in Orissa, India.
- PI 649348. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 181; I.Ec. 181; Separation from PI 463600; Ames 26322.
Collected in Orissa, India.
- PI 649349. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 187; I.Ec. 187; Separation from PI 463604; Ames 26323.
Collected in Punjab, India.
- PI 649350. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 190; I.Ec. 190; Separation from PI 463606; Ames 26324.
Collected in Punjab, India.
- PI 649351. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 208; I.Ec. 208; Separation from PI 463611; Ames 26325.
Collected in Uttar Pradesh, India.
- PI 649352. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 210; I.Ec. 210; Separation from PI 463613; Ames 26326.
Collected in Uttar Pradesh, India.
- PI 649353. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 222; I.Ec. 222; Separation from PI 463624; Ames 26327.
Collected in Uttar Pradesh, India.
- PI 649354. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 230; I.Ec. 230; Separation from PI 463632; Ames 26328.
Collected in Uttar Pradesh, India.
- PI 649355. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 248; Separation from PI 463643; Ames 26329. Collected
in Uttar Pradesh, India.
- PI 649356. *Echinochloa frumentacea* Link**
Cultivated. I.Pm. 359; I.Pmr. 359; I.Pe. 359; Separation from PI 463654;
Ames 26330. Collected in Tamil Nadu, India.
- PI 649357. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1028; I.Pe. 1028; Separation from PI 463732; Ames
26331. Collected in West Bengal, India.
- PI 649358. *Echinochloa frumentacea* Link**
Cultivated. I.Pe. 1066; I.Pmr. 1066; Separation from PI 463758; Ames
26332. Collected in Bihar, India.
- PI 649359. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1081; I.Pe. 1081; Separation from PI 463761; Ames
26333. Collected in Madhya Pradesh, India.

- PI 649360. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1193; Separation from PI 463809; Ames 26334.
Collected in Madhya Pradesh, India.
- PI 649361. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1205; Separation from PI 463820; Ames 26335.
Collected in Madhya Pradesh, India.
- PI 649362. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1212; Separation from PI 463827; Ames 26336.
Collected in Madhya Pradesh, India.
- PI 649363. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1213; Separation from PI 463828; Ames 26337.
Collected in Madhya Pradesh, India.
- PI 649364. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1231; Separation from PI 463835; Ames 26338.
Collected in Madhya Pradesh, India.
- PI 649365. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1232; Separation from PI 463836; Ames 26339.
Collected in Orissa, India.
- PI 649366. *Echinochloa frumentacea* Link**
Cultivated. I.Pmr. 1236; Separation from PI 463840; Ames 26340.
Collected in Orissa, India.

The following were collected by David Brenner, Iowa State University, Regional Plant Introduction Station, Room G212, Agronomy Building, Ames, Iowa 50011-1170, United States. Received 12/27/2005.

- PI 649367. *Echinochloa crus-galli* (L.) P. Beauv.**
Wild. DB 2005001; Ames 27958. Collected 09/27/2005 in Iowa, United States. Latitude 42° 5' 21" N. Longitude 93° 35' 37" W. Elevation 277 m. Banks of the South Skunk River, along a 500 meter segment between the east and west sections of Peterson Pits County Park, Story County. Generally between stands of *Phalaris arundinacea* and the river water. In some cases, plants were standing in water, although when the water level is lower, they would be on the shore. 15 to 100 cm tall. Awn lengths variable. Some plant have more red coloring than others. The red coloring was associated with gravelly sites as compared to greener plants at rich soil locations.
- PI 649368. *Echinochloa crus-galli* (L.) P. Beauv.**
Wild. DB 2005002; Ames 27959. Collected 10/06/2005 in Iowa, United States. Latitude 42° 1' 5" N. Longitude 93° 38' 10" W. Elevation 273 m. North of Jack Trice Stadium and south of Hilton Coliseum, campus of Iowa State University, Ames, Story County. Grassy parking lot drainage areas that are periodically inundated with water and mowed on a regular basis. Plants that had survived mowing were only 5 cm tall; plants that had escaped mowing were up to 60 cm tall.
- PI 649369. *Echinochloa crus-galli* (L.) P. Beauv.**
Wild. DB 2006182; Ames 28346. Collected 09/04/2006 in Iowa, United States. Latitude 42° 2' 13" N. Longitude 93° 55' 39" W. Near a

concrete boat ramp, west bank of the Des Moines River, north of U.S. Highway 30 bridge, Boone County. Clay soil, especially among rip-rap rocks above river sand deposits and below the perennial terrestrial plants. The area is periodically flooded. Population of 6; mostly on the uphill (dry) end of the *Echinochloa* stand. Plants 170 cm tall. Inflorescences green and with few awns.

PI 649370. *Echinochloa muricata* (P. Beauv.) Fernald var. *muricata*
Wild. DB 2006181; Ames 28347. Collected 09/04/2006 in Iowa, United States. Latitude 42° 2' 13" N. Longitude 93° 55' 39" W. Near a concrete boat ramp, west bank of the Des Moines River, north of U.S. Highway 30 bridge, Boone County. Clay soil, especially among rip-rap rocks above river sand deposits and below the perennial terrestrial plants. The area is periodically flooded. Estimated population size of 350. Plants 140 cm tall. Red inflorescences densely awned. Hairs on the glumes emerge from pustules.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 08/03/1995.

PI 649371. *Panicum miliaceum* L.
Wild. Index Seminum #568; Ames 22561. Collected 1994 in Saxony, Germany. This accession has bright white seed coats (lemma and palea) as observed by David Brenner in Ames, Iowa, 2007. Since they are white rather than greenish the accession may have naturalized from cultivated plants.

The following were collected by Bernard Riebel, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Christophe Gass, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Frederic Tournay, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France. Donated by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/03/1999.

PI 649372. *Panicum miliaceum* L.
Wild. Index Seminum 295; Ames 25260. Collected 1998 in Bas-Rhin, France. Latitude 48° 34' N. Longitude 7° 30' E. Elevation 240 m. Wolxheim. This accession has dark red seed coats (lemma and palea) as observed by David Brenner in Ames, Iowa, 2007. Since they are dark red rather than greenish, the accession may have naturalized from cultivated plants.

The following were collected by Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States; H.H. Gecit, Ankara University, Ankara, Ankara, Turkey; D. Eser, Ankara University, Ankara, Ankara, Turkey. Donated by Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 10/21/1986.

PI 649373. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivated. TU-86-42-03; Tala; Ames 7468. Collected in Hakkari, Turkey. Latitude 37° 36' N. Longitude 43° 34' E. Elevation 1860 m. Gecitli village, West of Hakkari. Grown for chicken feed. Formerly grown for bread making.

PI 649374. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivated. Garvis; Ames 7469. Collected in Hakkari, Turkey. Latitude 37° 30' N. Longitude 43° 36' E. Elevation 1170 m. Uzumci village, 29.6 km south of Hakkari on Hakkari-Cukurca road, then 0.6 km north on road to Baslik. Open oak scrub forest region. Sown in June and harvested 70 days later. Used for bread/flour.

The following were developed by Plant Genetic Resources Program Research, Rural Development Administration, 250 Seodun, Suweon, Kyonggi, Korea, South. Donated by Wan-Sik Ahn, Rural Development Administration, National Inst. of Agric. Sci. & Tech., Genetic Resources Division, Suweon, Kyonggi 441-707, Korea, South. Received 01/18/1990.

PI 649375. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Boeun 4"; TT No. 123913; Ames 12696.

PI 649376. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Cheongsong 4"; TT No. 123919; Ames 12697.

PI 649377. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Cheongwon 5"; TT No. 123914; Ames 12698.

PI 649378. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Euseong 5"; TT No. 123939; Ames 12699.

PI 649379. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Eumseong 5"; TT No. 123912; Ames 12700.

PI 649380. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Mooju 6"; TT No. 123918; Ames 12701.

The following were donated by E.E. Smith, USDA-ARS, New Crops Research Branch, Plant Industry Station, Beltsville, Maryland 20705-2350, United States; Rick Luhman, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 06/27/2003.

PI 649381. *Panicum miliaceum* L. subsp. *miliaceum*

Separation from PI 220545; Ames 27268; Separation from GAL. Collected in Afghanistan.

The following were donated by North Dakota State University, North Dakota Agricultural Exp. Sta., Fargo, North Dakota 58105, United States. Received 08/17/1961.

PI 649382. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. Turghai; PaM-1; NSL 5546. Original source of 1 pound of certified Turghai was received April, 1957 from William G. Stewart, Assistant Extension Agronomist, Colorado Seed Growers Association, Fort Collins, CO. This was the only certified variety of Proso grown in

Colorado at that time. In 1957, a small isolation plot was seeded on the Agronomy Farm and rogued before pollination to eliminate any white proso types. Over 1600 pounds of foundation certified seed was produced under isolation on the Agronomy Farm in 1958. The Agronomy Seed Farm, Casselton, produced ~32,000 pounds of certified seed in 1959 which was released to seed growers in the spring of 1960. Variety introduced from Russia by E.A. Bessey, USDA, in 1903. Has a spreading panicle and is medium to tall in height (30-40 inches tall in eastern ND). Outer chaff of the seed is reddish to purplish green during the period of anthesis to shortly before maturity and straw-colored at maturity. Mature seed hull is yellowish to reddish brown. Bran or seed coat is creamy white when hulled. Stems are course, hollow, and woody and can be round to flattened. Stems and leaves are covered with fine hairs. Mid-season in maturity, heading from 7-10 days earlier than Common White proso. In ND, Turghai heads in late July following early June seedings. Outyeilds Common White and Early Fortune by 10-20% based on several years of trials at Fargo.

The following were donated by Foundation Seeds, Lincoln, Nebraska, United States. Received 03/12/1968.

PI 649383. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Panhandle"; PaM 4; NSL 65900. Pedigree - A selection made in Nebraska from 'Common White'.

The following were donated by University of Minnesota, Minnesota Agr. Exp. Sta., St. Paul, Minnesota 55108, United States. Received 05/11/1977.

PI 649384. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Minco"; CSR-76-1127; MINN 499; PaM-9; NSL 93930. CV-39.

The following were donated by R. G. Robinson, University of Minnesota, Agronomy Department, St. Paul, Minnesota 55108, United States. Received 01/31/1980.

PI 649385. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Minsum"; MINN 55; PaM-910; NSL 107246. CV-64. White proso millet cultivar homozygous for effusum-type panicles. Plants headed about 50 days and matured about 86 days after planting. Plant height ranged from 58 cm in drought years on sandy soil to 114 cm in years of normal rainfall on silt loam soil. Leaf sheaths and blades are pubescent. Seeds (florets) are white and weigh about 7 g/100 and 68 kg/hl.

The following were donated by Lenis A. Nelson, University of Nebraska-Lincoln, Institute of Agric. and Nat. Resources, Panhandle Res. & Extension Center, Scottsbluff, Nebraska 69361, United States. Received 06/1983.

PI 649386. *Panicum miliaceum* L. subsp. *miliaceum*

Cultivar. "Rise"; 76004-3-8; NSL 180175. CV-89. About 12-15 cm taller than Dawn and about 5-8 cm shorter than Panhandle. It has a heading date midway between Cope and Dawn, similar to Minco. It had grain yields that

exceeded Cope, Dawn, and Minco during all three years of testing. It has a compactum panicle type similar to Dawn although the seed is smaller than Dawn. It has lodging resistance similar to Dawn.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 06/05/1997.

PI 649387. *Sphallerocarpus gracilis* (Besser ex Trevir.) Koso-Pol. Wild. 96S-44; Ames 23786. Collected 08/26/1996 in Mongolia. Latitude 45° 0' 1" N. Longitude 96° 49' 7" E. Elevation 1290 m. Tahilt (Tsogto Suma), Bayantoorai Bag, along springs located 10 km north of the bag center and 1 km from experimental farm, Govi-Altay Aymag. Steppe surrounding springs in an old erosion channel. Water is cold and clear. Slope of 5%, aspect SW. Soils are loamy brown sand over stratified sand and gravel.

PI 649388. *Sphallerocarpus gracilis* (Besser ex Trevir.) Koso-Pol. Wild. 96S-73; Ames 23787. Collected 08/30/1996 in Mongolia. Latitude 45° 31' 39" N. Longitude 94° 37' 57" E. Elevation 2115 m. Bugat (Bugata Suma), on and near Lamin ekh Mountain about 100 km from suma center, Govi-Altay Aymag. Lower elevation of a mountain range in the desert steppe. Many of the plants grow out of crevices in the mountain or on rocky benches. Slope of 5 to 30%, aspect S. Mountain slopes are south facing and comprised of granodiorite materials including quartzite and quartz. Soils are coarse loamy brown sands with at least 60% coarse fragments.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/17/1996.

PI 649389. *Torilis arvensis* (Huds.) Link Wild. 272; Ames 23071. Collected in Hungary. Hortobagy, National Park at the NE part of Great Hungarian Plain. Loess hills between alkaline steppes and swamps near Kocsujfalu and Nagyivan.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/18/1999.

PI 649390. *Torilis arvensis* (Huds.) Link Wild. G029; Ames 25632. Collected 08/18/1999 in Epirus, Greece. Latitude 39° 57' 52" N. Longitude 20° 42' 39" E. Elevation 760 m. Roadside.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649391. *Torilis arvensis* (Huds.) Link

Wild. S054; Ames 25727. Collected 07/28/1999 in Syria. Latitude 35° 46' 27" N. Longitude 36° 9' 41" E. Elevation 510 m. Qastal, 39 km northeast of Al Ladhiqiyah. Soft spined, bimorphic seed (some very spiny, some nearly spineless).

PI 649392. *Torilis arvensis* (Huds.) Link

Wild. S083; Ames 25749. Collected 07/30/1999 in Syria. Latitude 35° 39' 48" N. Longitude 36° 9' 19" E. Elevation 850 m. Salma.

PI 649393. *Torilis arvensis* (Huds.) Link

Wild. S088; Ames 25754. Collected 07/30/1999 in Syria. Latitude 35° 37' 44" N. Longitude 36° 14' 46" E. Elevation 550 m. Jurin.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649394. *Torilis arvensis* (Huds.) Link

Wild. T050; Ames 25838. Collected 08/09/1999 in Mugla, Turkey. Latitude 36° 50' 53" N. Longitude 28° 13' 25" E. Elevation 255 m. Roadside. Mixture of 2 types: green seed/spines, purple spines.

PI 649395. *Torilis arvensis* (Huds.) Link

Wild. T055; Ames 25843. Collected 08/09/1999 in Mugla, Turkey. Latitude 36° 44' 26" N. Longitude 27° 40' 12" E. Elevation 45 m. Vacant lot.

PI 649396. *Torilis arvensis* (Huds.) Link

Wild. T064; Ames 25852. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 59' 33" N. Longitude 28° 39' 7" E. Elevation 16 m. 8 km to Koycegiz from Mugla. Mixture of 2 plant types: purple plants and green plants with green seeds/spines.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State

University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 649397. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. B96-96; Ames 24016. Collected 07/06/1996 in Plovdiv, Bulgaria. Latitude 42° 5' 52" N. Longitude 24° 27' 25" E. Elevation 305 m. 2 km southwest of Nobusevo, and 1 km east of Isperikhovo. Rocky, grassy hillside. Very arid. Alkaline soil (pH 9.5) with 6-7% slope and a northwestern exposure.

PI 649398. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. B96-364; Ames 24025. Collected 07/16/1996 in Plovdiv, Bulgaria. Latitude 42° 7' 52" N. Longitude 24° 56' 1" E. Elevation 137 m. Institute of Plant Genetic Resources in Sadovo. Growing out of crack in concrete road.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649399. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. S075; Ames 25742. Collected 07/29/1999 in Syria. Latitude 35° 52' 40" N. Longitude 35° 53' 2" E. Elevation 30 m. Al Badrusiyah. Like S054.

PI 649400. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. S079; Ames 25745. Collected 07/29/1999 in Syria. Latitude 35° 47' 28" N. Longitude 36° 0' 1" E. Elevation 400 m. Halwah. Like S054.

PI 649401. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. S090; Ames 25756. Collected 07/30/1999 in Syria. Latitude 35° 34' 32" N. Longitude 36° 16' 25" E. Elevation 200 m. Ain Sleimo.

PI 649402. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. S091; Ames 25757. Collected 07/30/1999 in Syria. Latitude 35° 28' 12" N. Longitude 36° 15' 18" E. Elevation 200 m. Mirdash. Swamp.

PI 649403. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. S092; Ames 25758. Collected 07/30/1999 in Syria. Latitude 35° 28' 12" N. Longitude 36° 15' 18" E. Elevation 200 m. Mirdash. Swamp.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit,

University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649404. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. T017; Ames 25808. Collected 08/07/1999 in Izmir, Turkey.
Latitude 38° 8' 45" N. Longitude 27° 9' 3" E. Elevation 106 m.
4-5 km north of Degirmendere, traveling southwest of Izmir. Roadside.
Same as T016 and T019.

PI 649405. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. T101; Ames 25887. Collected 08/12/1999 in Antalya, Turkey.
Latitude 36° 52' 32" N. Longitude 30° 44' 3" E. Elevation 15 m.
Antalya. Streetside vacant lot.

The following were collected by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 09/21/2001.

PI 649406. *Torilis arvensis* subsp. *neglecta* (Spreng.) Thell.
Wild. P-031; Ames 26427. Collected 07/2001 in Portugal.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrace, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/18/1999.

PI 649407. *Torilis leptophylla* (L.) Rchb. f.
Wild. G030; Ames 25633. Collected 08/18/1999 in Epirus, Greece. Latitude 39° 56' 28" N. Longitude 20° 41' 28" E. Elevation 650 m.
Roadside. *Daucus muricatus* present, but not collected.

PI 649408. *Torilis leptophylla* (L.) Rchb. f.
Wild. G120; Ames 25639. Collected 08/24/1999 in Central Greece, Greece.
Latitude 38° 23' 10" N. Longitude 23° 55' 4" E. Elevation 15 m.
3 km southeast of Amarinthos, toward Aliverion, Evvoia Prefecture. Olive orchard/abandoned field, 25 meters from sea coast.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649409. *Torilis leptophylla* (L.) Rchb. f.
Wild. S038; Ames 25713. Collected 07/28/1999 in Syria. Latitude 36°

19' 17" N. Longitude 37° 0' 6" E. Elevation 430 m. Daret Izze, northwest of Aleppo.

- PI 649410. *Torilis leptophylla* (L.) Rchb. f.**
Wild. S045; Ames 25720. Collected 07/28/1999 in Syria. Latitude 35° 48' 42" N. Longitude 36° 16' 46" E. Elevation 530 m. Younesiya, between Jisr ash Shughur and Al Ladhiqiyah on Highway 4#27 & #6.
- PI 649411. *Torilis leptophylla* (L.) Rchb. f.**
Wild. S048; Ames 25723. Collected 07/28/1999 in Syria. Latitude 35° 48' 42" N. Longitude 36° 16' 46" E. Elevation 530 m. Younesiya, between Jisr ash Shughur and Al Ladhiqiyah on Highway 4#27 & #6.
- PI 649412. *Torilis leptophylla* (L.) Rchb. f.**
Wild. S082; Ames 25748. Collected 07/30/1999 in Syria. Latitude 35° 39' 48" N. Longitude 36° 9' 19" E. Elevation 850 m. Salma.
- PI 649413. *Torilis leptophylla* (L.) Rchb. f.**
Wild. S085; Ames 25751. Collected 07/30/1999 in Syria. Latitude 35° 39' 48" N. Longitude 36° 9' 19" E. Elevation 850 m. Salma.
- PI 649414. *Torilis leptophylla* (L.) Rchb. f.**
Wild. S087; Ames 25753. Collected 07/30/1999 in Syria. Latitude 35° 37' 44" N. Longitude 36° 14' 46" E. Elevation 550 m. Jurin.
- PI 649415. *Torilis leptophylla* (L.) Rchb. f.**
Wild. S093; Ames 25759. Collected 07/30/1999 in Syria. Latitude 35° 28' 12" N. Longitude 36° 15' 18" E. Elevation 200 m. Mirdash. Swamp.
- PI 649416. *Torilis leptophylla* (L.) Rchb. f.**
Uncertain. S105; Ames 25769. Collected 1999 in Syria.
- PI 649417. *Torilis leptophylla* (L.) Rchb. f.**
Uncertain. S126; Ames 25775. Collected 1999 in Syria.
- PI 649418. *Torilis leptophylla* (L.) Rchb. f.**
Uncertain. S130; Ames 25779. Collected 1999 in Syria.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

- PI 649419. *Torilis leptophylla* (L.) Rchb. f.**
Wild. T010; Ames 25801. Collected 08/06/1999 in Izmir, Turkey. Latitude 38° 41' 31" N. Longitude 26° 54' 21" E. Elevation 91 m. Orchard.
- PI 649420. *Torilis leptophylla* (L.) Rchb. f.**
Wild. T014; Ames 25805. Collected 08/06/1999 in Izmir, Turkey. Latitude 38° 58' 22" N. Longitude 27° 6' 5" E. Near Eskifosa. Roadside

The following were donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 02/09/1987.

PI 649421. *Torilis nodosa* (L.) Gaertn.

Wild. Ames 18942. Collected in Morocco. Pedigree - Segregated from Ames 7670. Contaminant from Ames 7670, a cultivated accessions of *Daucus* sp.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649422. *Torilis nodosa* (L.) Gaertn.

Wild. T019; Ames 25810. Collected 08/07/1999 in Izmir, Turkey. Latitude 38° 8' 45" N. Longitude 27° 9' 3" E. Elevation 106 m. 4-5 km north of Degirmendere, traveling southwest of Izmir. Roadside. Same as T016 and T017.

PI 649423. *Torilis nodosa* (L.) Gaertn.

Wild. T026; Ames 25815. Collected 08/07/1999 in Aydin, Turkey. Latitude 37° 41' 37" N. Longitude 27° 9' 37" E. Elevation 99 m. Dilek Peninsula Reserve. Forest path.

PI 649424. *Torilis nodosa* (L.) Gaertn.

Wild. T032; Ames 25821. Collected 08/07/1999 in Izmir, Turkey. Latitude 38° 7' 48" N. Longitude 27° 40' 17" E. Elevation 79 m. Between Tire and Mahmutlar.

PI 649425. *Torilis nodosa* (L.) Gaertn.

Wild. T034; Ames 25823. Collected 08/08/1999 in Aydin, Turkey. Latitude 37° 30' 47" N. Longitude 27° 20' 22" E. Elevation 31 m. Soke Valley, traveling south of Izmir inland. Roadside, wet, not a *Daucus* habitat.

PI 649426. *Torilis nodosa* (L.) Gaertn.

Wild. T056; Ames 25844. Collected 08/09/1999 in Mugla, Turkey. Latitude 36° 44' 26" N. Longitude 27° 40' 12" E. Elevation 45 m. Vacant lot.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649427. *Torilis tenella* (Delile) Rchb. f.
Wild. S037; Ames 25712. Collected 07/28/1999 in Syria. Latitude 36° 19' 17" N. Longitude 37° 0' 6" E. Elevation 430 m. Daret Izze, northwest of Aleppo. Small, long, dark seed.

PI 649428. *Torilis tenella* (Delile) Rchb. f.
Wild. S043; Ames 25718. Collected 07/28/1999 in Syria. Latitude 36° 19' 46" N. Longitude 36° 58' 45" E. Elevation 500 m. Same type as S037, as reported by the collectors.

PI 649429. *Torilis tenella* (Delile) Rchb. f.
Wild. S044; Ames 25719. Collected 07/28/1999 in Syria. Latitude 35° 48' 42" N. Longitude 36° 16' 46" E. Elevation 530 m. Younesiya, between Jisr ash Shughur and Al Ladhhiqiyah on Highway 4#27 & #6. Same as S038. Up to 50 cm tall.

The following were donated by Botanical Garden of Iran, Research Institute of Forests and Rangel, P.O. Box 13185-116, Tehran, Tehran, Iran. Received 10/01/1996.

PI 649430. *Trachyspermum ammi* (L.) Sprague ex Turrill
Cultivated. 483; Ames 23227.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649431. *Trachyspermum ammi* (L.) Sprague ex Turrill
Wild. 2687; NU 45985; Ames 24513. Collected 01/1998 in Pakistan.

The following were collected by Robert E. Perdue, Crops Research Division - USDA-ARS, New Crops Research Branch, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649432. *Trachyspermum ammi* (L.) Sprague ex Turrill
Wild. 6532; NU 46333; Ames 24514. Collected 01/1998 in Ethiopia.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649433. *Turgenia latifolia* (L.) Hoffm.
Wild. S100; Ames 25765. Collected 07/31/1999 in Syria. Latitude 33° 45' 49" N. Longitude 36° 7' 26" E. Elevation 1333 m. Ain el Haour.

The following were collected by M. Frank, Slezske Muzeum Opava, Arboretum Novy Dvur, Opava, North Moravia 747 51, Czech Republic. Donated by Arboretum Novy Dvur, Musei Terrae Silesiae, Opava, North Moravia CZ 747 51, Czech Republic. Received 08/11/1993.

PI 649434. *Carum carvi* L.

Wild. No. 197; Ames 21226. Collected 07/30/1992 in Czech Republic. Latitude 50° 13' N. Longitude 17° 20' E. Elevation 700 m. Meadows in Zlaty potok stream valley, Hermanovice, Hruby Jesenik Mts., North Moravia.

The following were collected by Markku Huttunen. Donated by Botanical Garden, University of Joensuu, P.O. Box 111, Joensuu, Pohjois-Karjala SF 80101, Finland. Received 09/08/1993.

PI 649435. *Carum carvi* L.

Wild. 036; Ames 21463. Collected 09/08/1992 in Norway. Seashore meadow, Akvarium, Tromso.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Maria Franszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Malgorzata Rozycka, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Sklodowska, UL. Slawinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/03/1995.

PI 649436. *Carum carvi* L.

Wild. Index Seminum #2937; Ames 22574. Collected 1993 in Lublin, Poland. Sobianowice, Lublin.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; University of Kuopio, Botanic Garden, Kuopio, Kuopio, Finland. Received 06/21/1996.

PI 649437. *Carum carvi* L.

CARUM 20/87; D 4152; Ames 23106. Collected in Kuopio, Finland. N Savo, Kuopio, Savilahti.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 649438. *Carum carvi* L.

Wild. B96-110; Ames 23976. Collected 07/06/1996 in Pazardzhik, Bulgaria. Latitude 41° 56' 29" N. Longitude 24° 10' 29" E. Elevation 1128 m. 10 km from the village of Batak. Grassy meadow near a large reservoir.

PI 649439. *Carum carvi* L.

Wild. B96-182; Ames 23977. Collected 07/09/1996 in Smolyan, Bulgaria. Latitude 41° 40' 16" N. Longitude 24° 42' 42" E. Elevation 1356 m. 4 km north of Pomporovo. Open meadow with a southwestern exposure.

PI 649440. *Carum carvi* L.

Wild. B96-209; Ames 23978. Collected 07/10/1996 in Smolyan, Bulgaria. Latitude 41° 42' 5" N. Longitude 24° 30' 24" E. Elevation 853 m. Near small cultivated plots in a deep canyon running east-west with a southern exposure.

PI 649441. *Carum carvi* L.

Wild. B96-221.2; Ames 23979. Collected 07/10/1996 in Smolyan, Bulgaria. Latitude 41° 38' 58" N. Longitude 24° 35' 45" E. Elevation 1372 m. Above village of Salishta. Grass and *Trifolium* meadow in a valley running north-south with an eastern exposure.

PI 649442. *Carum carvi* L.

Wild. B96-265; Ames 23980. Collected 07/12/1996 in Lovech, Bulgaria. Latitude 42° 48' 32" N. Longitude 24° 38' E. Elevation 1067 m. North side of Balkans (just over ridge). Side of road near Beech (*Fagus*) forest with a northern exposure.

The following were collected by T.K. Perfilova; A. Lux. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 01/16/1998.

PI 649443. *Carum carvi* L.

Wild. 2195; Ames 24125. Collected 1995 in Leningrad, Russian Federation. Latitude 60° 49' N. Longitude 30° 13' E. Near Plodovoye, Priozerskiy District.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 09/1961.

PI 649444. *Carum carvi* L.

NSL 6420; Caraway. This accession is unusual for being annual as observed in 2003, Ames, Iowa, by David Brenner during seed regeneration.

The following were collected by Cedric Magimel, Jardin Botanique de Bordeaux, Terrasse du Jardin Public, Place Bardineau, Bordeaux, Gironde 33000, France. Donated by Jardin Botanique, Terrasse du Jardin Public, Place Bardineau, Bordeaux, Gironde 33000, France. Received 05/01/2000.

PI 649445. *Carum verticillatum* (L.) W. D. J. Koch

Wild. Index Seminum 115; Ames 26045. Collected 09/1998 in Gironde, France. Latitude 45° 9' N. Longitude 0° 49' W. St. Laurent de Medoc. Peat bogs. Indigenous species of France.

The following were collected by D. Arndt, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by

Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 09/03/1997.

PI 649446. *Caucalis platycarpus* L.

Index Seminum 37; Ames 23892. Collected 1997 in Saxony-Anhalt, Germany. Latitude 51° 3' N. Longitude 12° 4' E. Mannsdorf.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrace, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/18/1999.

PI 649447. *Caucalis platycarpus* L.

Wild. G012; Ames 25615. Collected 08/17/1999 in Macedonia, Greece. Latitude 40° 17' 13" N. Longitude 21° 27' 51" E. Elevation 550 m. ~3 km from Siatista. Roadside and wheat field gone to fallow.

PI 649448. *Caucalis platycarpus* L.

Wild. G070; Ames 25620. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 45' 7" N. Longitude 20° 37' 14" E. Elevation 580 m. ~5 km north of Chortala, towards Lefkas. Steep hill by road.

PI 649449. *Caucalis platycarpus* L.

Wild. G094; Ames 25624. Collected 08/22/1999 in Peloponnese, Greece. Latitude 37° 1' 31" N. Longitude 22° 32' 47" E. Elevation 360 m. 4 km from Skoura, toward Leonidion, Laconia Prefecture. Roadside/hills/orchard.

PI 649450. *Caucalis platycarpus* L.

Wild. G098; Ames 25625. Collected 08/22/1999 in Peloponnese, Greece. Latitude 37° 9' 59" N. Longitude 22° 50' 45" E. Elevation 140 m. 100 meters west of Leonidion, Messenia Prefecture. Olive orchard. Variable seed color and shape.

PI 649451. *Caucalis platycarpus* L.

Wild. G113; Ames 25628. Collected 08/23/1999 in Central Greece, Greece. Latitude 38° 12' 26" N. Longitude 23° 20' 18" E. Elevation 520 m. 2 km south of Erithrai, Attica Prefecture. Roadside. Dark/pale and hard & soft forms (soft=unfertilized?).

PI 649452. *Caucalis platycarpus* L.

Wild. G130; Ames 25630. Collected 08/25/1999 in Thessaly, Greece. Latitude 39° 43' 34" N. Longitude 21° 37' 42" E. Elevation 600 m. Meteora monastery, Trikala Prefecture. Roadside/plateau. Soft, hard; dark and light.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of

Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649453. *Caucalis platycarpus* L.

Wild. T018; Ames 25809. Collected 08/07/1999 in Izmir, Turkey. Latitude 38° 8' 45" N. Longitude 27° 9' 3" E. Elevation 106 m. 4-5 km north of Degirmendere, traveling southwest of Izmir. Roadside.

PI 649454. *Caucalis platycarpus* L.

Wild. T021; Ames 25812. Collected 08/07/1999 in Izmir, Turkey. Latitude 37° 54' 5" N. Longitude 27° 16' 33" E. Elevation 70 m. 5 km north of Kusadasi. Roadside.

PI 649455. *Caucalis platycarpus* L.

Wild. T036; Ames 25825. Collected 08/08/1999 in Mugla, Turkey. Latitude 37° 25' 37" N. Longitude 27° 33' 38" E. Elevation 110 m. Between Soke and Milas. Roadside.

PI 649456. *Caucalis platycarpus* L.

Wild. T071; Ames 25857. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 43' 53" N. Longitude 28° 48' 40" E. Elevation 10 m. Rocky hill. Fused mericarps.

PI 649457. *Caucalis platycarpus* L.

Wild. T089; Ames 25875. Collected 08/11/1999 in Mugla, Turkey. Latitude 36° 16' 22" N. Longitude 29° 19' 8" E. Elevation 27 m. Kalkan. Roadside. Fused mericarps.

PI 649458. *Caucalis platycarpus* L.

Wild. T098; Ames 25884. Collected 08/11/1999 in Antalya, Turkey. Latitude 36° 23' 36" N. Longitude 30° 28' 16" E. Elevation 9 m. Olympos. Fused mericarps.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/24/1999.

PI 649459. *Conioselinum tataricum* Hoffm.

Wild. 98HT-183; Ames 25313. Collected 09/04/1998 in Mongolia. Latitude 48° 39' 51" N. Longitude 110° 13' 22" E. Elevation 1280 m. Batchirrit Sum, Henti Aimag. Saddle pass where the road crosses from one sub-watershed of small tributary of the Onon River. Soils are mainly rock fragments and gravel. 3% slope with a western aspect. Poor forage.

The following were donated by Eugenio Sgaravatti, FAO - Seed Exchange Service, Plant Production and Protection Division, Room D008, Rome, Latium 00100, Italy. Received 12/23/1986.

PI 649460. *Foeniculum vulgare* Mill.
FAO NO. 65.050; Ames 7597.

The following were donated by M. Iizuka, Chiba University, Faculty of Horticulture, Matsudo, Chiba 271, Japan. Received 02/12/1990.

PI 649461. *Foeniculum vulgare* Mill.
2332; Ames 12789. Collected in Nepal.

Unknown source. Received 03/13/1990.

PI 649462. *Foeniculum vulgare* Mill.
2099; Ames 12982. Collected in Nepal. Received as unknown Apiaceae. Identified as fennel by K. Reitsma.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States. Received 11/26/1990.

PI 649463. *Foeniculum vulgare* Mill.
Cultivated. WJK-PRC-33; W6 4491; Ames 18511. Collected 05/27/1990 in Shanxi, China. Market vendor in Xian, Shanxi Province. Grown locally.

PI 649464. *Foeniculum vulgare* Mill.
Cultivated. WJK-PRC-37; W6 4495; Ames 18512. Collected 05/28/1990 in Guangxi, China. Market vendor in Chengdu, Sichuan Province.

The following were donated by V. A. Dragavtsev, N. I. Vavilov All-Russian Scientific Research, Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 10/06/1992.

PI 649465. *Foeniculum vulgare* Mill.
VIR 38; WIR 38; Ames 20049.

The following were collected by Laurent Bray, Jardin Botanique de la Ville de Paris, 3, Avenue de la Porte d'Auteuil, Paris, Ville-de-Paris 75016, France. Donated by Jardin Botanique de la Ville de Paris, 3, Avenue de la Porte d'Auteuil, Paris, Ville-de-Paris 75016, France. Received 05/27/1997.

PI 649466. *Foeniculum vulgare* Mill.
Wild. IS-035-NAT-96; Ames 23754. Collected 11/02/1996 in Loire-Atlantique, France. Latitude 47° 18' N. Longitude 2° 31' W. Le Croisic. Plain. Climate is oceanic, temperate in winter and cool to warm in summer. Arnold Arboretum hardiness zone 9.

The following were collected by Bernard Riebel, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France;

Christophe Gass, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Frederic Tournay, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France. Donated by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/03/1999.

PI 649467. *Foeniculum vulgare* Mill.

Wild. Index Seminum 14; Ames 25256. Collected 1998 in Morbihan, France. Latitude 47° 38' N. Longitude 2° 57' W. Elevation 5 m. Le Bono.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 09/20/1999.

PI 649468. *Foeniculum vulgare* Mill.

Wild. G108; Ames 25463. Collected 08/23/1999 in Peloponnese, Greece. Latitude 37° 36' 38" N. Longitude 23° 4' 20" E. Elevation 310 m. 4 km east of Epidavros Theatre, toward old Epidavros, Argolis. Roadside. Used for ouzo production.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649469. *Foeniculum vulgare* Mill.

Landrace. S009; Ames 25694. Collected 07/27/1999 in Syria. Latitude 36° 11' 57" N. Longitude 37° 9' 10" E. Elevation 0 m. Bab Alfraj seed market, Aleppo.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States. Received 05/16/2000.

PI 649470. *Foeniculum vulgare* Mill.

Cultivated. FV-00-01; Ames 26050. Collected 1999 in Yunnan, China. Elevation 1524 m. Either Lijiang or Dali. Market.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 08/23/1989.

PI 649471. *Foeniculum vulgare* Mill. var. *vulgare*

Cultivated. 6; Nafaa; Ames 10748. Collected 04/17/1989 in Morocco. Market in Settat.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 03/1977.

PI 649472. *Foeniculum vulgare* Mill. var. *vulgare*

Cultivated. Finocchio; Florence Fennel; NSL 6416. No background information available.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 649473. *Oenanthe pimpinelloides* L.

Wild. B96-61; Ames 24015. Collected 07/03/1996 in Burgas, Bulgaria. Latitude 42° 7' 29" N. Longitude 27° 46' 42" E. Elevation 274 m. East on road to Malko Tarnovo from the Black Sea coast.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/18/1999.

PI 649474. *Orlaya daucooides* (L.) Greuter

Wild. G076; Ames 25621. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 42' 35" N. Longitude 20° 38' 26" E. Elevation 950 m. Englouvi. Plateau roadside.

PI 649475. *Orlaya daucooides* (L.) Greuter

Wild. G093; Ames 25623. Collected 08/22/1999 in Peloponnese, Greece. Latitude 37° 4' 48" N. Longitude 22° 18' 32" E. Elevation 790 m. 6 km from Tripi, toward Kalamata. Roadside.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649476. *Orlaya daucooides* (L.) Greuter
Wild. T011; Ames 25802. Collected 08/06/1999 in Izmir, Turkey.
Latitude 38° 41' 31" N. Longitude 26° 54' 21" E. Elevation 91 m.
Orchard.

PI 649477. *Orlaya daucooides* (L.) Greuter
Wild. T027; Ames 25816. Collected 08/07/1999 in Aydin, Turkey. Latitude
37° 41' 37" N. Longitude 27° 9' 37" E. Elevation 99 m. Dilek
Peninsula Reserve. Forest path.

The following were collected by Teresa Kotlinska, Research Institute of
Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3,
Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS,
Vegetable Crops Research Unit, University of Wisconsin, Department of
Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras,
Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570
01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research
Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin
53706, United States. Received 10/18/1999.

PI 649478. *Orlaya daucorlaya* Murb.
Wild. G033; Ames 25618. Collected 08/18/1999 in Epirus, Greece. Latitude
39° 57' N. Longitude 20° 38' 37" E. Elevation 700 m. 8 km from
Aristi, toward Ioannina. Roadside.

The following were collected by Frances Nekolny, 6421 West 28th Street,
Berwyn, Illinois 60402, United States. Received 09/01/1985.

PI 649479. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. Ames 4545; Ames 4715. Collected 09/1985 in Illinois, United
States. Berwyn. Private garden of collector. Population maintained in
doner's garden for years.

The following were donated by A.T. Whittemore, Missouri Botanical Garden,
Biology Department, P.O. Box 299, St. Louis, Missouri 63166-0299, United
States. Received 04/28/1992.

PI 649480. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. Ames 19093. Collected 07/20/1991 in Kazakhstan. Government
store, Alma Ata Market, Kazakh.

The following were donated by Leibniz-Inst fur Pflanzengenetik und
Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben,
Saxony-Anhalt D-06466, Germany. Received 02/05/1997.

PI 649481. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. PET 39/85; Ames 23650. Collected 08/13/1981 in West
Slovakia, Slovakia. Latitude 48° 50' N. Longitude 17° 50' E.
Nova Bosaca, in the Bile Karpaty mountains, near Mocarany. Seed dealer
on the edge of a field belonging to D. Ukova, east of a settlement.
Flat leaf.

PI 649482. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. PET 100/92X; Ames 23652. Collected 06/26/1990 in South Ossetia, Georgia. Latitude 42° 17' 44" N. Longitude 43° 56' 26" E. Kurta, Rayon Tskhinvali, north of central rayons, valley of the stream Didi Liakhvi. Seed harvested from a house garden in 1989. Leaf parsley, old local form (root parsley cultivated in Racha, used in a variety of marinades, vegetables, and also as seasoning, presumed primitive form).

The following were developed by Calosi Sementi, (a seed company), Italy. Donated by Dennis Sherwood, 40604 North Kenosha Road, Zion, Illinois 60099-9341, United States. Received 11/24/1997.

PI 649483. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. F216-91/92; Prezzemolo Comune; Common Parsley; Ames 24076. Flat-leaved parsley. The flavor is delicate, not bitter, with a delightful parsley taste. The donor claims that this is the best flavored parsley.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrace, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 09/20/1999.

PI 649484. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. G049; Ames 25465. Collected 08/19/1999 in Epirus, Greece. Latitude 39° 30' 39" N. Longitude 20° 26' 14" E. Elevation 180 m. Neohori, Thesprotia.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649485. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Landrace. S010; Ames 25786. Collected 07/27/1999 in Syria. Latitude 36° 11' 57" N. Longitude 37° 9' 10" E. Elevation 0 m. Bab Alfraj seed market, Aleppo.

PI 649486. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Uncertain. S115; Ames 25787. Collected 1999 in Syria.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 649487. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Landrace. T074; Ames 25860. Collected 08/10/1999 in Mugla, Turkey.
Latitude 36° 45' 56" N. Longitude 28° 48' 34" E. Elevation 11 m.
Dalaman Market.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 01/04/2000.

PI 649488. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. P014; POL 176798; Ames 25951. Collected 07/13/1999 in Lomza, Poland. Latitude 52° 41' 43" N. Longitude 22° 33' 52" E. Bujenka 44.

PI 649489. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. P110; POL 176800; Ames 25952. Collected 07/15/1999 in Biala Podlaska, Poland. Latitude 51° 48' 27" N. Longitude 23° 1' 39" E. Woroniec 42.

PI 649490. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivated. P143; POL 186804; Ames 25956. Collected 07/16/1999 in Chelm, Poland. Latitude 51° 20' 14" N. Longitude 23° 30' 41" E. Piaski.

The following were developed by Sakata Seed America, Inc., United States. Received 1979.

PI 649491. *Petroselinum crispum* (Mill.) Nyman ex A. W. Hill
Cultivar. "DECORA"; NSL 102217. PVP 7800095.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/15/1995.

PI 649492. *Peucedanum alsaticum* L.
Wild. 182; Ames 22540. Collected 1995 in Hungary. Irrigation-canal sides near BEKES.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 08/24/1992.

PI 649493. *Pimpinella anisum* L.

Cultivated. B92-8; Ames 26039; W6 10922. Collected 06/25/1992 in Plovdiv, Bulgaria. Latitude 42° 9' N. Longitude 24° 45' E. Plovdiv.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 09/1961.

PI 649494. *Pimpinella anisum* L.

Anise; NSL 6422.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 649495. *Pimpinella peregrina* L.

Wild. S051; Ames 25726. Collected 07/28/1999 in Syria. Latitude 35° 46' 27" N. Longitude 36° 9' 41" E. Elevation 510 m. Qastal, 39 km northeast of Al Ladhiqiyah. Small, poor quality seed.

PI 649496. *Pimpinella peregrina* L.

Wild. S058; Ames 25730. Collected 07/28/1999 in Syria. Latitude 35° 43' 32" N. Longitude 36° 5' 4" E. Elevation 210 m. Qastal, 30 km northeast of Al Ladhiqiyah. Very small seeds. 40+ cm plant like carrot.

PI 649497. *Pimpinella peregrina* L.

Wild. S065; Ames 25735. Collected 07/29/1999 in Syria. Latitude 35° 50' 55" N. Longitude 36° 0' 1" E. Elevation 590 m. Ghabaat El Frul'log.

PI 649498. *Pimpinella peregrina* L.

Wild. S067; Ames 25737. Collected 07/29/1999 in Syria. Latitude 35° 54' 58" N. Longitude 35° 57' 17" E. Elevation 610 m. Kassab.

The following were collected by Jaana Moilanen. Donated by Botanical Garden, University of Joensuu, P.O. Box 111, Joensuu, Pohjois-Karjala SF 80101, Finland. Received 09/08/1993.

PI 649499. *Pimpinella saxifraga* L.

046; Ames 21467. Collected 09/14/1992 in Pohjois-Karjala, Finland. Latitude 62° 35' N. Longitude 29° 49' E. Dry meadow, Repokallio, Joensuu, Pohjois-Karjala.

The following were collected by University de Neuchatel, Jardin Botanique, 22 Chemin di Chantemrie, Neuchatel, Neuchatel CH-2000, Switzerland. Donated by P. Kupfer, Jardin Botanique de l'Universite, Pertuis-du Sault 58, Neuchatel, Neuchatel CH-2000, Switzerland. Received 06/12/1995.

PI 649500. *Pimpinella saxifraga* L.

Wild. Index Seminum 110; Ames 22483. Collected in Switzerland. Elevation 1300 m. Crests of Central Jura Mountains.

The following were collected by Krystyna Dabrowska, Ogrod Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Maria Franszczak-Byc, Ogrod Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogrod Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Malgorzata Rozycka, Ogrod Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Ogrod Botaniczny, Uniwersytet Marii-Curie Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland. Received 06/12/1996.

PI 649501. *Pimpinella saxifraga* L.

Wild. 2391; Ames 23041. Collected in Lublin, Poland. At Opoka near Krasnik.

The following were collected by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/11/1998.

PI 649502. *Pimpinella saxifraga* L.

Wild. Index Seminum 17; Ames 24566. Collected 1998 in Bas-Rhin, France. Latitude 48° 46' N. Longitude 7° 59' E. Near Dalhunden.

The following were donated by Qinghua Zhang, Institute of Forest Ecology and Environment, Chinese Academy of Forestry, Wan Shou Shan, Beijing, Beijing 100091, China. Received 01/20/1998.

PI 649503. *Saposhnikovia divaricata* (Turcz.) Schischk.

Wild. Ames 24113. Collected 12/1997 in Liaoning, China. Latitude 41° 0' N. Longitude 123° 0' E. The latitude and longitude were determined from a gazateer based on the place name. The foliage has a pine fragrance as observed by David Brenner, 2003, in a greenhouse in Ames, Iowa.

The following were donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 12/30/1992.

PI 649504. *Scaligeria tripartita* (Kalen.) Tamamsch.

Cultivated. No. 1054; Ames 20112.

The following were collected by Jardin Botanique de Montreal, 4101 Rue Sherbrooke Est, Montreal, Quebec H1X 2B2, Canada. Received 06/14/1996.

PI 649505. *Sium suave* Walter
Wild. 041; Ames 23045. Collected 09/20/1995 in Quebec, Canada.
Clarenceville, co. Missisquoi, Quebec, Canada. Fresh water riverbank.

The following were collected by Laurie Feine-Dudley, 15 Center Street, Cazenovia, New York 13035, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 649506. *Amaranthus cruentus* L.
Landrace. LF 73; RRC 483; Ames 5419. Collected 08/01/1979 in Tlaxcala, Mexico. San Milagro de Milagro. The seeds are white, flowers marbled, leaves green and variegated. The RRC class type is Mexican. Branches are borne high and the plants are very uniform. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649507. *Amaranthus cruentus* L.
Landrace. LF 80; RRC 490; Ames 5423. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers red and marbled, leaves green. The RRC class type is: Mexican. It is more branching than most and uniform for height and degree of maturity. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649508. *Amaranthus cruentus* L.
Landrace. LF 81; RRC 491; Ames 5424. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers red and marbled, leaves green and variegated. The RRC class type is: Mexican. Many side branches which mature later than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649509. *Amaranthus cruentus* L.
Landrace. LF 82; RRC 492; Ames 5425. Collected 08/01/1979 in Tlaxcala, Mexico. San Miguel de Milagro. The seeds are white, flowers marbled, leaves variegated. The RRC class type is: Mexican. The side branches are taller than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649510. *Amaranthus cruentus* L.
Landrace. LF 88; RRC 498; Ames 5428. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milgaro. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. The side branches are taller than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649511. *Amaranthus cruentus* L.
Landrace. LF 89; RRC 499; Ames 5429. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. The seeds are white, flowers green and marbled, leaves green. The RRC class type is: Mexican. There are many late side branches. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649512. *Amaranthus cruentus* L.

Landrace. LF 90; RRC 500; Ames 5430. Collected 08/01/1979 in Tlaxcala, Mexico. San Miguel de Milgaro. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. The side branches mature later than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649513. *Amaranthus cruentus* L.

Landrace. LF 91; RRC 501; Ames 5431. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. Side branches mature later than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649514. *Amaranthus cruentus* L.

Landrace. LF 96; RRC 506; Ames 5435. Collected 08/01/1979 in Tlaxcala, Mexico. San Miguel de Milagro. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. The side branches mature later than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States; C. S. Kauffman, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 649515. *Amaranthus cruentus* L.

Landrace. LFD/CSK 129-2; RRC 733; Ames 5479. Collected 11/02/1981 in Puebla, Mexico. Santiago Tecla. Pedigree - SPS. The seeds are white, flowers red, green and marbled, leaves green and rufescent. The RRC class type is: Mexican. It had severe lygus damage. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649516. *Amaranthus cruentus* L.

Landrace. LFD/CSK 129-3; RRC 734; Ames 5480. Collected 11/02/1981 in Puebla, Mexico. Santiago Tecla Huequechula. Pedigree - SPS. The seeds are white, flowers marbled, leaves green and variegated. The RRC class type is Mexican. It had very severe lygus damage. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649517. *Amaranthus cruentus* L.

Landrace. LFD/CSK 129-4; RRC 735; Ames 5481. Collected 11/03/1981 in Puebla, Mexico. Santiago Tecla Huequechula. Pedigree - SPS. The seeds are white, flowers marbled and red, leaves green. The RRC class type is: Mexican. It had severe lygus damage and was predominately marbled-flowered. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649518. *Amaranthus cruentus* L.

Landrace. LFD/CSK 129-5; RRC 736; Ames 5482. Collected 11/03/1981 in Puebla, Mexico. Santiago Tecla Huequechula. Pedigree - SPS. The seeds

are white, flowers marbled and red, leaves green, The RRC class type is: Mexican. It had severe lygus damage and was lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649519. *Amaranthus cruentus* L.

Landrace. LFD/CSK 129-6; RRC 737; Ames 5483. Collected 11/03/1981 in Puebla, Mexico. Santiago Tecla Huequechula. Pedigree - SPS. The seeds are white, flowers marbled, leaves green and variegated. The RRC class type is: Mexican. It had severe lygus damage and was lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649520. *Amaranthus cruentus* L.

Landrace. LFD/CSK 129-7; RRC 738; Ames 5484. Collected 11/03/1981 in Puebla, Mexico. Sanyiago Tecla Huequechula. Pedigree - SPS. The seeds are white, flowers red, green and marbled, leaves green and variegated. The RRC class type is: Mexican. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States; Jorge Martin del Campo. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 649521. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 138-2; RRC 768; Ames 5493. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - BULK. The seeds are white, flowers green and marbled, leaves green. The RRC class type is: Mexican. The plants are fairly uniform and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649522. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 138-4; RRC 770; Ames 5495. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - SPS. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649523. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 138-5; RRC 771; Ames 5496. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - BULK. The seeds are white, flowers red, green and rusty orange, leaves green. The RRC class type is: Mexican. The plants lodged and were a mix of many colors. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649524. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 138-6; RRC 772; Ames 5497. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - BULK. The seeds are white, flowers red, green and

marbled, leaves green. The RRC class type is: Mexican. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649525. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 139; RRC 773; Ames 5498. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - BULK. The seeds are white and gold, flowers red, green and marbled, leaves green. The RRC class type is: Mexican. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649526. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 142-4; RRC 779; Ames 5504. Collected 11/06/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Jantetelco. Pedigree - BULK. The seeds are white, flowers red, green and marbled, leaves green and reddish-green. The RRC class type is: Mexican. Plants were uneven for height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649527. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 142-6; RRC 781; Ames 5506. Collected 11/06/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Jantetelco. Pedigree - BULK. The seeds are white, flowers red, green and marbled, leaves green and reddish-green. The RRC class type is: Mexican. The plants are late maturing and unbranched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649528. *Amaranthus cruentus* L.

Landrace. LFD/JMdc 143; RRC 782; Ames 5507. Collected 11/07/1981 in Puebla, Mexico. Latitude 18° 22' N. Longitude 98° 41' W. Huehuetlanelchico. Pedigree - BULK. The seeds are white, flowers red, green and marbled, leaves green and rufescent. The RRC class type is: Mexican. The plants were lodged with some early maturity. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 03/19/1981.

PI 649529. *Amaranthus hypochondriacus* L.

Landrace. LF 67; RRC 477; Ames 5223; Ames 2261. Collected 08/01/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 1' W. Elevation 1600 m. Puebla, San Simon. The seeds are white, flowers green, leaves green and rufescent. The RRC class type is: Aztec. It had uneven maturity in the field and red stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by Laurie Feine-Dudley, 15 Center Street, Cazenovia, New York 13035, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

- PI 649530. *Amaranthus hypochondriacus* L.**
Landrace. LF 55; RRC 465; Ames 5216. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red, leaves rufescent and green. The RRC class type is: Aztec. The plants are very uniform, erect with no lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649531. *Amaranthus hypochondriacus* L.**
Landrace. LF 56; RRC 466; Ames 5217. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers pink and green, leaves rufescent. The RRC class type is: Aztec. The plants have uneven height with red-striped stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649532. *Amaranthus hypochondriacus* L.**
Landrace. LF 58; RRC 468; Ames 5218. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red, leaves green. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649533. *Amaranthus hypochondriacus* L.**
Landrace. LF 60; RRC 470; Ames 5219. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red, leaves rufescent. The RRC class type is: Aztec. The plants are very uniform with no lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649534. *Amaranthus hypochondriacus* L.**
Landrace. LF 61; RRC 471; Ames 5220. Collected 08/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red, leaves rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649535. *Amaranthus hypochondriacus* L.**
Landrace. LF 63; RRC 473; Ames 5221. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649536. *Amaranthus hypochondriacus* L.**
Landrace. LF 65; RRC 475; Ames 5222. Collected 08/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red, green and pink, leaves rufescent and green. The RRC class type is: Aztec. The 1985 greenhouse regeneration from 80F seed produced some brown-seeded plants. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

- PI 649537. *Amaranthus hypochondriacus* L.**
Landrace. LF 68; RRC 478; Ames 5224. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red and green, leaves rufescent. The RRC class type is: Aztec. It has uneven maturity and uneven height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649538. *Amaranthus hypochondriacus* L.**
Landrace. LF 69; RRC 479; Ames 5225. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 58' N. Longitude 97° 43' W. Elevation 1600 m. San Simon. The seeds are white, flowers red, leaves rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649539. *Amaranthus hypochondriacus* L.**
Landrace. LF 70; RRC 480; Ames 5226. Collected 08/13/1979 in Puebla, Mexico. Latitude 18° 50' N. Longitude 97° 43' W. San Matias Atzala. The seeds are white, flowers green, leaves rufescent. The RRC class type is: Aztec. Its growth is uneven for height with some lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649540. *Amaranthus hypochondriacus* L.**
Landrace. LF 100; RRC 510; Ames 5398. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. Elevation 3000 m. San Miguel de Milagro. Clumps of 5-10 plants, with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers red, leaves green. The RRC class type is: Aztec. It is very tall. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649541. *Amaranthus hypochondriacus* L.**
Landrace. LF 101; RRC 511; Ames 5399. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. Elevation 3000 m. San Miguel de Milagro. Clumps of 5-10 plants, with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers red and green, leaves green. The RRC class type is: Aztec. It is very tall. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649542. *Amaranthus hypochondriacus* L.**
Landrace. LF 102; RRC 512; Ames 5400. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. It is less branching than most with some short segregates. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649543. *Amaranthus hypochondriacus* L.**
Landrace. LF 103; RRC 513; Ames 5401. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC

class type is: Aztec. It is more branching than most of this type. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649544. *Amaranthus hypochondriacus* L.

Landrace. LF 104; RRC 514; Ames 5402. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers pink and green, leaves green. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649545. *Amaranthus hypochondriacus* L.

Landrace. LF 105; RRC 515; Ames 5403. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers red, leaves green. The RRC class type is: Aztec. The height is uneven. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649546. *Amaranthus hypochondriacus* L.

Landrace. LF 106; RRC 516; Ames 5404. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649547. *Amaranthus hypochondriacus* L.

Landrace. LF 107; RRC 517; Ames 5405. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers green and pink, leaves green. The RRC class type is: Aztec. It was uniform in type and maturity in the greenhouse. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649548. *Amaranthus hypochondriacus* L.

Landrace. LF 108; RRC 518; Ames 5406. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. It is very branched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649549. *Amaranthus hypochondriacus* L.

Landrace. LF 109; RRC 519; Ames 5407. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are

white, flowers pink, leaves green. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649550. *Amaranthus hypochondriacus* L.

Landrace. LF 110; RRC 520; Ames 5408. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. It is less branching than most with uneven height, although otherwise uniform. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649551. *Amaranthus hypochondriacus* L.

Landrace. LF 111; RRC 521; Ames 5409. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers green and red, leaves green. The RRC class type is: Aztec. It is less branching than most. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649552. *Amaranthus hypochondriacus* L.

Landrace. LF 112; RRC 522; Ames 5410. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. San Miguel de Milagro. Large field, with clumps of 5-10 plants with 1 meter between rows and about 50 cm between clumps. Hilled by plow. The seeds are white, flowers red, leaves green. The RRC class type is: Aztec. It is uniform except for height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649553. *Amaranthus hypochondriacus* L.

Landrace. LF 113; RRC 523; Ames 5411. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 25' N. Longitude 98° 10' W. Nativitas. The seeds are white, flowers green and red, leaves green. The RRC class type is: Aztec. The plants are uneven in height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649554. *Amaranthus hypochondriacus* L.

Landrace. LF 114; RRC 524; Ames 5412. Collected 08/01/1979 in Michoacan, Mexico. Latitude 19° 24' N. Longitude 101° 36' W. Opopeo. The seeds are white, flowers green and pink, leaves green. The RRC class type is: Aztec. There are some early segregates. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649555. *Amaranthus hypochondriacus* L.

Landrace. LF 115; RRC 525; Ames 5413. Collected 08/01/1979 in Michoacan, Mexico. Latitude 19° 24' N. Longitude 101° 36' W. Opopeo. The seeds are white, flowers green and red, leaves green. The RRC class type is: Aztec. It is more branching than most. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

- PI 649556. *Amaranthus hypochondriacus* L.**
Landrace. LF 4; RRC 526; Ames 5414. Collected 08/01/1979 in Mexico. Latitude 19° 50' N. Longitude 99° 1' W. Tulyehualco. SEED COLOR: white; FLWR COLOR: mixed; LEAF COLOR: mixed; RRC CLASS TYPE: mercado Mexican.
- PI 649557. *Amaranthus hypochondriacus* L.**
Landrace. LF 71; RRC 481; Ames 5418. Collected 08/13/1979 in Puebla, Mexico. Latitude 19° 5' N. Longitude 98° 12' W. San Filipe. The seeds are white, flowers red and green, leaves green. The RRC class type is: Aztec. It is uniform for both height and maturity. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. .
- PI 649558. *Amaranthus hypochondriacus* L.**
Landrace. LF 76; RRC 486; Ames 5420. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers green and dark pink, leaves green and rufescent. The RRC class type is: Aztec. The plants were very uniform in the field. The 1985 greenhouse regeneration from 80F seed was not uniform and some brown-seeded plants were produced. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649559. *Amaranthus hypochondriacus* L.**
Landrace. LF 78; RRC 488; Ames 5421. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers green and red, leaves green and rufescent. The RRC class type is: Aztec. The plants were not uniform for height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649560. *Amaranthus hypochondriacus* L.**
Landrace. LF 79; RRC 489; Ames 5422. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 19' N. Longitude 98° 14' W. The seeds are white, flowers green and red, leaves green and rufescent. The RRC class type is: Aztec. It is uniformly earlier than most of this type. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649561. *Amaranthus hypochondriacus* L.**
Landrace. LF 86; RRC 496; Ames 5426. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers red, pink and green, leaves rufescent and green. The RRC class type is: Aztec, mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649562. *Amaranthus hypochondriacus* L.**
Landrace. LF 87; RRC 497; Ames 5427. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers red and pink, leaves rufescent. The RRC class type is: Aztec. It had very uneven maturity. The 1985 regeneration from 80F seed produced some brown-seeded plants. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649563. *Amaranthus hypochondriacus* L.
Landrace. LF 93; RRC 503; Ames 5432. Collected 04/15/1986 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers red, leaves rufescent. The RRC class type is: Aztec. It has uneven flower initiation and height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649564. *Amaranthus hypochondriacus* L.
Landrace. LF 94; RRC 504; Ames 5433. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. It is later maturing than average for this type. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649565. *Amaranthus hypochondriacus* L.
Landrace. LF 95; RRC 505; Ames 5434. Collected 08/01/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers green and red, leaves green and rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649566. *Amaranthus hypochondriacus* L.
Landrace. LF 98; RRC 508; Ames 5436. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers green and red, leaves green. The RRC class type is: Aztec. It had uneven height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649567. *Amaranthus hypochondriacus* L.
Landrace. LF 99; RRC 509; Ames 5437. Collected 08/14/1979 in Tlaxcala, Mexico. Latitude 19° 15' N. Longitude 98° 20' W. San Miguel de Milagro. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States; C. S. Kauffman, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 649568. *Amaranthus hypochondriacus* L.
Landrace. LFD/CSK 131-2; RRC 744; Ames 5438. Collected 11/03/1981 in Puebla, Mexico. San Martin Huequechula. Pedigree - BULK. The seeds are gold, flowers red and green, leaves green. The RRC class type is: mercado, Aztec. The mercado type was late maturing and tall with some unbranched plants. It did not lodge and produced nice seed. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649569. *Amaranthus hypochondriacus* L.
Landrace. LFD/CSK 132-1; RRC 745; Ames 5439. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco

Federal District. Pedigree - BULK. The seeds are white and gold, flowers pink and green, leaves green. The RRC class type is: Aztec. It was earlier than most of this type and lodged. Some seed was produced. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649570. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-2; RRC 746; Ames 5440. Collected 11/02/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649571. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-3; RRC 747; Ames 5441. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649572. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-4; RRC 748; Ames 5442. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649573. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-5; RRC 749; Ames 5443. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves light rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649574. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-6; RRC 750; Ames 5444. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves light rufescent. The RRC class type is: Aztec. It had uneven maturity. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649575. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-7; RRC 751; Ames 5445. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649576. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-8; RRC 752; Ames 5446. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco

Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves rufescent. The RRC class type is: Aztec. The plants lodged and some showed signs of disease similar to caudatus. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649577. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 132-9; RRC 753; Ames 5447. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649578. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 133-1; RRC 754; Ames 5448. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves green. The RRC class type is: Aztec. The plants were of uneven height and rather distinct with less foliage than others of this type. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649579. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 133-2; RRC 755; Ames 5449. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649580. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 133-3; RRC 756; Ames 5450. Collected 11/04/1981 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco Federal District. Pedigree - SPS. The seeds are white, flowers red, pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants lodged. Some dark seeded segregates were produced in the greenhouse. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649581. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 133-4; RRC 757; Ames 5451. Collected 11/04/1981 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco. Pedigree - SPS. The seeds are white, flowers red, pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649582. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 133-5; RRC 758; Ames 5452. Collected 11/04/1981 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco. Pedigree - SPS. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. Many of the plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

- PI 649583. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 133-6; RRC 759; Ames 5453. Collected 11/04/1981 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco. Pedigree - BULK. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were very variable and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649584. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 134; RRC 760; Ames 5454. Collected 11/04/1981 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco. Pedigree - BULK. The seeds are white, flowers pink and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were very variable and totally lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649585. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 135; RRC 761; Ames 5455. Collected 11/04/1981 in Mexico, Mexico. Latitude 19° 13' N. Longitude 98° 58' W. Mixquic. Pedigree - BULK. The seeds are black, flowers dark pink, leaves reddish green. The RRC class type is: unique. The plants are very uniform and unbranched, with some lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649586. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 136-1; RRC 762; Ames 5456. Collected 11/03/1981 in Mexico, Mexico. Latitude 18° 57' N. Longitude 97° 1' W. Tocuila. Pedigree - BULK. The seeds are dark brown, flowers pink, leaves variegated. The RRC class type is: Aztec. The plants are very distinct and unbranched with loose flowers heads and some lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649587. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 120; RRC 718; Ames 5465. Collected 10/28/1981 in Oaxaca, Mexico. Latitude 16° 48' N. Longitude 96° 52' W. Santa Cruz. Mixtepec. Pedigree - BULK. The seeds are tan, flowers red, leaves amaranthine. The RRC class type is: unique. The leaves have green petioles and veins and did not mature in the field at RRC. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649588. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 121; RRC 719; Ames 5466. Collected 10/29/1981 in Oaxaca, Mexico. Latitude 16° 56' N. Longitude 96° 55' W. Clavillina. Pedigree - BULK. The seeds are tan and dark brown, flowers light pink and dark pink, leaves variegated. The RRC class type is: mixteco. It is predominately tan-seeded. Quite a few of the plants are unbranched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.
- PI 649589. *Amaranthus hypochondriacus* L.**
Landrace. LFD/CSK 122; RRC 720; Ames 5467. Collected 10/29/1981 in Oaxaca, Mexico. Latitude 15° 57' N. Longitude 96° 45' W. Peras. Pedigree - BULK. The seeds are tan and dark brown, flowers light pink

and dark pink, leaves variegated. The RRC class type is: mixteco. It is predominately tan-seeded, of uniform type and is uneven in height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649590. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 123; RRC 721; Ames 5468. Collected 10/30/1981 in Oaxaca, Mexico. Latitude 16° 52' N. Longitude 96° 47' W. Zimatlan. Pedigree - BULK. The seeds are tan and dark brown, flowers red, pink and green, leaves green, variegated and rufescent. The RRC class type is: mixteco. It is predominately tan-seeded and was very uneven for height and color. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649591. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 124; RRC 722; Ames 5469. Collected 10/31/1981 in Oaxaca, Mexico. San Mateo Mixtepec. Pedigree - BULK. The seeds are tan, flowers light pink and dark pink, leaves variegated and green. The RRC class type is: mixteco. It was basically uniform in the field. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649592. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 126-1; RRC 724; Ames 5471. Collected 11/02/1981 in Mexico, Mexico. San Miguel Chiconcuac. Pedigree - BULK. The seeds are white, flowers red, pink and green, leaves light rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649593. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 126-2; RRC 725; Ames 5472. Collected 11/02/1981 in Mexico, Mexico. San Miguel Chiconcuac. Pedigree - BULK. The seeds are white, flowers green and pink, leaves green and rufescent. The RRC class type is: Aztec. It was of uniform type with uneven height and it was badly lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649594. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 126-3; RRC 726; Ames 5473. Collected 11/02/1981 in Mexico, Mexico. San Miguel Chiconcuac. Pedigree - BULK. The seeds are white, flowers pink, red and green, leaves red and green. The RRC class type is: Aztec. The plants were badly lodged with only two plants setting seed in the field at RRC. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649595. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 126-4; RRC 727; Ames 5474. Collected 11/02/1981 in Mexico, Mexico. San Miguel Chiconcuac. Pedigree - BULK. The seeds are white, flowers pink, red and green, leaves green and rufescent. The RRC class type is: Aztec. It includes some *A. hypochondriacus* which are not type classified. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649596. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 126-5; RRC 728; Ames 5475. Collected 11/02/1981 in Mexico, Mexico. San Miguel Chiconcuac. Pedigree - This is a bulk of 'Aztec' and 'Mercado' types as characterized at the Rodale Research

Center. The seeds are gold and white, flowers red, green and marbled, leaves green and rufescent. The RRC class type is: Aztec, mercado, Mexican. Observations from the Rodale Research Center, 1988 Amaranth Germplasm Catalog. Emmaus, PA. It includes 3 marbled-flowered gold-seeded mercados, also some early and unbranched segregates.

PI 649597. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 127-1; RRC 729; Ames 5476. Collected 11/02/1981 in Mexico, Mexico. San Miguel Chiconcuac. Pedigree - BULK. The seeds are white, flowers pink, leaves light rufescent. The RRC class type is: Aztec. It is of uniform type and lodged with uneven height. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649598. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 128; RRC 731; Ames 5477. Collected 11/02/1981 in Mexico, Mexico. Latitude 19° 42' N. Longitude 99° 18' W. Cuauhtlalpan. Pedigree - BULK. The seeds are dark brown, flowers red and pink, leaves green. The RRC class type is: Aztec. It is uniform and early for this type with some maturing in the field. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649599. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 129-1; RRC 732; Ames 5478. Collected 11/02/1981 in Puebla, Mexico. Santiago Tecla. Pedigree - SPS. The seeds are white, flowers green, leaves green. The RRC class type is: mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649600. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 129-8; RRC 739; Ames 5485. Collected 11/03/1981 in Puebla, Mexico. Santiago Tecla Huequechula. Pedigree - SPS. The seeds are white, flowers green, leaves green. The RRC class type is: mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649601. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 129-9; RRC 740; Ames 5486. Collected 11/03/1981 in Puebla, Mexico. Santiago Tecla Huequechula. Pedigree - BULK. The seeds are white, flowers marbled and green, leaves green and variegated. The RRC class type is: mercado, Mexican. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649602. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 130-2; RRC 742; Ames 5487. Collected 11/03/1981 in Puebla, Mexico. San Martin Huequechula. The seeds are dark brown, white and gold, flowers marbled, red and green, leaves green. There was much variation and was not type classified. It also includes some weedy types. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649603. *Amaranthus hypochondriacus* L.

Landrace. LFD/CSK 131-1; RRC 743; Ames 5488. Collected 11/03/1981 in Puebla, Mexico. San Martin Huequechula. Pedigree - BULK. The seeds are white and gold, flowers red, green and marbled, leaves green, variegated and red. The RRC class type is: mercado, Mexican. Observations from

the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States; Jorge Martin del Campo. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 649604. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 137-1; RRC 764; Ames 5489. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Amayuca. Pedigree - BULK. The seeds are gold and white, flowers green and red, leaves green and rufescent. The RRC class type is: mercado. Some of the plants were unbranched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649605. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 137-2; RRC 765; Ames 5490. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Amayuca. Pedigree - BULK. The seeds are white and gold, flowers green, leaves green. The RRC class type is: mercado. The plants were all green and some were unbranched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649606. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 137-3; RRC 766; Ames 5491. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Amayuca. Pedigree - BULK. The seeds are gold and white, flowers green, leaves green. The RRC class type is: mercado. The plants were tall and of uniform type with branches forming high on the plant. It segregates for seed color. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649607. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 138-1; RRC 767; Ames 5492. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - BULK (as reported by the collectors). In 2006 David Brenner culled a planting from the original seeds to keep *A. hypochondriacus* plants and remove *A. cruentus* plants. The seeds are white and gold, flowers green and marbled, leaves green. The RRC class type is: mercado. The plants are tall and basically unbranched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649608. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 138-3; RRC 769; Ames 5494. Collected 11/05/1981 in Morelos, Mexico. Latitude 18° 45' N. Longitude 98° 45' W. Amilzingo. Pedigree - BULK. The seeds are gold, flowers green, leaves green. The RRC class type is: mercado. This includes some tall and unbranched mercados. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649609. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 140; RRC 774; Ames 5499. Collected 11/04/1981 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Tulyehualco. Pedigree - BULK. The seeds are gold, brown, and white,

flowers red, green and marbled, leaves green and red. The RRC class type is: mercado, Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649610. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 141; RRC 775; Ames 5500. Collected 11/06/1981 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Hualzulco. Pedigree - BULK. The seeds are white and gold, flowers green and marbled, leaves green. The RRC class type is: mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649611. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 142-2; RRC 777; Ames 5502. Collected 11/06/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Jantetelco. Pedigree - BULK. The seeds are gold and white, flowers red, green and marbled, leaves green and rufescent. The RRC class type is: mercado. The plants were tall and unbranched. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649612. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 142-3; RRC 778; Ames 5503. Collected 11/06/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Jantetelco. Pedigree - BULK. The seeds are white and gold, flowers marbled, red and green, leaves green and variegated. The RRC class type is: mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649613. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 142-5; RRC 780; Ames 5505. Collected 11/06/1981 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Jantetelco. Pedigree - BULK. The seeds are white and gold, flowers red, green and marbled, leaves green and reddish-green. The RRC class type is mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649614. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-1; RRC 783; Ames 5508. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. Ixtacuixtla. Pedigree - BULK. The seeds are white, flowers green, leaves green and variegated. The RRC class type is: Aztec. The plants are fairly uniform. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649615. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-2; RRC 784; Ames 5509. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. Ixtacuixtla. Pedigree - SPS. The seeds are white, flowers green, leaves green and variegated. The RRC class type is: Aztec. The plants were fairly uniform. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649616. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-3; RRC 785; Ames 5510. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - SPS. The seeds are white, flowers

green, leaves green and variegated. The RRC class type is: Aztec. The plants were very uniform. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649617. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-4; RRC 786; Ames 5511. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - BULK. The seeds were white, flowers green, leaves green. The RRC class type is: Aztec. The plants were shorter than most Aztec with twisted stems and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649618. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-5; RRC 787; Ames 5512. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - BULK. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. The plants were shorter than most Aztec and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649619. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-6; RRC 788; Ames 5513. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - BULK. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. The plants were shorter than most Aztec and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649620. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-7; RRC 789; Ames 5514. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - SPS. The seeds are white, flowers green, leaves green. The RRC class type is: Aztec. The plants are shorter than most Aztec with yellowing and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649621. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-8; RRC 790; Ames 5515. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - SPS. The seeds are white, flowers green, leaves green and variegated. The RRC class type is: Aztec. The plants are of uniform type and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649622. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 144-9; RRC 791; Ames 5516. Collected 10/09/1981 in Tlaxcala, Mexico. Latitude 19° 20' N. Longitude 98° 22' W. San Felipe. Ixtacuixtla. Pedigree - BULK. The seeds are white, flowers green, leaves green and variegated. The RRC class type is: Aztec. The plants are of uniform type and lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649623. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-1; RRC 792; Ames 5517. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El

Rosario. Pedigree - SPS. The seeds are white, flowers red and green, leaves green and reddish-green. The RRC class type is: Aztec. The plants were lodged with yellowing. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649624. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-2; RRC 793; Ames 5518. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers green, leaves green and variegated. The RRC class type is: Aztec. The plants were lodged and did not have much potential. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649625. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-3; RRC 794; Ames 5519. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - SPS. The seeds were white, flowers red, green and pink, leaves rufescent and variegated. The RRC class type is: Aztec. The plants were of uniform type with severe lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649626. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-4; RRC 795; Ames 5520. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers green, pink and red, leaves green, variegated and rufescent. The RRC class type is: Aztec. The plants lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649627. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-5; RRC 796; Ames 5521. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds were white, flowers green and pink, leaves green and variegated. The RRC class type is: Aztec. The plants were totally lodged and there was one red segregate. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649628. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-6; RRC 797; Ames 5522. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - SPS. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649629. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-7; RRC 798; Ames 5523. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649630. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-8; RRC 799; Ames 5524. Collected 10/10/1981 in

Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers red, leaves green and rufescent. The RRC class type is: Aztec. There were a few early segregates but they did not mature. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649631. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-9; RRC 800; Ames 5525. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white and brown, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were predominately white-seeded with severe lodging. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649632. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 145-10; RRC 801; Ames 5526. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were severely lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649633. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 146; RRC 802; Ames 5527. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 649634. *Amaranthus hypochondriacus* L.

Landrace. LFD/JMdc 147; RRC 803; Ames 5528. Collected 10/10/1981 in Tlaxcala, Mexico. Latitude 19° 41' N. Longitude 98° 13' W. El Rosario. Pedigree - BULK. The seeds are white, flowers red and green, leaves green, rufescent and variegated. The RRC class type is: Aztec. The plants were lodged. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by Toronto Zoo, 361A Old Finch Avenue, Scarborough, Ontario M1B 5K7, Canada. Received 05/14/1999.

PI 649635. *Agastache nepetoides* (L.) Kuntze

Wild. Index Seminum 52; Ames 25279. Collected 1998 in Ontario, Canada. Latitude 41° 48' N. Longitude 82° 39' W. Elevation 175 m. Pelee Island, Pelee Township, Essex County. Alvar.

The following were collected by R Mohammadi, Res. Institute of Forests & Rangelands, National Botanical Garden of Iran, P.O. Box 13185-116, Tehran, Tehran, Iran; K Nowroozi, Res. Institute of Forests & Rangelands, National Botanical Garden of Iran, P.O. Box 13185-116, Tehran, Tehran, Iran; M Angoshti, Res. Institute of Forests & Rangelands, National Botanical Garden of Iran, P.O. Box 13185-116, Tehran, Tehran, Iran; R. Azadi, Res. Institute of Forests & Rangelands, National Botanical Garden of Iran, P.O. Box

13185-116, Tehran, Tehran, Iran; A Ghadimpour, Res. Institute of Forests & Rangelands, National Botanical Garden of Iran, P.O. Box 13185-116, Tehran, Tehran, Iran; H Ghahremani, Res. Institute of Forests & Rangelands, National Botanical Garden of Iran, P.O. Box 13185-116, Tehran, Tehran, Iran. Donated by Botanical Garden of Iran, Research Institute of Forests and Rangel, P.O. Box 13185-116, Tehran, Tehran, Iran. Received 06/14/1996.

PI 649636. *Alcea kurdica* (Schltdl.) Alef.

Wild. Index Seminum 102; Ames 23046. Collected in Iran. Latitude 29° 50' N. Longitude 52° 45' E.

The following were donated by Karl Hammer, Inst. fur Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/10/1993.

PI 649637. *Alcea nudiflora* (Lindl.) Boiss.

Wild. ALC 2/90; Ames 21110. Collected 06/1993 in Tajikistan. Along the river Ljuchob, north of Dushanbe. Hill.

The following were collected by Quentin Jones, Crops Research Division - USDA-ARS, New Crops Research Branch, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649638. *Alcea pallida* (Waldst. & Kit. ex Willd.) Waldst. & Kit.

Wild. 324; NU 41292; Ames 24151. Collected 01/1998 in Turkey.

The following were donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States; John K. Morton, 2423 Pocahontas Place, St. Louis, Missouri 63144, United States. Received 09/17/1974.

PI 649639. *Alcea rosea* L.

Uncertain. Ames 24902; G 23342.

The following were donated by Karl Hammer, Inst. fur Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/10/1993.

PI 649640. *Alcea rugosa* Alef.

Wild. ALC 8/91; Ames 21112. Collected in Georgia. Vasliani, approximately 1150 meters north of Rayon Sagaredzo.

PI 649641. *Alcea rugosa* Alef.

Wild. ALC 1/90; Ames 21113. Collected in Georgia. Kachetien, Rayon Telavi, Jkalto.

The following were collected by Stephanie Greene, USDA, ARS, National Temperate Forage Legume, Germplasm Resources Unit, Prosser, Washington 99350-9687, United States; Walter Graves, University of California Cooperative Ext. Service (retired), 7665 Volclay Drive, San Diego, California

92119-1219, United States; Alexander Afonin, Vavilov Institute of Plant Industry, 42 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Melvin Rumbaugh, R.R. 3, Box 125, Humboldt, Nebraska 68376, United States; Jay Hart, 20 Bush Lane, Ithaca, New York 14850, United States; Nicolay Khitrov, Dokvchaev Soil Institute, Pygevsy, per., 7., Moscow, Moscow 109017, Russian Federation. Donated by Stephanie Greene, USDA, ARS, National Temperate Forage Legume, Germplasm Resources Unit, Prosser, Washington 99350-9687, United States. Received 03/04/1996.

PI 649642. *Alcea rugosa* Alef.

Wild. S.70 ON121; 279; VIR M121; Ames 22880. Collected 08/20/1995 in Krasnodar, Russian Federation. Latitude 44° 40' 57" N. Longitude 37° 57' 8" E. Elevation 380 m. 3 km north of village of Kabardinka, subdivision of Novorossiysk. Logged, grazed. Open. Slope 11-40% with a SW aspect. Clay soil; seasonally dry. Landform: lower, mid, upper slopes. Soil pH 7.75. Fosberg's (class, group): Open, with closed lower layers, open deciduous. The objectives of this collection trip were: 1) collect wild cultivated species growing in acidic soil and associated Rhizobium species; 2) collect endemic wild species and associated Rhizobium species; 3) visit and assess extent of in situ conservation of native forage legume species in the Teberda Reserve and Caucasus State Biosphere Reserve. These areas were ecogeographically surveyed using GIS prior to the trip and used to select sites that would be visited. In addition to on-site description, the following map-based information was obtained from the survey: mean monthly rainfall, mean min. and max. monthly temp., mean monthly humidity, wind speed, elevation (cross check), aspect, slope (cross check), 2 vegetation classifications.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Alan Whittemore, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, NE, Washington, District of Columbia 20002-1958, United States; Ashot A. Charchoghlian, National Academie of Sciences, Institute of Botany, Yerevan, Armenia; Pavel Humbaryan, Armenia Institute of Botany, Yerevan, Armenia; Yura Paityan, Armenia Institute of Botany, Yerevan, Armenia; Gagik Movsesyan, Yerevan Botanic Garden, Yerevan, Armenia. Donated by Kevin Conrad, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States. Received 11/27/2002.

PI 649643. *Alcea rugosa* Alef.

Wild. ARM-124-02; Ames 26932. Collected 09/07/2002 in Armenia. Latitude 40° 41' 20" N. Longitude 45° 1' 46" E. Elevation 1232 m. Dilijan National Park, Tavush Marz. Sunny streamside opening in mature forest. Flat ground. Associated with *Quercus macranthera*, *Tilia cordata*, and *Acer* sp. Yellow flowers.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649644. *Alcea striata* (DC.) Alef.

Wild. 812; NU 42725; Ames 24155. Collected 01/1998 in Turkey.

The following were donated by Helmut Halbmayr, Federal Horticultural College and Research Institutes, Grunbergstrasse 24, Vienna, Vienna A-1131, Austria. Received 09/25/2000.

PI 649645. *Aronia melanocarpa* (Michx.) Elliott
Cultivated. "Aron"; Ames 26194. Developed in Denmark. Pedigree -
Open-pollinated seed from 'Aron' (may be apomictic).

PI 649646. *Aronia melanocarpa* (Michx.) Elliott
Cultivated. "Viking"; Ames 26195. Developed in Finland. Pedigree -
Open-pollinated seed from 'Viking' (may be apomictic).

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Harold Pellett, Landscape Plant Development Center, Minnesota Landscape Arboretum, 3675 Arboretum Drive, Chaska, Minnesota 55318, United States; Welby Smith, Minnesota Department of Natural Resources, DNR Box 25, 500 Lafayette Road, St. Paul, Minnesota 55155, United States. Donated by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 10/14/2004.

PI 649647. *Aronia melanocarpa* (Michx.) Elliott
Wild. Ames 27615. Collected 09/20/2004 in Minnesota, United States.
Latitude 45° 8' 25" N. Longitude 93° 10' 53" W. Within the
municipal boundaries of Lexington, ~0.5 mile east of Interstate 35W, SE
1/4 of SW 1/4 of Section 26, T31N, R23W, Anoka County. Sedge meadow.
Associated vegetation: *Carex lasiocarpa*, *Spiraea alba*, and *Salix*
petiolaris.

The following were donated by USDA, NRCS, Big Flats Plant Materials Center, Box 360A, RD #1, Rt. 352, Corning, New York 14830-0360, United States. Received 07/16/1990.

PI 649648. *Baptisia australis* (L.) R. Br.
Cultivated. 9011661; T11661; Ames 13857. Collected in Poland. Libelja.

The following were donated by Brandywine Conservancy, PO Box 141, Chadds Ford, Pennsylvania 19317, United States. Received 04/03/1996.

PI 649649. *Baptisia australis* (L.) R. Br.
Cultivated. Ames 22795.

The following were donated by University of Pennsylvania, Morris Arboretum, 9414 Meadowbrook Ave., Philadelphia, Pennsylvania 19118, United States. Received 05/24/1993.

PI 649650. *Betula populifolia* Marshall
Wild. Index Seminum 4; Ames 21087. Collected in Pennsylvania, United States. Latitude 40° 55' N. Longitude 75° 12' W. Elevation 500 m. Kittatinny Ridge, Valley and Ridge Province, Northampton County. On top of ridgetop quartzite outcrop. Associated with *Quercus rubra*,

Betula lenta, *Acer rubrum*, *A. pennsylvanicum*, *Kalmia latifolia*, and *Nemopanthus mucronatus*.

The following were donated by Karl Hammer, Inst. für Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/10/1993.

PI 649651. *Calendula stellata* Cav.

Wild. CAL 43/89; Ames 21128. Collected in El Jadida, Morocco.

The following were collected by Manuel Cardoso Alves, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Jaime Ventura Forte, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal. Donated by Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 06/02/1998.

PI 649652. *Calendula suffruticosa* subsp. *lusitanica* (Boiss.) Ohle

Wild. Index Seminum 336; Ames 24677. Collected 06/19/1997 in Santarem, Portugal. Latitude 39° 31' N. Longitude 8° 44' W. Serra de Santo Antonio.

The following were donated by Hortus Botanicus, Universitatis Mariae Curie-Sklodowska, UL. Slawinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/16/1991.

PI 649653. *Caragana arborescens* Lam.

Cultivated. Index Seminum 2075; Ames 17776.

The following were collected by Jeanne Edwards, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Paul Ovrom, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50010-1170, United States. Received 06/25/1990.

PI 649654. *Caragana frutex* (L.) K. Koch

Cultivated. Ames 13823. Collected in Iowa, United States. Planting at the southeast corner of Lagomarcino Hall, Iowa State University Campus, Ames.

The following were collected by Jeff Carstens, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 07/27/2005.

PI 649655. *Cornus alternifolia* L. f.

Wild. 002; Ames 27811. Collected 07/17/2005 in Iowa, United States. Latitude 42° 20' 59" N. Longitude 93° 51' 28" W. Adjacent to the Boone River on the south side, Tunnel Mill Wildlife Management Area, Hamilton County. Partial shade. 40% slope with a northern aspect. Associated with oak, hickory, and poison ivy. 4 plants with

approximately 3-5 inch caliper and approximately 15-20 feet in height. Foliage quality very clean with little to no leaf spots. Likely has some Septoria resistance.

The following were collected by Peter Bristol, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44060-5172, United States; Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Sylvester March, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Barry Yinger, USDA, ARS, U.S. National Arboretum, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Young-June Chang, Seoul National University, Seoul, Korea, South; Youn-Hun Chang, Korea, South. Donated by Barry Yinger, USDA, ARS, U.S. National Arboretum, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States. Received 11/1985.

PI 649656. *Cornus officinalis* Siebold & Zucc.

Cultivated. KNW-407; NA 55219; Ames 13699. Collected 10/24/1984 in Seoul, Korea, South. Namdaemun Market, Seoul. Fruit yellow, turning red, 1.3 cm long, 7 mm diameter, juicy.

The following were collected by Robert E. Schutzki, Michigan State University, Department of Horticulture, 218 Plant & Soil Sciences Building, East Lansing, Michigan 48824-1325, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Vasily Yukhnovsky, National Agricultural University of Ukraine, Forestry Department, Str. 15 G. Oborony, Kiev, Kiev 252041, Ukraine; Victor Sviatetsky, National Agricultural University of Ukraine, Forestry Department, Str. 15 G. Oborony, Kiev, Kiev 252041, Ukraine. Donated by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/29/1999.

PI 649657. *Cornus sanguinea* L.

Wild. WSYUS 16; Ames 25500. Collected 09/09/1999 in Kiev, Ukraine. Latitude 50° 22' 59" N. Longitude 30° 30' 14" E. Elevation 140 m. Near the lake and across the street from the Dendrology Building, National Agricultural University campus, Kyiv. Edge of road on a bank. Partial shade, 5-10% slope with a southwestern exposure. Sandy loam soil with good drainage. Large arching shrub to 16 feet.

PI 649658. *Cornus sanguinea* L.

Wild. WSYUS 47; Ames 25501. Collected 09/14/1999 in Kharkiv, Ukraine. Latitude 50° 4' 20" N. Longitude 35° 48' 51" E. Elevation 200 m. Krupchany. Edge of forest/road. Typical edge of woods habit with foliage on open side. Partial shade, 0-1% slope with a western exposure. Clay loam soil with good drainage. Large shrub to 12 feet.

The following were collected by Charles Tubesing, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44094-5172, United States; Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Jeff Lynch, Longwood Gardens, P.O. Box 501, Kennett Square, Pennsylvania 19348, United States; Wang Xian Li, Shenyang Institute of Applied Ecology, 72 Whenhua Road,

Shenyang, China; Cao Wei, Shenyang Institute of Applied Ecology, 72 Whenhua Road, Shenyang, China; Zhao Shuqing, Shenyang Institute of Applied Ecology, 72 Whenhua Road, Shenyang, China; Sheng Ning, Nanjing Botanical Garden, Box 1435, Nanjing, Jiangsu 210014, China; Zhong Linsheng, Shenyang Institute of Applied Ecology, 72 Whenhua Road, Shenyang, China; Kris Bachtell, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States. Donated by USDA, ARS, U.S. National Arboretum, Woody Landscape Plant Germplasm Repository, Glenn Dale, Maryland 20769, United States. Received 12/30/1997.

PI 649659. *Dasiphora fruticosa* (L.) Rydb. subsp. *fruticosa*

Wild. N97 121; CBS 121; NA 68880; Ames 24105. Collected 09/16/1997 in Jilin, China. Latitude 42° 7' 20" N. Longitude 128° 22' 44" E. Elevation 1280 m. Near Round Lake, on Changbaishan, Antu County. Growing in disturbed cut-over forest. Slope of 5% on ground consisting of a mossy organic mat. 50 cm tall, with yellow flowers.

The following were collected by Harold Pellett, Landscape Plant Development Center, 1450 Game Farm Road, P.O. Box 444, Mound, Minnesota 55364, United States. Received 03/10/2003.

PI 649660. *Diervilla lonicera* Mill.

Wild. 02-011; Ames 27000. Collected 2002 in Minnesota, United States. Latitude 47° 20' 49" N. Longitude 91° 12' 55" W.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Jeff Carstens, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/16/2003.

PI 649661. *Diervilla lonicera* Mill.

Wild. 23; Ames 27299. Collected 09/15/2003 in Iowa, United States. Latitude 42° 24' 5" N. Longitude 93° 4' 23" W. Elevation 299 m. Tower Rock, Steamboat Rock, N edge of SE 1/4 of SW 1/4 of Section 28, T88N, R19W, Steamboat Rock Quad, Hardin County. Eroding sandstone cliff. Mostly shaded. 50% slope with a northern aspect. Sand and organic matter just above sandstone rock cliff, well drained. Associated with *Lonicera dioica*, *Ostrya*, *Quercus rubra*, *Tilia*, and *Smilacina racemosa*.

The following were collected by Charles Tubering, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44094-5172, United States; James R. Ault, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Anthony Aiello, Morris Arboretum of the University of Pennsylvania, 9414 Meadowbrook Ave., Philadelphia, Pennsylvania 19118, United States. Received 10/2000.

PI 649662. *Diervilla sessilifolia* Buckley

Wild. MWPC00-068; NA 70420; Ames 26986. Collected 09/14/2000 in North Carolina, United States. Latitude 35° 18' 13" N. Longitude 82° 54' 31" W. Elevation 1524 m. Pisgah National Forest, off State Highway 215, Haywood County. Numerous plants bordering the edge of the mowed roadside, forming an almost solid thicket. Slope: 0-15 degrees.

Aspect: slope faces slightly NW, in open, full sun. Soil; gritty, sandy, thin, over schist bedrock. This species is a very common component of disturbed habitats, roadsides, burned areas, etc. Tremendous variability in leaf color from plants with no fall color change yet to plants with deep red/bronze leaves; selections should be made based on fall leaf color.

The following were donated by The Dawes Arboretum, Horticulture Department, 7770 Jacksontown Road SE, Newark, Ohio 43056-9380, United States. Received 04/17/2003.

PI 649663. *Diervilla sessilifolia* Buckley
Wild. Index Seminum 29; Ames 27059. Collected 2002 in North Carolina, United States. Haywood County.

PI 649664. *Diervilla sessilifolia* Buckley
Wild. Index Seminum 30; Ames 27060. Collected 2002 in North Carolina, United States. Macon County.

The following were collected by Peter Bristol, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44060-5172, United States; Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Sylvester March, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Barry Yinger, USDA, ARS, U.S. National Arboretum, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Young-June Chang, Seoul National University, Seoul, Korea, South; Youn-Hun Chang, Korea, South. Donated by Barry Yinger, USDA, ARS, U.S. National Arboretum, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States. Received 01/25/1985.

PI 649665. *Euonymus alatus* (Thunb.) Siebold
Wild. KNW 340; KNW 341; NA 55147; Ames 3491; Ames 13702. Collected 10/14/1984 in Kyonggi, Korea, South. Elevation 60 m. North side of Sonjin Dong village, Taechong Island, Taechong Myon, Ongjin Gun. Edge of woods and in thickets at roadside; sun and light shade. Deciduous shrub branching from base, twigs winged; 1 meter tall and 1.5 meters across. Leaves dull, medium to dark green. Fruit green or whitish with a light orange aril.

Unknown source. Received 02/2001.

PI 649666. *Flueggea suffruticosa* (Pall.) Baill.
Wild. NA 71035; Ames 26990.

The following were donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 07/06/1987.

PI 649667. *Fraxinus ornus* L.
Cultivated. Index Seminum 2392; Ames 7840.

The following were collected by T. Gladis. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 12/30/1992.

PI 649668. *Glebionis segetum* (L.) Fourr.

Wild. Index Seminum 102; Ames 20104. Collected in Lower Saxony, Germany. Latitude 52° 16' N. Longitude 10° 32' E. Brunswick.

The following were collected by Steve Bieberich, Sunshine Nursery, Route 3, Box 2, Clinton, Oklahoma 73601-9352, United States. Donated by Edward J. Garvey, USDA, ARS, National Germplasm Repository, U.S. National Arboretum, Washington, District of Columbia 20002, United States. Received 04/04/1995.

PI 649669. *Gymnocladus dioicus* (L.) K. Koch

Wild. NA 65469; Ames 26991; Ames 22438. Collected 09/15/1993 in Oklahoma, United States. Custer County.

Unknown source. Received 01/24/1984.

PI 649670. *Hyoscyamus muticus* L.

Uncertain. B 49866; Ames 3099.

The following were donated by The Plant Cell Research Institute, Inc., 6560 Trinity Court, Dublin, California 94568, United States; Botanischer Garten Marburg, Philipps-Universitat, Auf den Lahnbergen, Marburg, Germany. Received 03/18/1991.

PI 649671. *Hyoscyamus niger* L.

Uncertain. Ames 15665; Index Seminum 1015; HO-58. Collected in Germany.

The following were collected by Mauno Yli-Pietila, Botanical Garden, University of Turku, Turku, Turku ja Pori FIN-20014, Finland. Donated by University of Turku, Botanical Gardens, Ruissalo 25, Turku, Turku ja Pori FIN-20014, Finland. Received 06/15/1998.

PI 649672. *Hyoscyamus niger* L.

Wild. Index Seminum 117; Ames 24588. Collected 1997 in Turku ja Pori, Finland. Latitude 61° 6' N. Longitude 21° 47' E. Alakieri, Lappi, region of Satakunta.

The following were collected by Adam Zajac, Jagiellonian University, ul. Golebia 24, Krakow, Poland. Received 10/31/1988.

PI 649673. *Hyssopus officinalis* L.

Wild. Ames 9983. Collected 1988 in Poland. Tyniec, southwest of Krakow (suburb).

The following were donated by Index Seminum of the Medical Bot. Garden, Brno, South Moravia, Czech Republic. Received 10/05/1988.

PI 649674. *Hyssopus officinalis* L.
Cultivated. Index Seminum 475; Ames 9986.

PI 649675. *Hyssopus officinalis* L.
Cultivated. Index Seminum 476; Ames 9987. Received as *Hyssopus officinalis* var. *alba*.

PI 649676. *Hyssopus officinalis* L.
Cultivated. Index Seminum 477; Ames 9988. Received as *Hyssopus officinalis* var. *aristatus*.

PI 649677. *Hyssopus officinalis* L.
Cultivated. Index Seminum 478; Ames 9989. Received as *Hyssopus officinalis* var. *rosea*.

The following were collected by Fred G. Meyer, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Sylvester March, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; John J. Creech, USDA, ARS, U.S. Plant Introduction Station, 11601 Old Pond Road, Glenn Dale, Maryland, United States. Donated by USDA, ARS, U.S. National Arboretum, Woody Landscape Plant Germplasm Repository, Glenn Dale, Maryland 20769, United States; John J. Creech, USDA, ARS, U.S. Plant Introduction Station, 11601 Old Pond Road, Glenn Dale, Maryland, United States. Received 03/10/1981.

PI 649678. *Ligustrum obtusifolium* Siebold & Zucc.
Wild. J-263-78; NA 45039; Ames 2314. Collected 10/24/1978 in Shimane, Japan. Elevation 61 m. Along a mountain road above Utagi Village, Dogo Island, Oki Islands. Sunny area. Deciduous shrub. Leaves elliptic, fruit purple black.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Mary Brothers, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Kathleen Reitsma, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Paul Ovrom, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50010-1170, United States. Received 03/05/2002.

PI 649679. *Malva sylvestris* L.
Separation from S112; Separation from Ames 25961; Ames 26740. Collected 1999 in Dimashq, Syria. Latitude 33° 30' N. Longitude 36° 18' E. Damascus market. Pedigree - Two plants separated from Ames 25961 00ncao1SD at time of flowering in cage.

The following were collected by Armenio Da Costa Matos, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal; Antonio Agostinho Coutinho Salgado, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal. Donated by Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 05/25/2001.

PI 649680. *Malva tournefortiana* L.

Wild. Index Seminum 917; Ames 26271; Ames 26269. Collected 07/19/2000 in Braganca, Portugal. Latitude 41° 13' N. Longitude 7° 24' W. Serra da Lousa.

The following were collected by Khaled Hardan, Hebron University, Hebron, Ancient Palestine. Donated by Hebron University, P.O. Box 40, Hebron, West Bank, Israel. Received 01/19/2005.

PI 649681. *Matricaria aurea* (Loefl.) Sch. Bip.

Landrace. 7; MA AU 5-01; Ames 27777. Collected 08/23/2004 in Palestinian Territory. Latitude 32° 24' 5" N. Longitude 35° 12' 1" E. Elevation 330 m. Arrabeh, 12 km southwest of Jenin, Jenin District. House yard, between the grasses. Lime soil. 500-600 mm of precipitation.

PI 649682. *Matricaria aurea* (Loefl.) Sch. Bip.

Landrace. 8; MA AU 5-02; Ames 27778. Collected 08/23/2004 in Palestinian Territory. Latitude 32° 24' 5" N. Longitude 35° 12' 1" E. Elevation 330 m. Arrabeh, 12 km southwest of Jenin, Jenin District. House yard, near the roads, between olive trees. Lime soil. 500-600 mm of precipitation.

PI 649683. *Matricaria aurea* (Loefl.) Sch. Bip.

Cultivated. 42; MA AU 5-04; Ames 27780. Collected 04/03/2004 in Palestinian Territory. Latitude 31° 30' 52" N. Longitude 35° 9' 57" E. Elevation 650 m. Near the gate of the water harvesting project, Bani na'im Nature Preserve, 8 km east of Hebron, Hebron District. Rangeland, between the grasses. Lime soil. 300 mm of precipitation.

PI 649684. *Matricaria aurea* (Loefl.) Sch. Bip.

Wild. 43; MA AU 5-05; Ames 27781. Collected 03/20/2004 in Palestinian Territory. Latitude 31° 28' 41" N. Longitude 35° 7' 47" E. Elevation 900 m. Near the Agriculture Station of Hebron University, Zief, 9 km southeast of Hebron, Hebron District. Yard. Lime soil. 250-300 mm of precipitation.

The following were collected by Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States. Received 04/28/1998.

PI 649685. *Monarda bradburiana* L. C. Beck

Wild. Ames 24550. Collected 09/15/1997 in Missouri, United States. Along Highway 00, Franklin County.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/25/1985.

PI 649686. *Monarda fistulosa* L.

Wild. 15; Ames 4571. Collected 09/23/1985 in Kansas, United States. Elevation 402 m. Chase County State Fishing Lake, W 1/4 of SW 1/4 of Section 30, T19S, R8E, Cottonwood Falls Quad, Chase County. Southeast facing slope on limestone. Associated with *Sorghastrum*, big bluestem, lead plant, and *Rhus glabra*. Lemon-like odor. For bee pasture testing.

The following were donated by USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Received 08/10/1993.

PI 649687. *Monarda fistulosa* L.

Uncertain. G 25457; Ames 21501. Collected in Manitoba, Canada. Morden.

The following were collected by Roger L. Thelen, Michigan State University, W. J. Botanical Garden, 412 Olds Hall, East Lansing, Michigan 48824-1047, United States. Received 04/22/1994.

PI 649688. *Monarda fistulosa* L.

Wild. Index Seminum 63; Ames 21979. Collected 1993 in Michigan, United States. Latitude 42° 40' N. Longitude 84° 28' W. Sandhill Road, near Bear Lake, Ingham County. Open old field.

The following were donated by Lynn M. Collicutt, Agriculture Canada, Morden Research Station, P.O. Box 3001, Morden, Manitoba R0G 1J0, Canada. Received 09/24/1984.

PI 649689. *Monarda* hybrid

Breeding. Bee-balm 80-1 O.P.; Ames 3065. Pedigree - Includes both *M. didyma* and *fistulosa* in its pedigree. Received for bee pasture testing.

PI 649690. *Monarda* hybrid

Breeding. Bee-balm Souris O.P.; Ames 3066. Pedigree - Includes both *M. didyma* and *fistulosa* in its pedigree. Received for bee pasture testing.

The following were donated by W. J. Beal Botanical Garden, Michigan State University, 412 Olds Hall, East Lansing, Michigan 48824-1047, United States. Received 04/14/2003.

PI 649691. *Monarda punctata* L.

Wild. Index Seminum 86; 20020818; Ames 27014. Collected 09/30/2002 in Michigan, United States. Latitude 43° 4' N. Longitude 86° 14' W. Elevation 189 m. Kitchel Dunes, Ottawa County. Open dunes.

The following were collected by K.G. Tkaczenko. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 09/29/1992.

PI 649692. *Origanum vulgare* L. subsp. *vulgare*

Wild. Index Seminum 3104; Ames 20036. Collected in Ukraine. Leopoltanis region.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 07/07/1993.

PI 649693. *Origanum vulgare* L. subsp. *vulgare*

Wild. Index Seminum 376; Ames 21199. Collected in Saxony-Anhalt, Germany . Mertenforf.

The following were collected by Ewa Antoniewska, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Elzbieta Zygala, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Urszula Zablocka, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Donated by Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Received 09/20/2002.

PI 649694. *Origanum vulgare* L. subsp. *vulgare*

Wild. Index Seminum 264; Ames 26921. Collected 10/04/2001 in Opole, Poland. Luczyce.

The following were donated by The Morton Arboretum, Route 53, Lisle, Illinois 60532, United States. Received 06/18/1993.

PI 649695. *Parthenocissus vitacea* (Knerr) Hitchc.

Wild. Index Seminum 51; Ames 21177. Collected in Illinois, United States. Will County.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/21/1994.

PI 649696. *Parthenocissus vitacea* (Knerr) Hitchc.

Wild. Population. Ames 22166. Collected 09/17/1994 in South Dakota, United States. Latitude 43° 20' N. Longitude 103° 33' W. Elevation 1045 m. Cascade Springs at J.H. Keith Memorial Picnic Area, SE 1/4 of SW 1/4 of Section 20, T8S, R5E, Fall River County. Growing in trees along stream with *Acer negundo*, *Toxicodendron*, *Vitis*, and *Fraxinus*. Attractive red fall color. Few fruits remaining.

Unknown source. Received 04/06/1987.

PI 649697. *Phacelia campanularia* A. Gray

Cultivated. Ames 7790.

The following were donated by University of Pennsylvania, Morris Arboretum, 9414 Meadowbrook Ave., Philadelphia, Pennsylvania 19118, United States. Received 05/24/1993.

PI 649698. *Physocarpus opulifolius* (L.) Maxim.

Wild. Index Seminum 32; Ames 21090. Collected in Pennsylvania, United States. Latitude 40° 23' N. Longitude 75° 22' W. Elevation 150 m. Along Butter Creek, Manderville Preserve, Piedmont Province, Bucks County. Moist deciduous woods on slope. Associated with *Liriodendron tulipifera*, *Tilia americana*, *Fraxinus americana*, and *Lindera benzoin*.

The following were donated by The Morton Arboretum, Route 53, Lisle, Illinois 60532, United States. Received 06/18/1993.

PI 649699. *Physocarpus opulifolius* (L.) Maxim.

Wild. Index Seminum 52; Ames 21178. Collected in Arkansas, United States. Pope County.

The following were collected by W. J. Beal Botanical Garden, Michigan State University, 412 Olds Hall, East Lansing, Michigan 48824-1047, United States. Received 04/18/2001.

PI 649700. *Physocarpus opulifolius* (L.) Maxim.

Wild. Index Seminum 88; 98B310; Ames 26248. Collected 10/24/1998 in Michigan, United States. Latitude 43° 41' N. Longitude 84° 23' W. Elevation 195 m. Burrow's Borrow Pit, Midland County. Disturbed wetland in dry-mesic northern forest.

The following were collected by Harold Pellett, Landscape Plant Development Center, 1450 Game Farm Road, P.O. Box 444, Mound, Minnesota 55364, United States. Received 03/10/2003.

PI 649701. *Physocarpus opulifolius* (L.) Maxim.

Wild. 02-017; 03-12; Ames 27001; Ames 27465. Collected 2002 in Minnesota, United States. Latitude 47° 20' 23" N. Longitude 91° 11' 7" W.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Jeff Carstens, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/16/2003.

PI 649702. *Physocarpus opulifolius* (L.) Maxim.

Wild. 12; Ames 27305. Collected 09/14/2003 in Iowa, United States. Latitude 43° 26' 54" N. Longitude 91° 37' 7" W. Elevation 265 m. 100 meters south of campground at North Bear Creek, west side of Quandahl Road, Bear Creek Wildlife Area, Highlandville, NW 1/4 of SE 1/4 of Section 25, T100N, R7W, Dorchester Quad, Winneshiek County. Limestone road cut. Mostly sunny. Steep slope with an eastern aspect. Thin soil with high stoniness, well drained. Associated with *Acer nigrum*, *Rhus glabra*, *Monarda fistulosa*, and *Galium*. Medium sized shrubs with arching stems.

PI 649703. *Physocarpus opulifolius* (L.) Maxim.

Wild. 14; Ames 27306. Collected 09/14/2003 in Iowa, United States. Latitude 43° 27' 4" N. Longitude 91° 16' 56" W. Elevation 280 m. Fish Farm Mounds, New Albin, SW 1/4 of SW 1/4 of NW 1/4 of Section 26, T100N, R4W, New Albin Quad, Allamakee County. Sandstone ridge just above goat prairie. 1/2 sun. 30-50% slope w/ NW aspect. Sandy loam soil w/ some stoniness, well drained. Assoc w/ *Quercus rubra*, *Cornus racemosa*, *Juniperus virginiana*, *J. communis*, *Vitis riparia*, and *Betula papyrifera*. Medium sized shrubs.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Sharon K. Dragula, 2121 Burnett Ave., Ames, Iowa 50010, United States. Received 09/25/2003.

PI 649704. *Physocarpus opulifolius* (L.) Maxim.

Wild. 39; Ames 27327. Collected 09/24/2003 in Iowa, United States. Latitude 40° 51' 7" N. Longitude 91° 8' 14" W. Elevation 183 m. Starr's Cave, Burlington, NW 1/4 of NW 1/4 of Section 19, T70N, R2W, West Burlington Quad, Des Moines County. Edge of limestone bluff. 1/2 to 3/4 sunny. Steep slope with a southern aspect. Thin, very rocky soil, well drained. Associated with *Ostrya*, *Juniperus virginiana*, *Lonicera maackii*, *Quercus rubra*, and *Veronicastrum*.

The following were collected by Harold Pellett, Minnesta Landscape Arboretum, 3675 Arboretum Drive 3675, Chanhassen, Minnesota 55317, United States. Received 03/22/2004.

PI 649705. *Physocarpus opulifolius* (L.) Maxim.

Wild. 03-25; Ames 27466. Collected 2003 in Minnesota, United States. Latitude 46° 39' 14" N. Longitude 92° 22' 14" W.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanical Gardens, Agricultural University, Generaal Foulkesweg 37, Wageningen, Gelderland 6703 BL, Netherlands. Received 04/22/1991.

PI 649706. *Potentilla argentea* L.

Wild. 90248; Ames 15435. Collected in Saxony, Germany. Helbigsdorf, near Dresden.

The following were donated by Ogrod Botaniczny Uniwersytetu Im. Adama Mickiewicza, ul. Dabrowskiego 165, Poznan, Poznan 60-594, Poland. Received 08/16/1991.

PI 649707. *Potentilla argentea* L.

Wild. Index Seminum 226; Ames 17766. Collected in Poznan, Poland. Slawa Wielkopolska.

PI 649708. *Potentilla argentea* L.

Wild. Index Seminum 57; Ames 17767. Collected in Bydgoszcz, Poland. Zielonczyn.

The following were donated by Tartu University Botanical Garden, 40 Lai Street, Tartu, Estonia. Received 10/10/1991.

PI 649709. *Potentilla argentea* L.

Wild. Index Seminum 1039; Ames 17832. Collected 1990 in Estonia.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/21/1994.

PI 649710. *Potentilla argentea* L.

Wild. Index Seminum 209; Ames 22110. Collected 1993 in Fejer, Hungary. Velencei Hills, near Nadap. Oakwoods and grasslands on sunny slopes and granite rocks.

The following were collected by University of Alberta, Devonian Botanic Garden and Field Laboratory, Department of Botany, Edmonton, Alberta T6G 2E1, Canada. Received 04/29/1996.

PI 649711. *Potentilla argentea* L.

Wild. Index Seminum 323; Ames 22834. Collected 04/1996 in British Columbia, Canada. Latitude 55° 5' N. Longitude 128° 7' W. Elevation 180 m. 43 km west of New Hazelton at Highway 16-37, confluence of Price Creek and Skeena River, Hazelton Mountains. Roadside bank and pasture land at fields, hemiboreal zone.

The following were collected by Jardin Botanique de Montreal, 4101 Rue Sherbrooke Est, Montreal, Quebec H1X 2B2, Canada. Received 06/14/1996.

PI 649712. *Potentilla argentea* L.

Wild. Index Seminum 177; Ames 23043. Collected 08/30/1995 in Quebec, Canada. Oka, Deux-Montagnes County. Open, xeric, sandy habitat.

The following were donated by Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States. Received 04/29/2002.

PI 649713. *Drymocallis arguta* (Pursh) Rydb. *subsp. arguta*

Wild. 34; 6-34; Ames 27671; Ames 26837. Collected 2001 in Missouri, United States. Latitude 37° 5' 33" N. Longitude 93° 43' 55" W. Elevation 394 m. Woods Prairie, Lawrence County. Virgin tallgrass prairie. 5-10% slope with a northern aspect. Prairie soil. Associated with *Sporobolus*, *Sorghastrum*, *Echinacea pallida*, and *Andropogon*.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170,

United States; Jeff Carstens, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/16/2003.

PI 649714. *Drymocallis arguta* (Pursh) Rydb. subsp. *arguta*

Wild. 13a; Ames 27307. Collected 09/14/2003 in Iowa, United States. Latitude 43° 26' 45" N. Longitude 91° 37' 20" W. Elevation 311 m. North Bear Creek Wildlife Area, Highlandville, N edge of SE 1/4 of SW 1/4 of Section 25, T100N, R7W, Dorchester Quad, Winneshiek County. Dolomite cliffs. Half sunny. Edge of sheer cliff with a N to NW aspect. Rock crevices. Associated with *Juniperus virginiana*, *J. communis*, *Aquilegia*, *Quercus macrocarpa*, *Dichanthelium*, *Tilia*, *Potentilla fruticosa*, and *Camptosorus*.

The following were collected by K.G. Tkaczenko; V.M. Reinwald. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 01/16/1998.

PI 649715. *Potentilla chinensis* Ser.

Wild. 2827; Ames 24141. Collected 1996 in Primorye, Russian Federation. Mountain ridge Gamova.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maria Fraszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Irena Stropiek, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Skłodowska, UL. Sławinkowska 3, Lublin, Lublin 20-818, Poland. Received 05/03/1995.

PI 649716. *Potentilla collina* Wibel

Wild. Index Seminum 2604; Ames 22459. Collected in Zamosc, Poland. Zwierzyniec.

The following were collected by M. Holub. Donated by Arboretum Novy Dvur, Musei Terrae Silesiae, Opava, North Moravia CZ 747 51, Czech Republic. Received 08/11/1993.

PI 649717. *Potentilla fragarioides* L.

Cultivated. Index Seminum 152; Ames 21229. Collected 1990 in Russian Federation. Elevation 100 m. Near the Toplyje ozero, Juzno Sachalinsk, Sakhalin Island. Sandy soil. Pedigree - Received seeds from garden plants grown from original wild collection.

The following were donated by USDA, ARS, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Berry Botanical Garden, 11505 S.W. Summerville Avenue, Portland, Oregon 97219, United States. Received 10/19/1989.

PI 649718. *Potentilla gracilis* Douglas ex Hook.

Cultivated. CPOT 12; Index Seminum 81; Ames 10772.

The following were collected by University of Alberta, Devonian Botanic Garden and Field Laboratory, Department of Botany, Edmonton, Alberta T6G 2E1, Canada. Received 05/11/1998.

PI 649719. *Potentilla gracilis* Douglas ex Hook.

Wild. Index Seminum 382; Ames 24571. Collected 1998 in Alberta, Canada. Latitude 49° 6' N. Longitude 112° 59' W. Elevation 1300 m. Ross Lake area, southern Alberta. Disturbed short grass prairie, dry, heavily grazed.

The following were collected by M. Krusche, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 07/08/2005.

PI 649720. *Potentilla hybrid*

Wild. No. 483; Separation from Ames 21200; Ames 27809. Collected in Germany. Sollichau. Pedigree - During the 2005 field regeneration in Ames, Iowa, the curator noted two distinct plant types among the plants grown from the original sample of Ames 21200. One type clearly fit *Potentilla recta*, agreeing with the collector. The second type, which forms this separation, was quite distinct and uniform and may represent an apomictic hybrid. Its highly branched inflorescences are made up of large numbers (30+) of small flowers with yellow petals only about 5 mm long. Its most unusual characteristic is its coarsely dentate basal leaves, which are mostly palmately 5-foliolate, with the central leaflets held on long petiolules. However, the most vigorous basal leaves have irregularly lobed central leaflets or even trifoliolate terminal segments, giving a leaf type that falls between palmately and pinnately compound. Received as *P. recta* subsp. *recta*.

The following were collected by V.N. Chramzov. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 09/29/1992.

PI 649721. *Potentilla longifolia* Willd. ex Schltldl.

Wild. Index Seminum 3449; Ames 20040. Collected 1991 in Mongolia. Near the village Tumenczogt, Suchebator region.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 11/12/1996.

PI 649722. *Potentilla longifolia* Willd. ex Schlttdl.

Wild. E94-021; E941111; Ames 23258. Collected 09/08/1994 in Dornod, Mongolia. Latitude 46° 18' 11" N. Longitude 113° 1' 55" E. Elevation 899 m. Southern edge of the grass steppe region. Grass steppe. Typical brown soils with high gravel content, thin, and low in fertility. Site aspect east, slope 5%. Very few herders or livestock in the area.

PI 649723. *Potentilla longifolia* Willd. ex Schlttdl.

Wild. E94-093; E94226; Ames 23259. Collected 09/16/1994 in Mongolia. Latitude 47° 30' 20" N. Longitude 111° 59' 57" E. Elevation 808 m. Winter camp area in the low range of mountains south of the Herlen River. Grass steppe. Soils in the bottom are deep and fertile. Site aspect southeast, slope 5%. Appeared to be highly productive grass steppe, much of the bottomland was used for cutting hay. No livestock or human population in the area.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/24/1999.

PI 649724. *Potentilla multifida* L.

Wild. 98HT-19; Ames 25340. Collected 08/28/1998 in Tov, Mongolia. Latitude 48° 6' N. Longitude 108° 44' 33" E. Elevation 1524 m. Bohaiam, Mongolmort Sum. On north side about 30 m from west-flowing small stream. Soils are typical chernozem/meadow soils found in forest steppe zone. Rock fragments present in soil. 4% slope with a southwestern aspect.

The following were collected by K.G. Tkaczenko; V.M. Reinwald. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 01/16/1998.

PI 649725. *Potentilla norvegica* L.

Wild. 2644; Ames 24140. Collected 1996 in Primorye, Russian Federation. Latitude 43° 8' N. Longitude 131° 54' E. In the vicinity of Vladivostok.

The following were collected by University of Alberta, Devonian Botanic Garden and Field Laboratory, Department of Botany, Edmonton, Alberta T6G 2E1, Canada. Received 05/11/1998.

PI 649726. *Potentilla pensylvanica* L.

Wild. Index Seminum 385; Ames 24572. Collected 1998 in Alberta, Canada. Latitude 49° 6' N. Longitude 112° 59' W. Elevation 1300 m. Ross Lake area, southern Alberta. Disturbed short grass prairie, dry, heavily grazed.

The following were donated by University of Toronto, Seed Exchange Program, Department of Botany, Toronto, Ontario M5S 3B2, Canada. Received 04/08/1993.

PI 649727. *Potentilla recta* L.

Wild. 138; Ames 20216.

The following were collected by M. Krusche, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 07/07/1993.

PI 649728. *Potentilla recta* L.

Wild. Index Seminum 483; Ames 21200. Collected in Saxony-Anhalt, Germany . Sollichau.

The following were collected by University of Alberta, Devonian Botanic Garden and Field Laboratory, Department of Botany, Edmonton, Alberta T6G 2E1, Canada. Received 04/29/1996.

PI 649729. *Potentilla recta* L.

Wild. Index Seminum 325; Ames 22836. Collected 04/1996 in British Columbia, Canada. Latitude 51° 23' N. Longitude 119° 27' W. Elevation 280 m. Clearwater-Wells Gray area, northern end of Adams Lake, southeast of Clearwater. Lake shore and camping area, orohemiboreal zone.

The following were collected by Botanical Garden of Iran, Research Institute of Forests and Rangel, P.O. Box 13185-116, Tehran, Tehran, Iran. Received 10/01/1996.

PI 649730. *Potentilla recta* L.

Wild. Index Seminum 433; Ames 23216. Collected 1996 in Tehran, Iran. Elevation 2200 m. Gachsar to Dizin, road to Varangrud.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maria Fraszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Irena Stropek, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Skłodowska, UL. Sławinkowska 3, Lublin, Lublin 20-818, Poland. Received 05/03/1995.

PI 649731. *Drymocallis rupestris* (L.) Sojak

Wild. Index Seminum 2605; Ames 22460. Collected in Poland. Kazimierz n/Wisla, Pulawy.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 06/05/1997.

PI 649732. *Potentilla tanacetifolia* Willd. ex Schlttdl.

Wild. 96S-62; Ames 23802. Collected 08/30/1996 in Govi-Altay, Mongolia. Latitude 45° 31' 39" N. Longitude 94° 37' 57" E. Elevation 2115 m. Bugat (Bugata Suma), on and near Lamin ekh Mountain about 100 km from summit center. Lower elevation of mountain range in desert steppe. Slope of 5 to 30%, southern aspect, comprised of granodiorite materials including quartzite and quartz. Soils are coarse loamy brown sands with at least 60% coarse fragments.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/24/1999.

PI 649733. *Potentilla tanacetifolia* Willd. ex Schlttdl.

Wild. 98HT-56; Ames 25339. Collected 08/30/1998 in Hentiy, Mongolia. Latitude 48° 9' 36" N. Longitude 109° 25' 14" E. Elevation 1524 m. Ommodelger Sum. Scattered *Larix* trees occur on the higher elevations of the grassland. Soil is very gravelly and is formed from eroded granitic rock. Fire occurred at site about two years ago. 8% slope with a southern aspect. Poor forage.

PI 649734. *Potentilla tanacetifolia* Willd. ex Schlttdl.

Wild. 98HT-143; Ames 25343. Collected 09/03/1998 in Hentiy, Mongolia. Latitude 48° 49' 41" N. Longitude 110° 8' 6" E. Elevation 1219 m. Batchirrit Sum. West side of the Onon Gol Valley on the edge of a river-formed terrace. Old channels have tree and brush cover, and open areas are used as hayfields. Soil is rocky and gravelly. 1.5% slope with a southern aspect. Poor forage.

The following were collected by Jaana Moilanen; Markku Huttunen. Donated by Botanical Garden, University of Joensuu, P.O. Box 111, Joensuu, Pohjois-Karjala SF 80101, Finland. Received 09/08/1993.

PI 649735. *Potentilla thuringiaca* Bernh. ex Link

Wild. Index Seminum 457; Ames 21470. Collected 07/15/1992 in Pohjois-Karjala, Finland. Latitude 62° 12' N. Longitude 30° 19' E. Jalajanvaara, Tohmajarvi. Gentle southwest slope in open meadow.

The following were donated by Michigan State University, W. J. Beal Botanical Garden, 412 Olds Hall, East Lansing, Michigan 48824-1047, United States. Received 02/16/1990.

PI 649736. *Potentilla tridentata* Aiton

Wild. Index Seminum 522; Ames 12807. Collected in Michigan, United States. Latitude 46° 30' N. Longitude 87° 30' W. Marquette County. Fissure in rock outcrop.

The following were collected by Harold Pellett, Landscape Plant Development Center, 1450 Game Farm Road, P.O. Box 444, Mound, Minnesota 55364, United States. Received 03/10/2003.

PI 649737. *Rhus typhina* L.

Wild. 02-005; Ames 27003. Collected 2002 in Minnesota, United States. Latitude 44° 58' 57" N. Longitude 93° 43' 54" W. Just southeast of Lyndale, Hennepin County. Along trail converted from abandoned railroad.

The following were collected by Tiecheng Cui, Xian Botanic Garden, Cuihua South Rd., Xian City, Shaanxi 710061, China. Received 02/2002.

PI 649738. *Sorbaria kirilowii* (Regel & Tiling) Maxim.

Wild. Cui 2001-068; NA 72073; Zhen Zhu Mei; Ames 26901. Collected 11/06/2001 in Shaanxi, China. Latitude 34° 4' 50" N. Longitude 107° 54' 50" E. Elevation 1360 m. East River, Taibaishan, Meixian County. 45 degrees of slope, northern aspect. Mountain brown soil. Associated with *Pinus armandii*, *P. tabuliformis*, *Quercus aliena* var. *acuteserrata*, *Philadelphus* sp., *Ligularia* sp., and *Deutzia* sp. 2.5 meters high, D.B.H. 3 cm. Remaining stamens long. Remaining sepals flexuous. Remaining pedicels bent.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/24/1999.

PI 649739. *Spiraea flexuosa* Fisch. ex Cambess.

Wild. 98HT-59; Ames 25357. Collected 08/30/1998 in Hentiy, Mongolia. Latitude 48° 9' 36" N. Longitude 109° 25' 14" E. Elevation 1524 m. Omnodelger Sum. Scattered *Larix* trees occur on the higher elevations of the grassland. Soil is very gravelly and is formed from eroded granitic rock. Fire occurred at site about two years ago. 8% slope with a southern aspect. Used for medicinal purposes.

The following were donated by The Morton Arboretum, Route 53, Lisle, Illinois 60532, United States. Received 04/24/1996.

PI 649740. *Spiraea media* Schmidt

Wild. 9-1; 214-93; Ames 22815. Collected 1993 in Russian Federation. Altai Mountains, Sema River. Meadow/open woodland habitat in floodplains, growing mostly in shade.

The following were collected by Vasily Yukhnovsky, National Agricultural University of Ukraine, Forestry Department, Str. 15 G. Oborony, Kiev, Kiev 252041, Ukraine. Received 11/27/2000.

PI 649741. *Spiraea media* Schmidt

Cultivated. 6.1; Ames 26150. Collected 10/2000 in Kiev, Ukraine.
Latitude 50° 26' N. Longitude 30° 31' E. Elevation 120 m.
National Botanical Garden, Kyiv.

The following were donated by The Morton Arboretum, Route 53, Lisle, Illinois 60532, United States; Beijing Botanical Garden, Botanical Institute of the Chinese Academy, Xiangshan, Beijing, Beijing 100093, China. Received 12/29/2003.

PI 649742. *Spiraea mongolica* Maxim. var. *mongolica*

Wild. 20-2002; Ames 27431. Collected 2002 in Shaanxi, China. Elevation 2100 m. Green Corridor, Pangquangou.

The following were collected by W. J. Beal Botanical Garden, Michigan State University, 412 Olds Hall, East Lansing, Michigan 48824-1047, United States. Received 04/18/2001.

PI 649743. *Spiraea tomentosa* L.

Wild. Index Seminum 92; 20000649; Ames 26250. Collected 10/14/2000 in Michigan, United States. Latitude 42° 6' N. Longitude 83° 31' W.
Elevation 203 m. Holloway Borrow Pit, Wayne County. Mesic sand prairie.

The following were donated by Michigan State University, W. J. Beal Botanical Garden, 412 Olds Hall, East Lansing, Michigan 48824-1047, United States. Received 02/16/1990.

PI 649744. *Staphylea trifolia* L.

Wild. Index Seminum 541; Ames 12809. Collected in Michigan, United States. Latitude 42° 44' N. Longitude 84° 29' W. Ingham County.
Stream bank.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Jeff Carstens, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 10/27/2003.

PI 649745. *Symphoricarpos orbiculatus* Moench

Wild. 44; Ames 27337. Collected 10/21/2003 in Iowa, United States.
Latitude 41° 47' 41" N. Longitude 93° 25' 47" W. Elevation 250 m. Chichaqua Wildlife Habitat Park bottoms, Elkhart, NW corner of SE 1/4 of SE 1/4 of Section 29, T81N, R22W, Loring Quad, Polk County. Alluvial soil. Understory of green ash, *Cornus drummondii*, *Rubus occidentalis*, and *Smilax*. Low, suckering shrubs to 1 meter tall. Good fruit and foliage quality.

The following were collected by Ewa Antoniewska, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Elzbieta Zygal, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Urszula Zablocka, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Donated by Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Received 09/16/2003.

PI 649746. *Tanacetum corymbosum* subsp. *clusii* (Fisch. ex Rchb.) Heywood
Wild. Index Seminum 245; Ames 27290. Collected 09/01/2002 in Krosno, Poland. Latitude 49° 10' N. Longitude 22° 31' E. Polonina Wetlinska, Bieszczady Mountains.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/02/1998.

PI 649747. *Tanacetum corymbosum* (L.) Sch. Bip. subsp. *corymbosum*
Wild. Index Seminum 89; Ames 24669. Collected 1997 in Veszprem, Hungary. Latitude 47° 49' N. Longitude 17° 22' E. Somlo Hill. Dry forest and secondary grassland on a volcanic (basalt) hill.

The following were collected by A. S. Barclay, USDA, ARS, Crops Research Division, Plant Industry Station, Beltsville, Maryland 20705-2350, United States; L.A. Spetzman, Plant Science Research Division, USDA-ARS, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 649748. *Tanacetum huronense* Nutt.
Uncertain. 1504; NU 61093; Ames 24491. Collected 01/1998 in United States.

The following were donated by Heilongjiang Province Academy of Forestry, Haping Road, Harbin, Heilongjiang, China. Received 07/13/1992.

PI 649749. *Xanthoceras sorbifolium* Bunge
Uncertain. Index Seminum S100; Ames 19155.

The following were collected by Karen A. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 402, BARC-West, Beltsville, Maryland 20705-2350, United States; Cesar Tapia, Instituto Nacional Autonomo de Investigaciones Agropecuarias, Departamento Nacional de Recursos Fitogeneticos Y Biotecnolog, Estacion Experimental Sta. Catalina, Santa Catalina, Pichincha, Ecuador; David E. Williams, Internat'l Plant Genetic Resources Inst., Regional Office for the Americas, c/o CIAT, Int'l Ctr. for Tropical Agric., Cali, Valle, Colombia. Received 11/17/1995.

PI 649750. *Arachis hypogaea* L. var. *hypogaea*

Landrace. WWT-1373; mani caramelo; Grif 12595. Collected 11/04/1995 in Manabi, Ecuador. Latitude 0° 51' 11" S. Longitude 80° 30' 24" W. Elevation 5 m. Provincia Manabi, Canton Portoviejo, Parroquia Crucita, Localidad Correagua. Farmer's house. Pedigree - Selection from a mixture with Grif 12596 based on seed coat color. Seed red and white. Pods smooth, 2-seeded.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 08/23/1989.

PI 649751. *Linum usitatissimum* L.

Cultivated. 5; Ames 10746. Collected 04/17/1989 in Morocco. Market in Settat.

PI 649752. *Linum usitatissimum* L.

Cultivated. 38; Ames 10747. Collected 04/19/1989 in Morocco. Market in Meknes.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 08/24/1992.

PI 649753. *Linum usitatissimum* L.

Cultivated. B92-10; Ames 26037; W6 10909. Collected 06/25/1992 in Plovdiv, Bulgaria. Latitude 42° 9' N. Longitude 24° 45' E. Plovdiv.

Unknown source. Received 11/12/2004.

PI 649754. *Linum usitatissimum* L.

Uncertain. TJK04-20; Ames 27632. Collected 07/15/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649755. *Linum usitatissimum* L.

Cultivated. TJK04-23; Ames 27633. Collected 07/16/2004 in Tajikistan. Farm store. Irrigated.

Unknown source. Received 11/12/2004.

PI 649756. *Linum usitatissimum* L.

Cultivated. TJK04-72; Ames 27634. Collected 07/17/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649757. *Linum usitatissimum* L.

Uncertain. TJK04-256; Ames 27635. Collected 07/20/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649758. *Linum usitatissimum* L.

Uncertain. TJK04-262; Ames 27636. Collected 07/21/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649759. *Linum usitatissimum* L.

Uncertain. TJK04-297; Ames 27637. Collected 07/22/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649760. *Linum usitatissimum* L.

Uncertain. TJK04-348; Ames 27638. Collected 07/24/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649761. *Linum usitatissimum* L.

Uncertain. TJK04-367; Ames 27639. Collected 07/24/2004 in Tajikistan.

Unknown source. Received 11/12/2004.

PI 649762. *Linum usitatissimum* L.

Uncertain. TJK04-402; Ames 27640. Collected 07/25/2004 in Tajikistan.

The following were collected by Jean-Luc Gatard, Jardin d'essai, Les Ouzinieres, Reaumur, Vendee 85700, France. Received 04/28/1997.

PI 649763. *Euphorbia characias* L.

Wild. Index Seminum 050; Ames 23698. Collected 06/19/1996 in Bouches-du-Rhone, France. Latitude 43° 34' N. Longitude 5° 42' E. "Vallon d'en Vau" in Bois de la Gardiole (forest) near the city of Marseille.

The following were collected by CIDA, Apartado Oficial, La Alberca, Murcia 30150, Spain; Cesar Gomez Campo, CIDA, Apartado Oficial, La Alberca, Murcia 30150, Spain. Received 04/17/1996.

PI 649764. *Euphorbia lagascae* Spreng.

Wild. CIDA 302; Ames 22899. Collected in Alicante, Spain. Latitude 38° 26' N. Longitude 0° 38' W. Agost.

The following were collected by CIDA, Apartado Oficial, La Alberca, Murcia 30150, Spain; Reinhard Vogel. Received 04/17/1996.

- PI 649765. *Euphorbia lagascae* Spreng.**
Wild. CIDA 304; Ames 22901. Collected 1986 in Valencia, Spain. Latitude 38° 57' N. Longitude 0° 29' W. Near Bellus along Highway N340 between Bellus and Jativa.
- PI 649766. *Euphorbia lagascae* Spreng.**
Wild. CIDA 308; Ames 22904. Collected 1986 in Murcia, Spain. Latitude 38° 0' N. Longitude 1° 9' W. Near Espinardo along Highway N301 between Murcia and Albacete.
- PI 649767. *Euphorbia lagascae* Spreng.**
Wild. CIDA 311; Ames 22907. Collected 1986 in Murcia, Spain. Latitude 37° 39' N. Longitude 0° 51' W. Near El Algar along Highway N332 between La Union and Torrevieja. Latitude and longitude are estimates.
- PI 649768. *Euphorbia lagascae* Spreng.**
Wild. CIDA 312; Ames 22908. Collected 1986 in Murcia, Spain. Latitude 37° 51' N. Longitude 1° 25' W. Alhama de Murcia.
- PI 649769. *Euphorbia lagascae* Spreng.**
Wild. CIDA 313; Ames 22909. Collected 1987 in Murcia, Spain. Latitude 37° 58' N. Longitude 1° 13' W. Near Alcantarilla along Highway N340 between Murcia and Lorca.
- PI 649770. *Euphorbia lagascae* Spreng.**
Wild. CIDA 315; Ames 22911. Collected 1987 in Murcia, Spain. Latitude 37° 51' N. Longitude 1° 25' W. Near Alhama de Murcia along Highway N340 between Murcia and Almeria at the 627 km road marker.
- PI 649771. *Euphorbia lagascae* Spreng.**
Wild. CIDA 319; Ames 22916. Collected 1987 in Murcia, Spain. Latitude 37° 45' N. Longitude 0° 51' W. Near Los Alcazares along Highway N332 between La Union and San Javier at the 23.5 km road marker.
- PI 649772. *Euphorbia lagascae* Spreng.**
Wild. CIDA 320; Ames 22917. Collected 1987 in Murcia, Spain. Latitude 37° 45' N. Longitude 0° 51' W. Near Los Alcazares along Highway N332 between La Union and San Javier at the 22.5 km road marker.
- PI 649773. *Euphorbia lagascae* Spreng.**
Wild. CIDA 321ep; Ames 22919. Collected 1987 in Murcia, Spain. Latitude 38° 3' N. Longitude 0° 55' W. Near Hurchillo along Highway AV3315 between Hurchillo and Arneva.
- PI 649774. *Euphorbia lagascae* Spreng.**
Wild. CIDA 334; Ames 22931. Collected 1987 in Murcia, Spain. Latitude 38° 3' N. Longitude 1° 12' W. Near Molina de Segura along Highway N301 between Murcia and Madrid at the 385.3 road marker.
- PI 649775. *Euphorbia lagascae* Spreng.**
Wild. CIDA 336; Ames 22934. Collected 1987 in Murcia, Spain. Latitude 38° 14' N. Longitude 1° 42' W. Near Calasparra along Highway MU552 between Calasparra and Mula at the 1 km road marker.

- PI 649776. *Euphorbia lagascae* Spreng.**
Wild. CIDA 339; Ames 22936. Collected 1988 in Murcia, Spain. Latitude 38° 1' N. Longitude 1° 14' W. Near Los Pulpites along Highway N344 between Alcantarilla and Las Torres de Cotillas.
- PI 649777. *Euphorbia lagascae* Spreng.**
Wild. CIDA 340; Ames 22937. Collected 1988 in Alicante, Spain. Latitude 38° 10' N. Longitude 0° 50' W. Near Rincon de Bonanza along Highway N340 between Murcia and Alicante. Latitude and longitude are estimates.
- PI 649778. *Euphorbia lagascae* Spreng.**
Wild. CIDA 343; Ames 22940. Collected 1988 in Murcia, Spain. Latitude 38° 5' N. Longitude 0° 57' W. Near Orihuela (at the entrance) along Highway N340 between Murcia and Alicante.
- PI 649779. *Euphorbia lagascae* Spreng.**
Wild. CIDA 348; Ames 22945. Collected 1988 in Murcia, Spain. Latitude 38° 10' N. Longitude 0° 58' W. 200 m from Los Vicentes and La Murada along Highway A413 to Abanilla.
- PI 649780. *Euphorbia lagascae* Spreng.**
Wild. CIDA 349; Ames 22946. Collected 1988 in Murcia, Spain. Latitude 38° 11' N. Longitude 1° 7' W. Near Fortuna along Highway C3223 near the entrance to Banos de Fortuna.
- PI 649781. *Euphorbia lagascae* Spreng.**
Wild. CIDA 352; Ames 22949. Collected 1988 in Murcia, Spain. Latitude 38° 8' N. Longitude 1° 13' W. Near Almacen Corte Ingles, between Albarda and Los Medinas, just off Highway N301. Latitude and longitude are estimates.
- PI 649782. *Euphorbia lagascae* Spreng.**
Wild. CIDA 354; Ames 22951. Collected 1988 in Murcia, Spain. Latitude 37° 59' N. Longitude 0° 59' W. Near Cabezo de la Plata along Highway MU301 between Murcia and Sucina at the 14.9 km road marker.
- PI 649783. *Euphorbia lagascae* Spreng.**
Wild. CIDA 356; Ames 22953. Collected 1988 in Albacete, Spain. Latitude 38° 25' N. Longitude 1° 35' W. Near Cancarix along Highway N301 between Murcia and Madrid at the 324.5 km road marker.
- PI 649784. *Euphorbia lagascae* Spreng.**
Wild. CIDA 360; Ames 22957. Collected 1988 in Murcia, Spain. Latitude 37° 38' N. Longitude 1° 12' W. Near Los Ruices along Highway N301 between Murcia and Cartagena at the 419 km road marker.
- PI 649785. *Euphorbia lagascae* Spreng.**
Wild. CIDA 361; Ames 22958. Collected 1988 in Murcia, Spain. Latitude 37° 45' N. Longitude 1° 6' W. Near Balsa-Pintada just off Highway N301 between Murcia and Cartagena at the 421.9 km road marker.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 08/26/1996.

PI 649786. *Euphorbia lathyris* L.

224; Ames 23184. Collected 1995 in Saxony-Anhalt, Germany. Langendorf.

The following were donated by C.M. Owsley, USDA, NRCS, Americus Plant Materials Center, Route 6, Box 417, Americus, Georgia 31709, United States. Received 07/09/1990.

PI 649787. *Euphorbia marginata* Pursh

9002172; Ames 13856.

The following were collected by William Van Roekel, USDA-ARS, North Central Regional Plant Intro. Sta., Iowa State University, Ames, Iowa 50011-1170, United States. Received 06/24/2002.

PI 649788. *Euphorbia myrsinites* L.

Cultivated. Donkey Tail; Ames 26851. Collected 06/15/2002 in Illinois, United States. Lake Villa. Private garden.

The following were collected by Armando De Jesus Machado, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Jose Loureiro Martins, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Andre Dos Anjos Da Serra, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Donated by Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Received 06/04/1997.

PI 649789. *Euphorbia peplus* L.

Wild. Index Seminum 104; Ames 23777. Collected 06/14/1996 in Porto, Portugal. Latitude 41° 9' N. Longitude 8° 38' W. Lordelo do Ouro-Porto, Douro Litoral Province.

The following were collected by Jean-Luc Gatard, Jardin d'essai, Les Ouzinieres, Reaumur, Vendee 85700, France. Received 04/28/1997.

PI 649790. *Euphorbia spinosa* L.

Wild. Index Seminum 051; Ames 23699. Collected 07/03/1996 in Alpes-Maritimes, France. Latitude 43° 40' N. Longitude 6° 55' E. "Marbriere" forest near the city of Grasse.

The following were donated by William Van Roekel, USDA-ARS, North Central Regional Plant Intro. Sta., Iowa State University, Ames, Iowa 50011-1170, United States. Received 08/04/1997.

PI 649791. *Euphorbia tirucalli* L.

Clone. Ames 23865. Developed in United States.

The following were donated by W. W. Roath, U.S. Department of Agriculture, North Dakota State University, Waldron Hall, Fargo, North Dakota, United States. Received 01/21/1985.

PI 649792. Helianthus annuus L.

Wild. Ames 3246. Collected in Unknown.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/25/1985.

PI 649793. Helianthus annuus L.

Wild. 1972 R-Line Composite; Ames 4113. Developed in United States. Orig. R-Line Comp. 1972 R (844516-20).

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States; Henry Shands, Dekalb-Pfizer Genetics, Glyndon, Minnesota, United States. Received 04/12/1985.

PI 649794. Helianthus annuus L.

Wild. 11602-4; Ames 4298. Collected in Uncertain. 1982 Glyndon 3175-2 ornamental.

PI 649795. Helianthus annuus L.

Wild. 11602-5; Ames 4299. 1982 Glyndon 3175-2 ornamental.

PI 649796. Helianthus annuus L.

Wild. 11602-6; Ames 4300. 1982 Glyndon 3175-2 ornamental.

PI 649797. Helianthus annuus L.

Wild. 11603-1; Ames 4301. 1982 Glyndon 3175-3 ornamental.

PI 649798. Helianthus annuus L.

Wild. 11603-3; Ames 4303. 1982 Glyndon 3175-3 ornamental.

PI 649799. Helianthus annuus L.

Wild. 11605-2; Ames 4305. 1982 Glyndon 3175-5 ornamental.

PI 649800. Helianthus annuus L.

Wild. 11605-3; Ames 4306. 1982 Glyndon 3175-5 ornamental.

PI 649801. Helianthus annuus L.

Wild. 11606-1; Ames 4307. 1982 Glyndon 3175-6 ornamental.

PI 649802. Helianthus annuus L.

Wild. 11607-1; Ames 4308. 1982 Glyndon 3175-N1 ornamental.

PI 649803. Helianthus annuus L.

Wild. 11610-1; Ames 4310. 1982 Glyndon 6.17.70-N ornamental.

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649804. *Helianthus annuus* L.
Wild. ANN-43; Ames 6145. Collected 07/1972 in Nebraska, United States.
Latitude 42° 41' 2" N. Longitude 102° 41' 22" W. Hay Springs,
Sheridan County.

PI 649805. *Helianthus annuus* L.
Wild. ANN-66; Ames 6161. Collected 09/1972 in Wyoming, United States.
Latitude 42° 45' 45" N. Longitude 104° 27' 6" W. Lusk.

PI 649806. *Helianthus annuus* L.
Wild. ANN-79; Ames 6172. Collected 09/1972 in Wyoming, United States.
Latitude 41° 25' 4" N. Longitude 104° 5' 52" W. Albin, Laramie
County.

PI 649807. *Helianthus annuus* L.
Wild. ANN-165; Ames 6227. Collected 09/1972 in South Dakota, United
States. Latitude 43° 18' 21" N. Longitude 100° 39' 28" W.
Mission.

PI 649808. *Helianthus annuus* L.
Wild. ANN-177; Ames 6238. Collected 09/1972 in South Dakota, United
States. Latitude 45° 50' 5" N. Longitude 100° 4' 8" W. Herreid,
Campbell County.

PI 649809. *Helianthus annuus* L.
Wild. ANN-226; Ames 6255. Collected 07/07/1986 in United States.

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod.
Res Lab, PO Drawer 10, Bushland, Texas 79012, United States. Donated by
Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer
10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649810. *Helianthus annuus* L.
Wild. ANN-1139; Ames 6934. Collected 09/10/1979 in Texas, United States.
Latitude 30° 58' 53" N. Longitude 94° 49' 34" W. Corrigan on
Highway 59.

PI 649811. *Helianthus annuus* L.
Wild. ANN-1144; Ames 6939. Collected 09/10/1979 in Texas, United States.
Latitude 29° 33' N. Longitude 95° 48' W. Rosenberg, west edge of
Alt 90.

The following were collected by B.H. Beard, USDA-ARS, Agronomy & Range
Science, University of California, Davis, California 95616, United States.
Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab.,
P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649812. *Helianthus annuus* L.
Wild. ANN-988; Ames 7062. Collected 09/17/1979 in Arizona, United States.
Latitude 32° 43' 31" N. Longitude 114° 37' 25" W. Along I-8,
36 miles east of Yuma, Yuma County. Population along irrigation ditch
and highway.

- PI 649813. *Helianthus annuus* L.**
Wild. ANN-991; Ames 7064. Collected 09/17/1979 in Arizona, United States. Latitude 33° 27' 33" N. Longitude 112° 54' 6" W. Between Wintersburg and Tonopah, Maricopa County. Population along sides of a dry wash.
- PI 649814. *Helianthus annuus* L.**
Wild. ANN-992; Ames 7065. Collected 09/17/1979 in Arizona, United States. Latitude 33° 29' 37" N. Longitude 112° 56' 11" W. Along I-10, 2 miles south of Tonopah, Maricopa County. Collected at end of dry wash.
- PI 649815. *Helianthus annuus* L.**
Wild. ANN-994; Ames 7067. Collected 09/18/1979 in California, United States. Latitude 32° 44' 22" N. Longitude 114° 38' 2" W. Along old Highway 80, about 2 miles east of Winterhaven, Imperial County. Small plants along edge of highway.
- PI 649816. *Helianthus annuus* L.**
Wild. ANN-997; Ames 7069. Collected 09/18/1979 in California, United States. Latitude 32° 58' 43" N. Longitude 115° 31' 46" W. Along Highway 78, 15 miles east of Brawley, Imperial County. Large swarm of plants near irrigation ditch.
- PI 649817. *Helianthus annuus* L.**
Wild. ANN-999; Ames 7071. Collected 09/18/1979 in California, United States. Latitude 32° 47' 31" N. Longitude 115° 33' 44" W. 20 miles west of El Centro along old Highway 80, Imperial County.
- PI 649818. *Helianthus annuus* L.**
Wild. ANN-1000; Ames 7072. Collected 09/18/1979 in California, United States. Latitude 32° 37' 3" N. Longitude 116° 11' 20" W. 1 mile east of Jacumba, along old Highway 80, San Diego County.
- PI 649819. *Helianthus annuus* L.**
Wild. ANN-1001; Ames 7073. Collected 09/18/1979 in California, United States. Latitude 32° 37' 3" N. Longitude 116° 11' 20" W. Along old Highway 80, 5 miles west of Jacumba, San Diego County.
- PI 649820. *Helianthus annuus* L.**
Wild. ANN-1002; Ames 7074. Collected 09/18/1979 in California, United States. Latitude 33° 2' N. Longitude 116° 48' W. Along Highway 94, 2 miles west of Camps, San Diego County.
- PI 649821. *Helianthus annuus* L.**
Wild. ANN-1003; Ames 7075. Collected 09/18/1979 in California, United States. Latitude 33° 2' N. Longitude 116° 48' W. Near junction of Highway 94 and Harris Road, west of Camps, San Diego County.
- PI 649822. *Helianthus annuus* L.**
Wild. ANN-1004; Ames 7076. Collected 09/19/1979 in California, United States. Latitude 33° 9' 37" N. Longitude 117° 7' 34" W. Along I-15, 2 miles north of Escondido, San Diego County.
- PI 649823. *Helianthus annuus* L.**
Wild. ANN-1006; Ames 7078. Collected 09/19/1979 in California, United States. Latitude 33° 57' 12" N. Longitude 117° 23' 43" W. Along I-15, about 35 miles south of Riverside, Riverside County.

- PI 649824. *Helianthus annuus* L.**
Wild. ANN-1008; Ames 7080. Collected 09/19/1979 in California, United States. Latitude 34° 6' 30" N. Longitude 117° 17' 20" W. Along I-15 E, about 5 miles north of San Bernardino, San Bernardino County.
- PI 649825. *Helianthus annuus* L.**
Wild. ANN-1009; Ames 7081. Collected 09/19/1979 in California, United States. Latitude 34° 22' N. Longitude 118° 12' W. About 2 miles east of Peachblossom, along Highway 138, Los Angeles County.
- PI 649826. *Helianthus annuus* L.**
Wild. ANN-1012; Ames 7084. Collected 09/19/1979 in California, United States. Latitude 34° 41' 53" N. Longitude 118° 8' 9" W. 17 miles from Lancaster, west along Highway 138, Kern County.
- PI 649827. *Helianthus annuus* L.**
Wild. ANN-1013; Ames 7085. Collected 09/19/1979 in California, United States. Latitude 34° 41' 53" N. Longitude 118° 8' 9" W. 26 miles from Lancaster, west along Highway 138, Kern County.
- PI 649828. *Helianthus annuus* L.**
Wild. ANN-1014; Ames 7086. Collected 09/19/1979 in California, United States. Latitude 34° 47' 46" N. Longitude 118° 51' 6" W. About 1 mile east of junction 138 and I-5, near Gorman, Kern County.
- PI 649829. *Helianthus annuus* L.**
Wild. ANN-1015; Ames 7087. Collected 09/19/1979 in California, United States. Latitude 34° 47' 46" N. Longitude 118° 51' 6" W. 3 miles north of Gorman, along I-5, Kern County.
- PI 649830. *Helianthus annuus* L.**
Wild. ANN-1017; Ames 7089. Collected 09/20/1979 in California, United States. Latitude 35° 20' N. Longitude 118° 40' W. Along Highway 43, about 5 miles north of junction 43 and 46, Kern County.
- PI 649831. *Helianthus annuus* L.**
Wild. ANN-1018; Ames 7090. Collected 09/20/1979 in California, United States. Latitude 35° 35' 39" N. Longitude 119° 20' 24" W. Along Highway 43, about 11 miles north of Wasco, Kern County.
- PI 649832. *Helianthus annuus* L.**
Wild. ANN-1019; Ames 7091. Collected 09/20/1979 in California, United States. Latitude 35° 35' 39" N. Longitude 119° 20' 24" W. Along Highway 43, about 22 miles north of Wasco, Kern County.
- PI 649833. *Helianthus annuus* L.**
Wild. ANN-1020; Ames 7092. Collected 09/20/1979 in California, United States. Latitude 36° 5' 53" N. Longitude 119° 33' 34" W. Along Highway 43, about 9 miles south of Corcoran, Tulare County.
- PI 649834. *Helianthus annuus* L.**
Wild. ANN-1021; Ames 7093. Collected 09/20/1979 in California, United States. Latitude 36° 5' 53" N. Longitude 119° 33' 34" W. Beside Obeda Stewart Trucking Company gate, Corcoran, Tulare County.

- PI 649835. *Helianthus annuus* L.**
Wild. ANN-1026; Ames 7098. Collected 09/20/1979 in California, United States. Latitude 36° 2' N. Longitude 119° 50' W. 1 mile from junction of Highway 198 and Stratford exit, about 3 miles west of Lemony, Kings County.
- PI 649836. *Helianthus annuus* L.**
Wild. ANN-1027; Ames 7099. Collected 09/20/1979 in California, United States. Latitude 36° 31' 54" N. Longitude 120° 5' 50" W. Along Dickenson Road at south edge of Helm, Fresno County.
- PI 649837. *Helianthus annuus* L.**
Wild. ANN-1028; Ames 7100. Collected 09/20/1979 in California, United States. Latitude 36° 40' N. Longitude 119° 50' W. Along Dickerson Road, about 0.25 miles north of turn from Mullein Road, Fresno County.
- PI 649838. *Helianthus annuus* L.**
Wild. ANN-1030; Ames 7102. Collected 09/21/1979 in California, United States. Latitude 36° 44' 52" N. Longitude 119° 46' 17" W. Along Highway 99, about 10 miles north of Fresno, Fresno County.
- PI 649839. *Helianthus annuus* L.**
Wild. ANN-1031; Ames 7103. Collected 09/21/1979 in California, United States. Latitude 36° 44' 52" N. Longitude 119° 46' 17" W. Along Highway 99, about 29 miles north of Fresno, Madera County.
- PI 649840. *Helianthus annuus* L.**
Wild. ANN-1032; Ames 7104. Collected 09/21/1979 in California, United States. Latitude 36° 44' 52" N. Longitude 119° 46' 17" W. Along Highway 99, 1 mile north of Mariposa Road, 35 miles north of Fresno, Madera County.
- PI 649841. *Helianthus annuus* L.**
Wild. ANN-1034; Ames 7106. Collected 09/21/1979 in California, United States. Latitude 37° 29' 41" N. Longitude 120° 50' 44" W. Along Highway 99, 4 miles south of Turlock, Merced County.
- PI 649842. *Helianthus annuus* L.**
Wild. ANN-1035; Ames 7107. Collected 09/21/1979 in California, United States. Latitude 37° 38' 21" N. Longitude 120° 59' 45" W. Along Highway 99, about 5 miles north of Modesto, Merced County.
- PI 649843. *Helianthus annuus* L.**
Wild. ANN-1036; Ames 7108. Collected 09/21/1979 in California, United States. Latitude 38° 33' 48" N. Longitude 121° 36' 59" W. West end of causeway between Sacramento and Davis, along Highway 80, Yolo County.
- PI 649844. *Helianthus annuus* L.**
Wild. ANN-1038; Ames 7110. Collected 09/22/1979 in California, United States. Latitude 38° 49' 45" N. Longitude 122° 11' 34" W. Along Highway 16, about 3 miles south of Guinda, Yolo County.

The following were collected by C.E. Rogers. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649845. *Helianthus annuus* L.

Wild. ANN-1693; Ames 7442. Collected 06/16/1981 in Texas, United States. Latitude 30° 5' 53" N. Longitude 100° 23' 11" W. Along Highway 55, 12 miles northwest of Rocksprings.

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod. Res Lab, PO Drawer 10, Bushland, Texas 79012, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649846. *Helianthus annuus* L.

Wild. ANN-1697; Ames 7446. Collected 06/17/1981 in Texas, United States. Latitude 29° 12' 34" N. Longitude 99° 47' 9" W. Along Highway 90, junction of 1574 and Highway 90, east of Uvalde.

PI 649847. *Helianthus annuus* L.

Wild. ANN-1698; Ames 7447. Collected 06/17/1981 in Texas, United States. Latitude 29° 22' 50" N. Longitude 99° 7' 3" W. Along Highway 173, 1 mile north of Highway 90, east of Hondo.

PI 649848. *Helianthus annuus* L.

Wild. ANN-1699; Ames 7448. Collected 06/18/1981 in Texas, United States. Latitude 32° 0' 51" N. Longitude 100° 33' 15" W. Along Highway 208 at Creek Bria, about 9 miles north of Robert Lee.

PI 649849. *Helianthus annuus* L.

Wild. ANN-1701; Ames 7450. Collected 06/18/1986 in Texas, United States. Latitude 32° 45' 44" N. Longitude 100° 55' 58" W. Along Highway 84, 3 miles west of Snyder.

PI 649850. *Helianthus annuus* L.

Wild. ANN-1704; Ames 7453. Collected 06/18/1981 in Texas, United States. Latitude 33° 15' 25" N. Longitude 101° 23' 33" W. Along Highway 207, 4 miles north of Post.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/29/1990.

PI 649851. *Helianthus annuus* L.

Wild. Ames 14400. Collected 11/06/1990 in Arizona, United States. Latitude 32° 12' N. Longitude 110° 58' W. Elevation 2370 m. Osborne Avenue, south of 22nd Street, Tucson, extreme NE corner of Section 23, T14S, R13E, Pima County. Along a drainage ditch. Population size about 30 plants. Plants to 2.5 meters tall, very branched, a few still flowering.

The following were collected by Redwood City Seed Company, P.O. Box 361, Redwood City, California 94064, United States. Received 07/01/1996.

PI 649852. *Helianthus annuus* L.

Wild. Yokut Indian Sunflower; Ames 23170. Collected 10/1995 in California, United States. Latitude 37° 49' 22" N. Longitude 121° 16' 32" W. Lathrop, San Joaquin Co. California. Former American Indian village site.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 10/28/1996.

PI 649853. *Helianthus annuus* L.

Wild. Ames 23238. Collected 10/13/1996 in Ohio, United States. Latitude 39° 10' 16" N. Longitude 84° 29' 59" W. Elevation 168 m. Hamilton County, Ohio just north of the Saint Bernard Post Office on the south right-of-way of Interstate 75. Plants vigorous, well branched, most at least 2 m tall; achene color variable, including gray, white, and mottled.

PI 649854. *Helianthus annuus* L.

Wild. 10; Ames 23940. Collected 09/30/1997 in South Dakota, United States. Latitude 43° 4' N. Longitude 96° 30' W. Elevation 360 m. 0.6 mile north of Big Sioux River on Highway 46, north of Hawarden, NE 1/4 of SE 1/4 of Section 10, T95N, R48W, Hawarden North Quad, Union County. Disturbed roadside near sand/gravel pit. Full sun on level ground. Well drained area of crushed rock. Plants were 40-150 cm tall and growing in local abundance. Flowers contained yellow rays and dark disks. Many seeds had already fallen.

The following were developed by Charles C. Block, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 01/01/2005.

PI 649855. *Helianthus annuus* L.

Breeding. SAM-1; Ames 27758. Pedigree - The SAM-1 sunflower population was developed after four cycles of recurrent selection for resistance to *Alternaria* leaf blight (*Alternaria helianthi*), *Septoria* leaf blight (*Septoria helianthi*), and powdery mildew (*Erysiphe cichoracearum*). The most resistant 8-12% of the plants were retained during each selection cycle and allowed to intercross, starting from an original pool of 896 plants representing 28 wild *H. annuus* accessions. Resistance to *Alternaria* and *Septoria* leaf blights was characterized by hypersensitive flecks on leaves or by small leaf spots (ratings of 1 or 2 on a 1-4 scale) with little of the extensive yellowing, leaf necrosis, and defoliation observed on susceptible plants. The hypersensitive response to *A. helianthi* is similar to that found in *H. tuberosus*. Plants were concurrently selected for resistance to natural infection by powdery mildew, caused by *E. cichoracearum*. Equal numbers of seed from 120 plants in the final (C4) population were bulked to form SAM-1. The resistance in SAM-1 may be of particular value in humid or higher rainfall regions where leaf blights can limit sunflower production.

PI 649856. *Helianthus annuus* L.

Breeding. SAM-2; Ames 27759. Pedigree - The SAM-2 sunflower population was developed after three cycles of recurrent selection for resistance to *Alternaria* leaf blight (*Alternaria helianthi*), *Septoria* leaf blight

(*Septoria helianthi*), and powdery mildew (*Erysiphe cichoracearum*). The most resistant 8-12% of the plants were retained during each selection cycle and allowed to intercross, starting from an original pool of 512 plants representing 32 wild *H. annuus* accessions. Line of descent was recorded to identify accessions that contributed the female parent plants. Resistance to *Alternaria* and *Septoria* leaf blights was characterized by hypersensitive flecks on leaves or by small leaf spots (ratings of 1 or 2 on a 1-4 scale) with little of the extensive yellowing, leaf necrosis, and defoliation observed on susceptible plants. The hypersensitive response to *A. helianthi* is similar to that found in *H. tuberosus*. Plants were concurrently selected for resistance to natural infection by powdery mildew, caused by *E. cichoracearum*. Equal numbers of seed from 81 plants in the final (C3) population were bulked to form SAM-2. The resistance in SAM-2 may be of particular value in humid or higher rainfall regions where leaf blights can limit sunflower production.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 08/22/2005.

PI 649857. *Helianthus annuus* L.

Wild. ANN-2507; Ames 27889. Collected 08/15/2005 in Wyoming, United States. Latitude 41° 39' 31" N. Longitude 105° 1' 46" W. Elevation 1761 m. Both sides of Iron Mountain Road (Road 10), ~13 miles southwest of Interstate 25 Exit 54 (Chugwater), Platte County. Gravelly, disturbed roadside, flat.

The following were collected by Irvin Larsen, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/28/2006.

PI 649858. *Helianthus annuus* L.

Wild. ANN-2555; Ames 28373. Collected 10/04/2006 in California, United States. Latitude 36° 36' 14" N. Longitude 120° 3' 46" W. Elevation 174 m. North side of Manning Avenue, 0.1 mile west of Highway 145, 6-7 miles east of San Joaquin. Sandy, rocky roadside, edge of grape field, almond orchard on south side of road.

PI 649859. *Helianthus annuus* L.

Wild. ANN-2556; Ames 28374. Collected 10/04/2006 in California, United States. Latitude 36° 53' 25" N. Longitude 120° 30' 10" W. Elevation 133 m. North side of Highway 33, west of Firebaugh, ~3 miles east of intersection with Hudson, ~9 miles east of Merced/Fresno County line. Sandy, rocky roadside, cotton fields to the north, adjacent to dirt track.

The following were collected by Mary Brothers, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/02/2000.

PI 649860. *Helianthus anomalus* S. F. Blake

Wild. ANO-2346; Ames 26095. Collected 09/22/2000 in Utah, United States. Latitude 39° 44' 39" N. Longitude 112° 18' 56" W. Elevation 998 m. Loop A and Loop B, White Sands Campsite and Picnic Area, Little Sahara National Recreation Area, Juab County. Sand dunes with drifting fine brown sand, some plants covered. Level ground (edge) and upper slopes (crests) of sand dunes. Poor nutrient content, no salinity, and imperfect drainage. Tillage would be unaffected by stoniness. Good seed set. Typical plants. Powdery mildew present on leaves.

PI 649861. *Helianthus anomalus* S. F. Blake

Wild. ANO-2347; Ames 26096. Collected 09/22/2000 in Utah, United States. Latitude 39° 41' 14" N. Longitude 112° 22' 6" W. Elevation 1003 m. Jericho Picnic Area, Little Sahara National Recreation Area, Juab County. Sand dunes with fine brown sand. Level ground (edge) and upper slopes (crests) of sand dunes. Poor nutrient content, no salinity, and imperfect drainage. Tillage would be unaffected by stoniness. Good seed set. Typical plants. Powdery mildew present on leaves.

The following were donated by F.K. Johnson, Hybrid Seed Division, Red River Commodities, Inc., Box 3022, Fargo, North Dakota, United States. Received 02/18/1980.

PI 649862. *Helianthus argophyllus* Torr. & A. Gray

No. 81; Ames 2321. Collected 10/1979 in Texas, United States. Latitude 26° 53' N. Longitude 98° 8' W. Near Rachal.

PI 649863. *Helianthus argophyllus* Torr. & A. Gray

No. 83; Ames 2322. Collected 10/1979 in Texas, United States. Latitude 26° 38' 48" N. Longitude 97° 46' 54" W. 20 miles north of Raymondville. On sandy soil.

PI 649864. *Helianthus argophyllus* Torr. & A. Gray

No. 91; Ames 2323. Collected 11/1979 in Texas, United States. Latitude 27° 13' 30" N. Longitude 98° 8' 36" W. Along #281, 5 miles south of Falfurrias. Sandy soil.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Eperimental, Manfredi, Cordoba 5988, Argentina; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/05/1997.

PI 649865. *Helianthus argophyllus* Torr. & A. Gray

Cultivated. HEL 153/83; Ames 23643. Collected in Former Soviet Union.

The following were donated by T. E. Thompson, USDA Southwestern Great Plains Research, Center, Bushland, Texas, United States. Received 04/1978.

PI 649866. *Helianthus argophyllus* Torr. & A. Gray
Wild. ANN-1; Separation from PI 435356; Ames 24595. Collected in Unknown.

The following were collected by B.H. Beard, USDA-ARS, Agronomy & Range Science, University of California, Davis, California 95616, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649867. *Helianthus bolanderi* A. Gray
BOL-1023; Ames 7095. Collected 09/20/1979 in California, United States. Latitude 36° 19' 54" N. Longitude 119° 38' 48" W. Junct Hwy 43, Elder Ave; ~ 1 mi N of Hanford, Kings Co.

PI 649868. *Helianthus bolanderi* A. Gray
BOL-1024; Ames 7096. Collected 09/20/1979 in California, United States. Latitude 36° 18' 6" N. Longitude 119° 46' 6" W. Junct Excelsium, Elm Ave, ~ 5 mi N of Lemoore, Kings Co.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/20/2004.

PI 649869. *Helianthus bolanderi* A. Gray
Wild. BOL-2436; Ames 27833. Collected 09/16/2004 in California, United States. Latitude 36° 27' 14" N. Longitude 119° 38' 7" W. Elevation 79 m. West side of Highway 43, 6.5 miles north of Hanford, at Dutch John Cut and Cole Slough, Kings and Fresno Counties. Sandy, gravelly roadside bank.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/28/2006.

PI 649870. *Helianthus debilis* subsp. *cucumerifolius* (Torr. & A. Gray) Heiser
Wild. DEB-2551; Ames 28376. Collected 09/27/2006 in Georgia, United States. Latitude 32° 27' 17" N. Longitude 84° 26' 42" W. Elevation 226 m. West side of Highway 240, 0.1 mile north of intersection with Highway 127, southwest of Mauk. Wet roadside ditch, very sandy, next to fence of small farm feedlot, agricultural area in pine woodlands.

The following were collected by David Brenner, Iowa State University, Regional Plant Introduction Station, Room G212, Agronomy Building, Ames, Iowa 50011-1170, United States. Developed by Sanibel-Captiva Conservation Foundation, 3333 Sanibel-Captiva Rd (P.O. Drawer S), Sanibel. Received 11/01/1989.

PI 649871. *Helianthus debilis* Nutt. subsp. *debilis*

Cultivated. Population. DB 8914; Dune Sunflower; Ames 10829. Collected 09/19/1989 in Florida, United States. Latitude 26° 27' N. Longitude 82° 6' W. Elevation 2 m. Ornamental bedding plant. Propagated demonstrated and sold at the Sanibel-Captiva Conservation Foundation, Sanibel-Captiva Road, Sanibel Island, in Lee County. Said to be "super salt resistant", suited to oceanside conditions. Mature seeds and blooms at collection time. Plants 25 cm tall, 2.5 M wide, yellow ray flowers. Sample size 5 plants, but they could be of just one clone, propagated vegetatively. Reference: "Florida My Eden" by Frederic B. Stresau 1986.

The following were collected by Mary Brothers, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/02/2000.

PI 649872. *Helianthus deserticola* Heiser

Wild. DES-2345; Ames 26094. Collected 09/21/2000 in Utah, United States. Latitude 37° 15' 16" N. Longitude 113° 20' 34" W. Elevation 1072 m. Highway 228 North, next to Interstate 15 North, 2 miles southwest of Anderson Junction, Washington County. Interstate 15 right-of-way and roadside ditch of Highway 212 (next to interstate). Typical habitat. Undulating topography. Brown sandy soil, poor nutrient content, no salinity, and well drained. Stoniness would make tillage impossible. Mid to late flowering, good seed set. Typical plants, just past peak flowering.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Katy Gulya, 1133 Broadway North, Fargo, North Dakota 58102-2634, United States. Donated by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Received 06/29/2005.

PI 649873. *Helianthus deserticola* Heiser

Wild. DES-2458; Ames 27948. Collected 06/21/2005 in Nevada, United States. Latitude 39° 18' 50" N. Longitude 118° 19' 9" W. Elevation 1310 m. Both sides of road north of Highway 50, ~1.7 miles north on dirt road to Rawhide as far as radar station, then ~2 miles northwest, east of Sand Mountain, east of Fallon, Bureau of Land Management, Churchill County. Sand flat.

PI 649874. *Helianthus deserticola* Heiser

Wild. DES-2459; Ames 27949. Collected 06/21/2005 in Nevada, United States. Latitude 39° 15' 4" N. Longitude 118° 25' 10" W.

Elevation 1211 m. Both sides of dirt road, ~1.8 miles south of Highway 50, from just east of entrance to Sand Mountain Recreation Area, Churchill County. Sand flats.

PI 649875. *Helianthus deserticola* Heiser

Wild. DES-2460; Ames 27950. Collected 06/21/2005 in Nevada, United States. Latitude 39° 33' 22" N. Longitude 118° 51' 17" W. Elevation 1219 m. Along Soda Lake Road (starts as Highway 723), ~4.8 miles north of Highway 50, ~4 miles west of Fallon, Churchill County. Sand flats.

PI 649876. *Helianthus deserticola* Heiser

Wild. DES-2461; Ames 27951. Collected 06/22/2005 in Nevada, United States. Latitude 39° 10' 16" N. Longitude 118° 44' 23" W. Elevation 1188 m. West side of Highway 95, 21.7 miles south of Fallon, Churchill County. Sandy hillside.

PI 649877. *Helianthus deserticola* Heiser

Wild. DES-2462; Ames 27952. Collected 06/22/2005 in Nevada, United States. Latitude 39° 13' 17" N. Longitude 118° 44' 23" W. Elevation 1260 m. Dirt road, east from Highway 95, past Lee Hot Springs and northeast to cattle gate (~3.2 miles), continue southeast ~0.9 mile to rutted path, Churchill County. Sandy hillside.

The following were collected by Dean Tonenna, U.S. Department of the Interior, Bureau of Land Management, 5665 Morgan Mill Road, Carson City, Nevada 89701, United States. Received 08/23/2005.

PI 649878. *Helianthus deserticola* Heiser

Wild. DES-2524; Ames 27993. Collected 07/25/2005 in Nevada, United States. Latitude 39° 34' 9" N. Longitude 118° 51' 20" W. Elevation 372 m. Along Soda Lake Road (starts as Highway 723), ~5 miles north of Highway 50, ~4 miles west of Fallon, Churchill County. Sand dune area.

PI 649879. *Helianthus deserticola* Heiser

Wild. DES-2525; Ames 27994. Collected 08/09/2005 in Nevada, United States. Latitude 39° 20' 8" N. Longitude 118° 9' 24" W. Elevation 396 m. Along Highway 121 (Dixie Valley Road), 4 miles north of Highway 50, ~44 miles east of Fallon, Churchill County. Sand dune area.

PI 649880. *Helianthus deserticola* Heiser

Wild. DES-2526; Ames 27995. Collected 08/17/2005 in Nevada, United States. Latitude 39° 24' 4" N. Longitude 118° 26' 12" W. Elevation 411 m. Along Diamond Canyon dirt road, ~11 miles northeast of Highway 50 from Salt Wells, Churchill County. Sand dune area.

PI 649881. *Helianthus deserticola* Heiser

Wild. DES-2527; Ames 27996. Collected 08/17/2005 in Nevada, United States. Latitude 39° 23' 19" N. Longitude 118° 30' 34" W. Elevation 381 m. Along Diamond Canyon dirt road, ~5 miles northeast of Highway 50 at Salt Wells (~4 miles east of collection DES-2526), Churchill County. Sand dune area.

PI 649882. *Helianthus deserticola* Heiser
Wild. DES-2528; Ames 27997. Collected 08/17/2005 in Nevada, United States. Latitude 39° 17' 7" N. Longitude 118° 31' 43" W.
Elevation 381 m. West side of dirt road, 9.1 miles south of Highway 50 from Salt Wells (~0.8 mile north of Paiute Wash), Churchill County. Sand dune area.

PI 649883. *Helianthus deserticola* Heiser
Wild. DES-2529; Ames 27998. Collected 08/18/2005 in Nevada, United States. Latitude 39° 18' 42" N. Longitude 118° 28' 13" W.
Elevation 396 m. ~1 mile north of Highway 50 from dirt road, ~13 miles east of Salt Wells, Churchill County.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 05/12/2003.

PI 649884. *Helianthus exilis* A. Gray
Wild. 2351; Ames 27223. Collected 09/17/2002 in California, United States. Latitude 38° 49' 8" N. Longitude 122° 19' 52" W.
Elevation 411 m. Napa County mile marker 30.70, 1 mile south of Knoxville, Napa County. Roadside stream. Small heads.

PI 649885. *Helianthus exilis* A. Gray
Wild. 2352; Ames 27224. Collected 09/17/2002 in California, United States. Latitude 38° 49' 26" N. Longitude 122° 20' 14" W.
Elevation 381 m. Napa County mile marker 31.70, just south of Knoxville, Napa County. Roadside stream, seep.

PI 649886. *Helianthus exilis* A. Gray
Wild. 2353; Ames 27225. Collected 09/17/2002 in California, United States. Latitude 38° 51' 41" N. Longitude 122° 24' 54" W.
Elevation 642 m. Research Hill, Knoxville Public Lands site, Morgan Valley, Lake County. Disturbed recreation area.

PI 649887. *Helianthus exilis* A. Gray
Wild. 2354; Ames 27226. Collected 09/17/2002 in California, United States. Latitude 38° 51' 56" N. Longitude 122° 21' 38" W.
Elevation 548 m. Little Blue Ridge, Reiff Road, north of Davis Creek Reservoir, Yolo County. Seep area, sloping.

PI 649888. *Helianthus exilis* A. Gray
Wild. 2355; Ames 27227. Collected 09/17/2002 in California, United States. Latitude 38° 46' 51" N. Longitude 122° 34' 12" W.
Elevation 289 m. Lake County mile marker 9.00, "Trap Shoot Range", 2.8 miles northeast of Middletown on Highway 29, Lake County. Roadside ditch.

PI 649889. *Helianthus exilis* A. Gray
Wild. 2356; Ames 27228. Collected 09/17/2002 in California, United States. Latitude 38° 43' 59" N. Longitude 122° 31' 29" W.
Elevation 297 m. South side of Butts Canyon Road, near entrance to Guenoc Winery, Detert Reservoir, Lake County. Roadside ditch.

- PI 649890. *Helianthus exilis* A. Gray**
Wild. 2357; Ames 27229. Collected 09/17/2002 in California, United States. Latitude 38° 37' 47" N. Longitude 122° 24' 28" W.
Elevation 331 m. Down a draw, north side of Mast Hill, Pope Valley, Wallace Ranch/Bill Harder, Napa County. Pasture.
- PI 649891. *Helianthus exilis* A. Gray**
Wild. 2358; Ames 27230. Collected 09/18/2002 in California, United States. Latitude 38° 46' 10" N. Longitude 122° 37' 16" W.
Elevation 360 m. Off Harbin Springs Road and down Big Canyon Road, 1.4 miles northwest of Middletown, Lake County. Roadside ditch, seasonal stream.
- PI 649892. *Helianthus exilis* A. Gray**
Wild. 2361; Ames 27233. Collected 09/18/2002 in California, United States. Latitude 39° 17' 56" N. Longitude 122° 32' 37" W.
Elevation 408 m. Entrance to Ruby King Mine Road, just by entrance to Mendocino National Forest, road to Goat Mountain, Colusa County. Creek-side drainage.
- PI 649893. *Helianthus exilis* A. Gray**
Wild. 2362; Ames 27234. Collected 09/18/2002 in California, United States. Latitude 39° 24' 4" N. Longitude 122° 36' 49" W.
Elevation 756 m. Just off Black Diamond Road on slope, 18N02, Black Diamond Glades, 5 miles west of California Highway 32 (before junction with 18N13), Mendocino National Forest, Glenn County. On slope, stream seep, permanent water.
- PI 649894. *Helianthus exilis* A. Gray**
Wild. 2364; Ames 27236. Collected 09/20/2002 in California, United States. Latitude 41° 17' 53" N. Longitude 122° 43' 19" W.
Elevation 1380 m. Roadside turnout, 2.5 miles northeast of Scott Mountain summit on Highway 3, Scott Mountain, Siskiyou County. Roadside ditch, rocky serpentine wash.
- PI 649895. *Helianthus exilis* A. Gray**
Wild. 2365; Ames 27237. Collected 09/20/2002 in California, United States. Latitude 41° 38' 35" N. Longitude 122° 44' 50" W.
Elevation 972 m. Mile marker 39.00 on Highway 3, 8.4 miles southeast of Yreka, Siskiyou County. Roadside, rocky serpentine along spring fen.
- PI 649896. *Helianthus exilis* A. Gray**
Wild. 2366; Ames 27238. Collected 09/21/2002 in California, United States. Latitude 41° 16' 55" N. Longitude 122° 51' 7" W.
Elevation 1127 m. 4.7 miles southwest of Callahan, Cecilville Road (1 CO 2), Siskiyou County. Roadside, rocks covering soil.
- PI 649897. *Helianthus exilis* A. Gray**
Wild. 2367; Ames 27239. Collected 09/21/2002 in California, United States. Latitude 41° 1' 51" N. Longitude 122° 25' 28" W.
Elevation 817 m. Boulder Creek, on Forest Service Road 37N31, 2 miles up asphalt and 0.5 mile up from intersection of 38N21 and Boulder Blvd., off I-5 South Exit 714 (Gibson Maintenance Station), Shasta County. Roadside cut, very rocky area, level area with soil.

PI 649898. *Helianthus exilis* A. Gray

Wild. 2369; Ames 27241. Collected 09/23/2002 in California, United States. Latitude 39° 50' 4" N. Longitude 121° 34' 56" W. Elevation 707 m. Coutelenc Road (24N21), Lassen National Forest, Sierra Nevada Mountain Range, Butte County. Rocky serpentine flat.

PI 649899. *Helianthus exilis* A. Gray

Wild. 2370; Ames 27242. Collected 09/23/2002 in California, United States. Latitude 39° 29' 9" N. Longitude 121° 18' 46" W. Elevation 761 m. South Ponderosa Way Road, 0.5 mile from Robinson Mill Road, Plumas National Forest, close to border between Yuba and Butte Counties, Yuba County. Roadside, rocky, near flowing stream.

PI 649900. *Helianthus exilis* A. Gray

Wild. 2371; Ames 27243. Collected 09/24/2002 in California, United States. Latitude 38° 50' 28" N. Longitude 120° 52' 35" W. Elevation 488 m. West of Meadow Brook, across road from serpentine quarry, intersection of Prospectors Road and Mt. Murphy Road, 1.4 miles east of Garden Valley, El Dorado County. Roadside, rocky serpentine.

PI 649901. *Helianthus exilis* A. Gray

Wild. 2373; Ames 27245. Collected 09/25/2002 in California, United States. Latitude 37° 50' 44" N. Longitude 120° 27' 50" W. Elevation 335 m. Red Hill Road, 1.4 miles south of junction of Sims Road and Red Hill Road, 3.4 miles south of Chinese Camp, Tuolumne County. Roadside, in stream bed. BLM area of environmental concern (AEC).

PI 649902. *Helianthus exilis* A. Gray

Wild. 2374; Ames 27246. Collected 09/27/2002 in California, United States. Latitude 39° 8' 46" N. Longitude 122° 28' 38" W. Elevation 721 m. Barrel Springs picnic area, near Grapevine Flats, Walker Ridge Road, 1.2 miles south of Barlette Springs Road, Lake County. Rocky serpentine gulch (creek).

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod. Res Lab, PO Drawer 10, Bushland, Texas 79012, United States; Tommy E. Thompson, USDA, ARS, Pecan Breeding & Genetics, 10200 FM50, Somerville, Texas 77879, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649903. *Helianthus hybrid*

Wild. ANN x PET-504; Ames 6445. Collected 10/04/1975 in New Mexico, United States. Latitude 36° 18' N. Longitude 104° 15' W. Highway 56, Abbott. Pedigree - *Helianthus annuus* x *Helianthus petiolaris* Fl's. Rust prevalent. Head clipper damage common.

The following were collected by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States; L. Cuk. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649904. *Helianthus hybrid*

ARG x ANN-1318; Ames 6754. Collected 09/07/1980 in Texas, United States. Latitude 28° 1' 13" N. Longitude 97° 3' 15" W. 9.6 km north of Rockport on Highway 35, 3.2 km west on FM 1781. Sandy roadside area. Pedigree - *Helianthus argophyllus* x *Helianthus annuus*.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 03/07/2005.

PI 649905. *Helianthus niveus subsp. canescens* (A. Gray) Heiser

Wild. NIV-2447; Ames 27846. Collected 03/03/2005 in Arizona, United States. Latitude 32° 6' 5" N. Longitude 113° 27' 4" W. Elevation 213 m. Active sand dunes 0.6 mile north of Camino del Diablo, eastern arm of the Pinta Sands, Cabeza Prieta National Wildlife Refuge, 1.6 miles north of Mexican border, 7 miles west of Yuma/Pima County line, Yuma County. Active sand dunes.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/12/1996.

PI 649906. *Helianthus petiolaris* Nutt.

Wild. Ames 22743. Collected 09/1995 in North Dakota, United States.

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod. Res Lab, PO Drawer 10, Bushland, Texas 79012, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649907. *Helianthus petiolaris subsp. fallax* Heiser

PET-1085; Ames 7168. Collected 09/13/1979 in New Mexico, United States. Latitude 32° 6' 54" N. Longitude 103° 11' 36" W. 18 mi NW of Jal.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; L. Cuk. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649908. *Helianthus petiolaris* Nutt. *subsp. petiolaris*

PET-1653; Ames 7416. Collected 08/21/1980 in North Dakota, United States. Latitude 46° 52' 30" N. Longitude 96° 47' 48" W. 4-H camp in Fargo. Sandy hill.

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod. Res Lab, PO Drawer 10, Bushland, Texas 79012, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 649909. *Helianthus petiolaris* Nutt. subsp. *petiolaris*

ANN-1706; Ames 7455. Collected 06/18/1981 in Texas, United States. Latitude 33° 15' 25" N. Longitude 101° 23' 33" W. Along Highway 207, 4 miles north of Post.

The following were donated by K.R. Gessart, 1230 W. Broadway, Eugene, Oregon, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/28/2006.

PI 649910. *Helianthus petiolaris* Nutt. subsp. *petiolaris*

Wild. Separation from PI 506446; Ames 28371. Collected 07/1986 in Moldova. Farmer's market, Kishinev. Seed was a contaminant in PI 506446, *Levisticum officinale*, collection. When PI 506446 was regenerated, 18 *H. petiolaris* plants germinated. This accession was regenerated from a regeneration from seeds harvested from those 18 plants.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 12/22/2004.

PI 649911. *Helianthus porteri* (A. Gray) Pruski

Wild. 2401; Ames 27688. Collected 10/21/2003 in North Carolina, United States. Latitude 35° 57' 49" N. Longitude 81° 7' 7" W. Elevation 407 m. Along path to top of outcrop in old granite quarry. From Taylorsville, go NE on Black Oak Ridge Road, then E on NC 1415, then E on NC 1427 (Rocky Face Road), then SE on NC 1426, then 0.1 mile SE of Rocky Face Baptist Church, Alexander Co. Very large population. Scattered along granite rocks up a slope, plants along granite, a few in the cracks. Typical plants, usually 0.75-1.25 meters tall. Some plants branched below, mainly branched above only. Thin plants.

PI 649912. *Helianthus porteri* (A. Gray) Pruski

Wild. 2417; Ames 27689. Collected 10/24/2003 in Georgia, United States. Latitude 33° 45' 6" N. Longitude 83° 49' 57" W. Elevation 274 m. 1.2 miles east of Walnut Grove on Highway 138, off intersection of Highways 81 and 138, Walton County. Both sides of road; scattered along edge of granite outcrop. Plants 1 meter tall.

PI 649913. *Helianthus porteri* (A. Gray) Pruski

Wild. 2418; Ames 27690. Collected 10/24/2003 in Georgia, United States. Latitude 33° 42' 5" N. Longitude 83° 58' 46" W. Elevation 229 m. Hi Roc Road, 1.2 miles west of junction with GA 138, Rockdale County. Scattered population along granite outcrop. Sloping area. Plants ~1 meter.

- PI 649914. *Helianthus porteri* (A. Gray) Pruski**
 Wild. 2419; Ames 27691. Collected 10/24/2003 in Georgia, United States. Latitude 33° 42' 31" N. Longitude 84° 5' 36" W. Elevation 293 m. Both sides of Highway 124, just north of Interstate 20, DeKalb County. Scattered population along granite outcrop; sparse soil. Typical plants; narrow leaves; ~1 meter tall.
- PI 649915. *Helianthus porteri* (A. Gray) Pruski**
 Wild. 2420; Ames 27692. Collected 10/25/2003 in Georgia, United States. Latitude 33° 42' 31" N. Longitude 84° 5' 36" W. Elevation 222 m. Junction of Cedar Rock Church Road and Old Biles Road (Highway 36 S), 3.6 miles north of Jackson Road, north of Jackson, Butts County. Granite outcrop; shallow soil along edge of trees. Typical population, 1 meter tall, very branched, multiple heads.
- PI 649916. *Helianthus porteri* (A. Gray) Pruski**
 Wild. 2421; Ames 27693. Collected 10/25/2003 in Georgia, United States. Latitude 33° 8' 51" N. Longitude 84° 27' 54" W. Elevation 268 m. Along Concorde Road, 1.3 miles from Highway 362, south of Hollonville, Pike County. Two populations, both sides of road. Shallow soil; edge of granite, near pine trees. Plants 0.5-1 meter tall, very branched, narrow leaves.
- PI 649917. *Helianthus porteri* (A. Gray) Pruski**
 Wild. 2422; Ames 27694. Collected 10/25/2003 in Georgia, United States. Latitude 32° 59' 15" N. Longitude 84° 39' 34" W. Elevation 268 m. 0.4 mile west of Cedar Rock Baptist Church, 0.3 mile north on Overby Road, Meriwether County. Trash dump. Scattered population, both sides of road, along edge of granite and along trees. Typical plants; ~ 0.5-1 meter tall; mostly branching; purple stems.
- PI 649918. *Helianthus porteri* (A. Gray) Pruski**
 Wild. 2423; Ames 27695. Collected 10/25/2003 in Georgia, United States. Latitude 33° 24' 46" N. Longitude 84° 58' 48" W. Elevation 302 m. Junction of Bud Davis Road and Flatrock Road, 1.5 miles north of Elim Church, northwest of Newnan, Coweta County. Small scattered population, both sides of road, along edge of granite outcrop. Sandy soil. Typical plants; multiple heads; purple stems; many plants single stemmed; 0.5-1 meter tall.

The following were developed by Kevin E. McPhee, Washington State University, Crop & Soil Science Department, Johnson 305, Pullman, Washington 99164-6420, United States. Received 07/26/2007.

- PI 649919. *Lens culinaris* Medik.**
 Cultivar. Pureline. "RIVELAND"; LC860616L. CV-32. Pedigree - Laird/VW000412. Seed size significantly larger than Pennill, averages 7.9 g per 100 sds. Seeds are significantly larger than seeds of Brewer and Merrit. Seeds are light green with yellow cotyledons and lack seedcoat mottling. Flowers an average of 60 d after planting compared to 63 d for Pennell and matures in 110 d, approximately 1 d earlier than Pennell and 3 d later than Merrit. Upright plant habit and averages 39 cm tall at peak flowering and 35 cm tall at maturity. Branched at the base and remains somewhat upright at maturity. Had lower scores for

virus infection, mainly pea enation mosaic, when compared to Mason. Scores for resistance to aphanomyces root rot caused by *Aphanomyces eutiches* were low and similar to those for Mason and Brewer.

The following were developed by Wisconsin Alumni Research Foundation, University of Wisconsin, Madison, Wisconsin, United States. Received 07/27/2007.

PI 649920 PVPO. *Solanum tuberosum* L.
Cultivar. "MILLENNIUM RUSSET". PVP 200100041.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 07/13/2007.

PI 649921 PVPO. *Pisum sativum* L.
Cultivar. "ROMANCE". PVP 200700363.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 07/18/2007.

PI 649922. *Solanum lycopersicum* L.
Cultivar. "SENG 9169". PVP 200700364.

PI 649923 PVPO. *Solanum lycopersicum* L.
Cultivar. "SENG 9171". PVP 200700365.

PI 649924. *Solanum lycopersicum* L.
Cultivar. "SENG 9168". PVP 200700366.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 07/20/2007.

PI 649925 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEMP". PVP 200700311.

PI 649926 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PH4RD". PVP 200700376.

PI 649927 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE70". PVP 200700377.

PI 649928 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHHCA". PVP 200700378.

PI 649929 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHHCF". PVP 200700379.

PI 649930 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHA9B". PVP 200700386.

PI 649931 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHDOG". PVP 200700387.

PI 649932 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHE2E". PVP 200700388.

PI 649933 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHGJB". PVP 200700389.

The following were developed by USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Donated by Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 02/24/2005.

PI 649934. *Ratibida columnifera* (Nutt.) Wooton & Standl.

Wild. Mixture. Stillwater Germplasm; NRCS 9081988; OPGC 2279. Pedigree - Stillwater Germplasm upright prairie coneflower is a bulk composite of the following Montana accessions: 9058112 (OPGC 2268) originated in Stillwater County (Section 24, T3S R19E) on a Hilger soil with cobbly sandy loam texture, 5% south slope, 1402m elevation, and 300 mm annual precipitation; 9058113 (OPGC 2269) originated in Stillwater County (Section 2, T3S R20E) on a Lambeth-Yawdim soil with silty clay texture, 2% west slope, 1097 m elevation, and 330 mm annual precipitation; 9058116 (OPGC2272) originated in Stillwater County (Section 30, T6S R19E) on a Charlos soil with loam texture, 1% slope, 1609 m elevation, and 483 mm annual precipitation; 9058117 (OPGC 2273) originated in Carbon County (Section 25, T6S R18E) on a Thiel soil with cobbly clay loam texture, 15% west slope, 1,640 m elevation, and 483 mm annual precipitation; 9058120 (OPGC 2276) originated in Carbon County (Section 18, T3S R23E) on a sandstone outcrop, 4% northwest slope, 1,118 m elevation, and 381 mm annual precipitation. Stillwater Germplasm prairie coneflower is a native, late-season, herbaceous perennial in the Aster Family. It is prominently taprooted and grows upright from a woody base to a height of 30 to 90 cm. The numerous, pinnate leaves are deeply cut into linear or lance-shaped segments along alternately branched stems. Showy yellow (occasionally reddish-brown) ray flowers droop and surround the columnar-shaped, brown, central disk. The flowers bloom from late June until August, with seed maturing in August to September. The mature seedhead has a pleasant odor when crushed that is similar to anise or licorice. The fruit is a 1-seeded, gray-black achene. Seed viability is very high and longevity can be expected for 5 to 8 years when stored at moderate temperatures and low humidity. Stillwater Germplasm has approximately 1,320,000 seeds/kg and the full seeding rate is 2.2 kg/ha. It is recommended to be seeded in a mix at 0.3 to 0.6 kg/ha. Stillwater Germplasm prefers to grow in dry, open spaces of prairie grasslands and mountain foothills. It does well on a variety of soil types, including loams and rocky to gravelly-sandy textures. Stillwater Germplasm tolerates a pH range from slightly acidic to moderately alkaline and weakly saline conditions, in areas receiving 254 to 762 mm of annual precipitation. It will attain optimum growth in full sun and low to moderate levels of competition within a native plant community. Stillwater Germplasm is adapted for use in the foothills and prairies in the eastern and central parts of Montana and Wyoming, and western North and South Dakota. It is compatible in seeding mixtures of western wheatgrass, bluebunch wheatgrass, prairie Junegrass, Sandberg bluegrass, common gaillardia, white and purple prairie clover, big sagebrush, and western yarrow. Stillwater Germplasm is palatable and nutritious to all classes of domestic livestock when utilized in stages of early plant growth and development. It is a desirable spring browse.

The following were collected by Joyce Lapp, Glacier National Park, Montana, United States. Donated by USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 11/01/2005.

PI 649935. *Achillea millefolium* L.

Wild. Great Northern Germplasm; 9057902; W6 27665. Collected 1988 in Montana, United States. Latitude 49° 28' N. Longitude 114° 10' W. Elevation 1100 m. Flathead county, Montana. Section 27 & 28, Township 32N, Range 20W. Located along USF2 Road 5271, off Canyon Creek road 316 the cutoff to McGinnis Creek Road. Slope 0-30%, Exposure South-Southwest, 28-30 inches precipitation, greavelly soil, cut and fill slopes. Pedigree - The seed of Great Northern Germplasm was originally collected from a single population located on the cut and fill slopes of US Forest Service Road No. 5271, off Canyon Creek Road No. 316 cutoff to McGinnis Creek Road in Flathead County, Montana. The site latitude is N49°28', longitude W114°10', T32N R20W, Section 27 and 28, with a gravelly soil texture, 0-30% slope, south-to-southwest aspect, elevation 1097-1219 m, receiving 711-762 mm of annual precipitation. Collected in 1988 by Joyce Lapp, Restoration Ecologist, Glacier National Park. Great Northern was selected for top performance in vigor, height, seedhead production, and survival from among 29 accessions of native yarrows from Montana and Wyoming. Great Northern western yarrow is a native, herbaceous perennial in the Aster Family. It is a very common wildflower that grows erect from creeping rootstocks, to a height mostly 25 to 90 cm tall. The leaves are lacy and fern-like in appearance, as they are finely dissected into numerous, short and narrow divisions not over 1 mm wide--millefolium means a thousand leaves in Latin. The basal foliage is up to 25 cm long, with leaves along the flowering stalk longest at the base and progressively shorter up the stem. The entire plant is densely covered in long, soft, wooly hairs. The plant has a very distinctive aroma, similar to chamomile or dog fennel, and is especially noticeable when crushed. It is a self-incompatible, insect-pollinated species, with an inflorescence arranged in a compound, flat-topped corymb 6-20 cm wide, consisting of small, numerous, flower heads 4-6 mm in size. Involucre bracts are pubescent and greenish, with straw-colored papery margins. Outside ray-flower numbers are 3-12, mostly white to cream-colored, 1-2.5 mm long, and encircle the center disk-flowers. The disk-flowers number 10-75 each, and are yellow, tubular, perfect, and seed-producing. The terminal clusters of flower heads are normally white to cream-colored and have an extended bloom period from May to September. The extremely small fruit is a whitish, flattened achene, with compressed margins that are grayish in color. There are approximately 10 million seeds per kilogram. Northern western yarrow exhibits good survival in droughty conditions on gravelly loam and thin or sandy soils. It is an early successional species that readily establishes on disturbed sites, such as shallow, silty, shallow to gravel, and silty steep. Great Northern Germplasm is adapted for use in northern Idaho, and all of Montana and Wyoming, except the Red Desert and Bighorn Basin. Great Northern Germplasm was selected primarily to add species diversity in seed mixtures for rehabilitation.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105,

United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 12/22/2004.

PI 649936. *Helianthus angustifolius* L.

Wild. 2399; Ames 27672. Collected 10/19/2003 in Tennessee, United States. Latitude 35° 23' 57" N. Longitude 86° 1' W. Along edge of Arnold Engineering Development Center (218A-1), Arnold Air Force Base, Coffee County. Small scattered population. Typical plants with very narrow leaves.

PI 649937. *Helianthus angustifolius* L.

Wild. 2424; Ames 27673. Collected 10/25/2003 in Georgia, United States. Latitude 33° 45' 33" N. Longitude 84° 51' 16" W. Elevation 305 m. Along Mann Road off Highway 87, west toward branch of Mud Creek, Douglas County. Small population; roadside ditch; sandy pull off; along edge, also back slope of road; small open field on N & S sides of road (not in field). Found small population of *H. porteri* on granite outcrop, plants mostly dead. Land for sale. Plants 1-1.5 meters tall.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 03/07/2005.

PI 649938. *Helianthus annuus* L.

Wild. ANN-2440; Ames 27842. Collected 02/28/2005 in California, United States. Latitude 32° 48' 23" N. Longitude 115° 23' 49" W. Elevation -6 m. 0.5 mile west of Alamo River, Highway 115, Holtville, Imperial County. Roadside, sandy.

The following were collected by USDA, NRCS, National Plant Materials Center, Building 509, BARC-East, Beltsville, Maryland 20705, United States. Received 01/21/1998.

PI 649939. *Helianthus atrorubens* L.

Wild. 9064180; Ames 24145. Collected 10/15/1991 in Kentucky, United States. Latitude 36° 36' 30" N. Longitude 88° 41' 30" W. Elevation 548 m. Along Skyland Road, Cumberland Gap National Historical Park, Bell County. A slope greater than or equal to 30% with a western exposure.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 12/22/2004.

PI 649940. *Helianthus atrorubens* L.

Wild. 2426; Ames 27674. Collected 10/26/2003 in Alabama, United States. Latitude 33° 53' 26" N. Longitude 86° 49' 33" W. Elevation 213 m. Approximately 3 miles north on Valley Trail Road from intersection

with Highway 31, Exit 287 off Interstate 65, Blount County. Scattered population on both sides of road, edge of woods. Plants 1.5 meters tall; typical.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 06/21/2004.

PI 649941. *Helianthus californicus* DC.

Wild. CAL-2376; Ames 27600. Collected 09/2003 in United States.

PI 649942. *Helianthus californicus* DC.

Wild. CAL-2377; Ames 27601. Collected 09/2003 in United States.

PI 649943. *Helianthus californicus* DC.

Wild. CAL-2378; Ames 27602. Collected 09/2003 in United States.

PI 649944. *Helianthus californicus* DC.

Wild. CAL-2379; Ames 27603. Collected 09/2003 in California, United States. Latitude 37° 5' 20" N. Longitude 121° 28' 4" W. Elevation 262 m. Gilroy Hot Springs Road, northeast of Gilroy, Santa Clara County. Rocky, sandy, dry streambed.

PI 649945. *Helianthus californicus* DC.

Wild. CAL-2380; Ames 27604. Collected 09/2003 in United States.

PI 649946. *Helianthus californicus* DC.

Wild. CAL-2381; Ames 27605. Collected 09/2003 in United States.

PI 649947. *Helianthus californicus* DC.

Wild. CAL-2382; Ames 27606. Collected 09/2003 in United States.

PI 649948. *Helianthus californicus* DC.

Wild. CAL-2385; Ames 27609. Collected 09/2003 in California, United States. Latitude 38° 11' 18" N. Longitude 121° 52' 14" E. Elevation 0 m. 1.5 miles north of Highway 160, Sacramento River Bridge on Isleton Road, north of Isleton, Sacramento County. Land side of Sacramento River levee.

PI 649949. *Helianthus californicus* DC.

Wild. CAL-2386; Ames 27610. Collected 09/2003 in California, United States. Latitude 34° 28' 13" N. Longitude 118° 19' 50" E. Elevation 670 m. Agua Dulce Road north from Highway 14, northeast of Santa Clarita, Los Angeles County. Rocky, sandy dry streambed.

PI 649950. *Helianthus californicus* DC.

Wild. CAL-2387a; Ames 27612. Collected 09/2003 in United States.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant

Introduction Station, Ames, Iowa 50011-1170, United States; Curtis Hagen, California Department of Fish & Game, 4001 North Wilson Way, Stockton, California 95205, United States; Sarah Estrella, California Department of Fish & Game, 4001 North Wilson Way, Stockton, California 95205, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/20/2004.

PI 649951. *Helianthus californicus* DC.

Wild. CAL-2430; Ames 27834. Collected 09/15/2004 in California, United States. Latitude 38° 2' 37" N. Longitude 121° 52' 15" W. Elevation 4 m. Brown Island, Sacramento River Delta, Contra Costa County. Marshy river delta island.

PI 649952. *Helianthus californicus* DC.

Wild. CAL-2431; Ames 27835. Collected 09/15/2004 in California, United States. Latitude 38° 5' 16" N. Longitude 122° 1' 37" W. Elevation 3 m. Ryer Island, Suisun Bay, Solano County. Marshy river delta island.

PI 649953. *Helianthus californicus* DC.

Wild. CAL-2432; Ames 27836. Collected 09/15/2004 in California, United States. Latitude 38° 4' 25" N. Longitude 122° 2' 13" W. Elevation 3 m. Roe Island, Suisun Bay, Solano County. Marshy river delta island.

PI 649954. *Helianthus californicus* DC.

Wild. CAL-2433; Ames 27837. Collected 09/15/2004 in California, United States. Latitude 38° 8' 20" N. Longitude 122° 3' 40" W. Elevation 4 m. Joyce Island, Montezuma Slough, Solano County. Marshy river delta island.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/20/2004.

PI 649955. *Helianthus californicus* DC.

Wild. CAL-2437; Ames 27838. Collected 09/14/2004 in California, United States. Latitude 37° 25' 43" N. Longitude 121° 30' 32" W. Elevation 2603 m. San Antonio Valley Rd (Mines Rd), 3 mi N of junct with Del Puerto Canyon Road, Santa Clara County. Wet meadow, running creek, rocky, dry adjacent hillside.

The following were collected by Debi Tharp, Historic Bok Sanctuary, 1151 Tower Boulevard, Lake Wales, Florida 33853-3412, United States; Cheryl L. Peterson, Historic Bok Sanctuary, 1151 Tower Boulevard, Lake Wales, Florida 33853-3412, United States. Donated by Cheryl L. Peterson, Historic Bok Sanctuary, 1151 Tower Boulevard, Lake Wales, Florida 33853-3412, United States. Received 11/23/2005.

PI 649956. *Helianthus carnosus* Small

Wild. CAR-2530; EOR 20; Ames 27991. Collected 09/15/2005 in Florida, United States. Latitude 29° 39' 52" N. Longitude 81° 25' 34" W.

Elevation 9 m. Throughout Flagler Estates, west on Flagler Boulevard from County Road 204, south of Hastings off Highway 13, off of Highway 204, ~9.5 miles west of Interstate 95, St. Johns County. Roadside ditches near ditch crest.

The following were collected by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 06/16/2005.

PI 649957. *Helianthus cusickii* A. Gray

Wild. CUS-2453; Ames 27857. Collected 06/12/2005 in Oregon, United States. Latitude 43° 32' 39" N. Longitude 117° 8' 16" W. Elevation 890 m. West side of Succor Creek Highway, ~7 miles south of Highway 201, Bureau of Land Management, Malheur County. Ashy clay, exposed, relatively level. Sagebrush, grasses.

PI 649958. *Helianthus cusickii* A. Gray

Wild. CUS-2455; Ames 27859. Collected 06/13/2005 in Oregon, United States. Latitude 44° 44' 1" N. Longitude 120° 15' 33" W. Elevation 607 m. Both sides of Twickenham Bridge Road, ~ 0.25 mile, 4 miles southwest of Twickenham (John Day River), 18 miles north of Highway 26, Bureau of Land Management, Wheeler County. Steep slopes. Open forest (juniper and pine), grasses, thistle, sagebrush.

PI 649959. *Helianthus cusickii* A. Gray

Wild. CUS-2456; Ames 27860. Collected 06/13/2005 in Oregon, United States. Latitude 44° 37' 14" N. Longitude 120° 12' 23" W. Elevation 661 m. East side of Bridge Creek/Burnt Ranch Road, ~2 miles north of Highway 26 (south of John Day Fossil Beds, Painted Hills Unit), Bureau of Land Management, Wheeler County. Steep, rocky scree slope. Sagebrush, grasses.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Katy Gulya, 1133 Broadway North, Fargo, North Dakota 58102-2634, United States. Donated by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Received 06/29/2005.

PI 649960. *Helianthus cusickii* A. Gray

Wild. CUS-2457; Ames 27939. Collected 06/20/2005 in Nevada, United States. Latitude 39° 16' 0" N. Longitude 119° 37' 40" W. Elevation 1604 m. Both sides of dirt road, off west side of Highway 341, ~0.75 mile south of Lyon/Storey County line, Lyon County. Rocky, clay soil. Grass and low sagebrush.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Donated by Thomas Gulya, USDA, ARS, North Dakota State

University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Katy Gulya, 1133 Broadway North, Fargo, North Dakota 58102-2634, United States. Received 06/29/2005.

- PI 649961. *Helianthus cusickii* A. Gray**
Wild. CUS-2464; Ames 27940. Collected 06/23/2005 in Nevada, United States. Latitude 41° 2' 37" N. Longitude 119° 21' 12" W. Elevation 1304 m. Both sides of SSR 34, ~32 miles north of Gerlach, southern end of Leadville Canyon, Washoe County. Rocky hillsides, brown soil.
- PI 649962. *Helianthus cusickii* A. Gray**
Wild. CUS-2465; Ames 27941. Collected 06/23/2005 in Nevada, United States. Latitude 41° 5' 13" N. Longitude 119° 10' 17" W. Elevation 1402 m. 3.5-4 miles west of Soldier Meadows Road on steep, rocky road (4th Bureau of Land Management access road), 35.4 miles north of Gerlach (SSR 34/Soldier Meadows Road), Humboldt County. Rocky hillsides.
- PI 649963. *Helianthus cusickii* A. Gray**
Wild. CUS-2466; Ames 27942. Collected 06/23/2005 in Nevada, United States. Latitude 40° 50' 39" N. Longitude 119° 33' 35" W. Elevation 1399 m. Highway 447 (mile marker 95), ~20 miles northwest of Gerlach, west of Squaw Valley Ranch, Washoe County. Rocky hillsides.
- PI 649964. *Helianthus cusickii* A. Gray**
Wild. CUS-2467; Ames 27943. Collected 06/23/2005 in Nevada, United States. Latitude 41° 8' 9" N. Longitude 119° 56' 59" W. Elevation 1423 m. West side of Highway 447 (mile marker 126), ~51 miles northwest of Gerlach, Washoe County. Rocky hillsides.
- PI 649965. *Helianthus cusickii* A. Gray**
Wild. CUS-2468; Ames 27944. Collected 06/24/2005 in California, United States. Latitude 41° 27' 13" N. Longitude 120° 49' 0" W. Elevation 1333 m. South side of Highway 299 at mile marker 25.25, ~3.5 miles east of junction with Highway 139 in Canby, Modoc County. Hillside, clay soil, not rocky.
- PI 649966. *Helianthus cusickii* A. Gray**
Wild. CUS-2469; Ames 27945. Collected 06/25/2005 in California, United States. Latitude 40° 25' 6" N. Longitude 120° 17' 0" W. Elevation 1371 m. Just inside cattle gate, mile marker 80.41, Highway 395 east of Susanville, ~3.25 miles north of Wendel Road turnoff, Lassen County. Rocky hillsides.
- PI 649967. *Helianthus cusickii* A. Gray**
Wild. CUS-2470; Ames 27946. Collected 06/25/2005 in California, United States. Latitude 40° 40' 33" N. Longitude 120° 17' 7" W. Elevation 1606 m. Both sides of Highway 395, mile marker 99, 9.5 miles south of Ravendale, Lassen County. Rocky roadcut. Brown-red clay soil.
- PI 649968. *Helianthus cusickii* A. Gray**
Wild. CUS-2472; Ames 27947. Collected 06/25/2005 in California, United States. Latitude 40° 40' 0" N. Longitude 120° 0' 0" W. Elevation 1600 m. East side of Horse Lake Road, ~14 miles east of junction with Highway 139, northwest of Susanville, Lassen County. Rocky slopes.

The following were donated by Brandywine Conservancy, PO Box 141, Chadds Ford, Pennsylvania 19317, United States. Received 02/27/1987.

PI 649969. *Helianthus decapetalus* L.

Wild. Ames 7721. Collected 1987 in Pennsylvania, United States. Latitude 41° 29' N. Longitude 76° 36' W. Floodplain of Loyalsock Creek, near Forksville, Sullivan County. Floodplain.

The following were collected by C. Picotte. Donated by C. Picotte, Montreal Botanic Garden, Svc. Loisirs Development Communautaire, 4101 Rue Sherbrooke Est., Montreal, Quebec H1X 2B2, Canada. Received 04/22/1992.

PI 649970. *Helianthus decapetalus* L.

No.101; Ames 19075. Collected 10/13/1991 in Quebec, Canada. Latitude 45° 30' N. Longitude 73° 36' W. Summit Park, Westmount. Burned area of a clearing.

The following were donated by Metropolitan Toronto Zoo, P.O. Box 280, West Hill, Ontario M1E 4R5, Canada. Received 05/10/1993.

PI 649971. *Helianthus decapetalus* L.

Wild. No. 18; Ames 21039. Collected in Ontario, Canada. Latitude 42° 43' N. Longitude 81° 29' W. Elevation 210 m. Moist clay upper bank of Thames River. Elgin Co., Dunwich Tp.

The following were collected by Gwen Meyer, USDA, SCS, NPMC, 9100 Soil Conservation Road, Building 509, BARC-East, Beltsville, Maryland 20705, United States; Dean Meyer, Beltsville, Maryland 20705, United States. Donated by USDA, NRCS, National Plant Materials Center, Building 509, BARC-East, Beltsville, Maryland 20705, United States. Received 01/21/1998.

PI 649972. *Helianthus decapetalus* L.

Wild. 9076979; Ames 24146. Collected 10/14/1994 in Virginia, United States. Latitude 38° 50' N. Longitude 77° 18' W. Overlook #2, north side trail entrance, George Washington Memorial Parkway, Fairfax County.

The following were collected by John Englert, USDA, NRCS, National Plant Materials Center, Beaver Dam Road, Beltsville, Maryland 20705-2350, United States. Donated by USDA, NRCS, National Plant Materials Center, Building 509, BARC-East, Beltsville, Maryland 20705, United States. Received 01/21/1998.

PI 649973. *Helianthus divaricatus* L.

Wild. 9069789; Ames 24147. Collected 08/21/1992 in Virginia, United States. Latitude 38° 40' N. Longitude 78° 9' W. East side of road, milepost 7.1, along Skyline Drive, Shenandoah National Park, Rappahannock County. A slope of 0-10% with a western exposure.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory,

P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States.
Received 12/22/2004.

PI 649974. *Helianthus eggertii* Small

Wild. 2388; Ames 27675. Collected 10/17/2003 in Tennessee, United States. Latitude 36° 24' 45" N. Longitude 86° 50' 51" W. Elevation 264 m. From Goodlettsville NW on Hwys 41 & 11, E on SR 257 (Belts Rd) at Ridgetop, W ~ 5 mi, then just S on Edgar Dillard Rd, Robertson Co. Roadside; outcrop. Plants 1-1.5 meters tall, branched above.

PI 649975. *Helianthus eggertii* Small

Wild. 2390; Ames 27677. Collected 10/18/2003 in Tennessee, United States. Latitude 35° 53' 46" N. Longitude 87° 7' 49" W. Elevation 296 m. Cleared woods/grazing area next to house on west side of road. From SR 100 W, take Highway 46 south approximately 8 miles, go north approximately 0.75 mile on Pewitt Road to Old Farm Road, Williamson County. Cleared woods, grazing area, white oaks under sumac. Mixed with *H. microcephalus*. Typical plants; purple stems. Plants 1-2 meters tall.

PI 649976. *Helianthus eggertii* Small

Wild. 2392; Ames 27678. Collected 10/18/2003 in Tennessee, United States. Latitude 35° 21' 38" N. Longitude 87° 33' 42" W. Elevation 314 m. East side of road, 1500 feet north of Natchez Trace Parkway, approximately 2 miles north of Laurel Lake on Brush Creek Road from US 64 W, Laurel Hill Wildlife Management Area, Lawrence County. Brushy area, roadside along powerline right-of-way. Related species found: *H. divaricatus* and *H. microcephalus*. Typical plants; mixed heights; 1-2 meters tall; purple stems.

PI 649977. *Helianthus eggertii* Small

Wild. 2393; Ames 27679. Collected 10/18/2003 in Tennessee, United States. Latitude 35° 9' 16" N. Longitude 87° 11' 12" W. Elevation 293 m. From Pulaski, go approximately 8-9 miles west on US 64, then 3 miles south on Hurricane Creek Road to top of ridge, turn left, go a short distance and turn right, travel 1.2 miles south on Tin Top Road, Giles County. Plants on dry roadside bank, west side for 200 meters. *H. microcephalus* mixed in population. Some tall plants, >2 meters; typical plants; purple stem; typical leaves; branched above.

PI 649978. *Helianthus eggertii* Small

Wild. 2396; Ames 27682. Collected 10/19/2003 in Tennessee, United States. Latitude 35° 21' 41" N. Longitude 86° 9' 40" W. Elevation 320 m. Secured area (89B-1), Arnold Air Force Base, Coffee County. Tall plants, >2 meters; typical plants otherwise; less purple stems.

PI 649979. *Helianthus eggertii* Small

Wild. 2397; Ames 27683. Collected 10/19/2003 in Tennessee, United States. Latitude 35° 21' 32" N. Longitude 86° 10' 42" W. Elevation 326 m. Arnold Engineering Development Center (41C-1), Arnold Air Force Base, Franklin County. Typical; shorter plants (1-1.5 meters).

PI 649980. *Helianthus eggertii* Small

Wild. 2398; Ames 27684. Collected 10/19/2003 in Tennessee, United States. Latitude 35° 21' 21" N. Longitude 86° 8' 11" W. Elevation 323 m. Arnold Engineering Development Center (61A-1 & 62A-1), Arnold Air Force Base, Coffee County. Typical plants; 1-1.5 meters tall.

PI 649981. *Helianthus eggertii* Small

Wild. 2413; Ames 27685. Collected 10/23/2003 in South Carolina, United States. Latitude 34° 53' 53" N. Longitude 81° 1' W. Elevation 183 m. Close to church and powerline, Joe Lewis Blvd, off Blackman Rd (Trash Pile Rd), York County. Small scattered population. Iredell soil. Typical plants.

PI 649982. *Helianthus eggertii* Small

Wild. 2427; Ames 27686. Collected 10/26/2003 in Alabama, United States. Latitude 33° 53' 2" N. Longitude 86° 50' 41" W. Elevation 201 m. North and south side of Stuckey's sign, 200 meters south of Exit 287, east side of Interstate 65, due east of Arkadelphia, Blount County. Scattered population along access road for cable right-of-way. Plants ~1 meter tall; typical plants.

PI 649983. *Helianthus eggertii* Small

Wild. 2428; Ames 27687. Collected 10/26/2003 in Alabama, United States. Latitude 34° 19' 49" N. Longitude 87° 40' 13" W. Elevation 314 m. New highway construction area, 1.5 miles south of Phil Campbell on Highway 13, then east on County Road 10, then 0.2 mile north and 1.1 miles east to abandoned dirt road, Franklin County. Population scattered along cleared area in mixed woods. Plants 1-2 meters tall; typical; dark green leaves; 2-5 heads per plant; branched above.

The following were donated by Metropolitan Toronto Zoo, P.O. Box 280, West Hill, Ontario M1E 4R5, Canada. Received 05/10/1993.

PI 649984. *Helianthus giganteus* L.

Wild. No. 19; Ames 21040. Collected in Ontario, Canada. Latitude 42° 2' N. Longitude 82° 53' W. Elevation 191 m. Essex Co., Colchester Tp. Prairie remnant along railroad bank.

The following were donated by Don Beam, Ohio Prairie Association, 201 THORNE, OARDC-WOOSTER, Wooster, Ohio 44691, United States. Received 08/22/2004.

PI 649985. *Helianthus giganteus* L.

Wild. Stucker Meadow 10; Ames 28239; OPGC 2088. Collected in Ohio, United States. Killbuck Marsh State Wildlife Area, Wayne County.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/20/2004.

PI 649986. *Helianthus gracilentus* A. Gray

Wild. GRA-2429; Ames 27839. Collected 09/12/2004 in California, United States. Latitude 32° 52' 11" N. Longitude 116° 39' 24" W. Elevation 1085 m. 5.4 miles north on Viejas Grande Road from East Willows Road, Willows Road Exit, Interstate 8, Alpine, San Diego County. Rocky, sandy, dry stream bed and road edge; 2003 fire.

PI 649987. *Helianthus gracilentus* A. Gray
Wild. GRA-2435; Ames 27841. Collected 09/17/2004 in California, United States. Latitude 34° 14' 15" N. Longitude 117° 28' 30" W. Elevation 853 m. Lytle Creek Road, San Bernardino National Forest, Forest Road 2N57, 0.2 miles east of Lytle Creek Ranger Station, San Bernardino County. Rocky, sandy, dry stream bed; 2003 fire.

The following were collected by T. Van Bruggen, University of South Dakota, Dept. of Biology, Vermillion, South Dakota 57069, United States. Donated by C. Lay, South Dakota State University, Plant Science Dept., P.O. Box 2207-A, Brookings, South Dakota 57007, United States. Received 10/17/1983.

PI 649988. *Helianthus grosseserratus* M. Martens
TVB-45; GRO-1779; Ames 2725. Collected 10/05/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NE 1/4 of NW 1/4 of Section 15, R52W, T92N, Clay County. Roadside ditch.

PI 649989. *Helianthus grosseserratus* M. Martens
TVB-46; GRO-1780; Ames 2726. Collected 10/05/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. Middle SW 1/4 of Section 14, R52W, T92N, Clay County. Along railroad tracks.

PI 649990. *Helianthus grosseserratus* M. Martens
TVB-47; GRO-1781; Ames 2727. Collected 10/05/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NW 1/4 of NE 1/4 of Section 15, R52W, T92N, Clay County. Roadside ditch.

PI 649991. *Helianthus grosseserratus* M. Martens
TVB-52; GRO-1784; Ames 2731. Collected 10/06/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. NW 1/4 of NW 1/4 of Section 17, R50W, T92N, Union County. Roadside ditch.

PI 649992. *Helianthus grosseserratus* M. Martens
Wild. TVB-60; GRO-1790; Ames 2737. Collected 10/07/1982 in Iowa, United States. Latitude 42° 44' N. Longitude 96° 14' W. SE 1/4 of SE 1/4 of Section 19, R45W, T92N, Plymouth County. Roadside ditch.

PI 649993. *Helianthus grosseserratus* M. Martens
TVB-61; GRO-1791; Ames 2738. Collected 10/07/1982 in Iowa, United States. Latitude 43° 5' N. Longitude 96° 11' W. NW 1/4 of NE 1/4 of Section 28, R44W, T94N, Sioux County. Roadside ditch.

PI 649994. *Helianthus grosseserratus* M. Martens
TVB-65; GRO-1792; Ames 2740. Collected 10/07/1982 in Iowa, United States. Latitude 43° 5' N. Longitude 96° 11' W. NW 1/4 of SE 1/4 of Section 21, R44W, T94N, Sioux County. Roadside ditch.

PI 649995. *Helianthus grosseserratus* M. Martens
Wild. TVB-68; GRO-1795; Ames 2742. Collected 10/11/1982 in South Dakota, United States. Latitude 43° 18' N. Longitude 97° 7' W. NE 1/4 of NW 1/4 of Section 11, R54W, T97N, Turner County. Roadside ditch.

Unknown source. Received 11/21/1984.

PI 649996. *Helianthus grosseserratus* M. Martens

Ames 3202. Collected 11/21/1984 in Pennsylvania, United States.
Latitude 39° 52' N. Longitude 75° 34' W. Brandywine River
Museum, Delaware County.

The following were collected by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Radovan Marinkovic, Institute of Field and Vegetable Crops, M. Gorkog 30, 21000, Novi Sad, Serbia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, Delhi 110012, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 649997. *Helianthus grosseserratus* M. Martens

Wild. GRO 2190; Ames 17955. Collected 09/13/1991 in Nebraska, United States. Latitude 40° 28' N. Longitude 96° 22' W. Clay soil along edge of stream. 0.8 km west of Sterling, Hwy. 41 W, Johnson County, NE. Seed collected from 39 plants. Plants densely scattered along edge of stream ca. 3 m wide. Plants had serrated leaves in whorls, red stems on some, larger diameter stems, thick scabrous leaves, 3 m tall. Plants just getting to peak flowering, seed set poor, quality questionable, seed immature. Most plants with rust. Stem borers seen, may have caused multiple heads often found in population.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/12/1996.

PI 649998. *Helianthus grosseserratus* M. Martens

Wild. Ames 22739. Collected 09/1995 in North Dakota, United States.
Latitude 46° 39' N. Longitude 97° 14' W. 10 miles south of
Leonard.

The following were donated by Don Beam, Ohio Prairie Association, 201 THORNE, OARDC-WOOSTER, Wooster, Ohio 44691, United States. Received 08/22/2004.

PI 649999. *Helianthus grosseserratus* M. Martens

Wild. Stucker Meadow 31; Ames 28240; OPGC 2109. Collected in Ohio,
United States. Newport, Tuscarawas County.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station,

Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/28/2006.

PI 650000. *Helianthus longifolius* Pursh

Wild. LON-2552; Ames 28379. Collected 09/27/2006 in Georgia, United States. Latitude 32° 25' 31" N. Longitude 84° 22' 28" W. Elevation 153 m. Northeast side of County Road 130, 0.5 mile southeast of Highway 137, southwest of Butler. Sandy roadside/pine plantation margin.

The following were collected by Robert W. Stack, 6216 Rime Valley Drive NW, Apartment 204, Huntsville, Alabama 35806, United States. Received 11/28/2006.

PI 650001. *Helianthus longifolius* Pursh

Wild. LON-2557; Ames 28381. Collected 10/14/2006 in Alabama, United States. Latitude 34° 25' 55" N. Longitude 85° 40' 31" W. Elevation 446 m. West side of Highway 35, 4.1 miles east of junction with Highway 11, east of Fort Payne, northwest of Little River Wildlife Management area. Low rocky sandstone outcrop in mowed roadside margin at edge of and into mixed pine/hardwood woods.

The following were collected by T. Van Bruggen, University of South Dakota, Dept. of Biology, Vermillion, South Dakota 57069, United States. Donated by C. Lay, South Dakota State University, Plant Science Dept., P.O. Box 2207-A, Brookings, South Dakota 57007, United States. Received 10/17/1983.

PI 650002. *Helianthus maximilianii* Schrad.

Wild. TVB-35B; MAX-1771; Ames 2717. Collected 10/01/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. NE 1/4 of SE 1/4 of Section 3, R49W, T90N, Union County. Beside railroad tracks.

PI 650003. *Helianthus maximilianii* Schrad.

Wild. TVB-37; MAX-1773; Ames 2719. Collected 10/04/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. Bank of Missouri River, SE 1/4 of Section 19, R52W, T92N, Clay County.

PI 650004. *Helianthus maximilianii* Schrad.

Wild. TVB-48; MAX-1782; Ames 2728. Collected 10/05/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. W 1/2 of NW 1/4 of Section 15, R53W, T92N, Clay County. Roadside ditch.

PI 650005. *Helianthus maximilianii* Schrad.

Wild. TVB-66; MAX-1793; Ames 2741. Collected 10/11/1982 in South Dakota, United States. Latitude 43° 19' N. Longitude 97° 46' W. NE 1/4 of SE 1/4 of Section 30, R56W, T99N, Hutchinson County. Roadside ditch.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; L. Cuk. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 650006. *Helianthus maximilianii* Schrad.

MAX-1641; Ames 7407. Collected 08/21/1980 in North Dakota, United States. Latitude 46° 52' 30" N. Longitude 96° 47' 48" W. 4-H camp in Fargo.

The following were collected by T. Van Bruggen, University of South Dakota, Dept. of Biology, Vermillion, South Dakota 57069, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 650007. *Helianthus maximilianii* Schrad.

MAX-1794; Ames 7470. Collected 10/11/1982 in South Dakota, United States. Latitude 43° 18' N. Longitude 97° 7' W. SE 1/4 of SE 1/4 of Section 6, R54W, T97N, Turner County.

The following were collected by Cynthia Stauffer, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Radovan Marinkovic, Institute of Field and Vegetable Crops, M. Gorkog 30, 21000, Novi Sad, Serbia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, Delhi 110012, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 650008. *Helianthus maximilianii* Schrad.

Wild. MAX 2103; Ames 17961. Collected 09/04/1991 in North Dakota, United States. Latitude 47° 26' N. Longitude 99° 29' W. Level area to backslope of roadside ditch. 37.3 km west of Carrington, Hwy. 52 W, Wells County, ND. Seed collected from 75 plants. Population large but scattered over a wide, disturbed area. *Helianthus annuus* associated. Seed set looked good, all plants past flowering, typical plants, ca. 1 m tall, flowers numerous on stem. Moderate infection of rust, some insect damage.

The following were collected by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Radovan Marinkovic, Institute of Field and Vegetable Crops, M. Gorkog 30, 21000, Novi Sad, Serbia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, Delhi 110012, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 650009. *Helianthus maximilianii* Schrad.

Wild. MAX 2226; Ames 17969. Collected 09/16/1991 in South Dakota, United States. Latitude 44° 20' N. Longitude 97° 13' W. Sandy-loam soil in low moist area of roadside ditch. 6.4 km east of Arlington, Hwy. 14 E, Brookings County, SD. Seed collected from 82 plants. Dense population in low area of roadside ditch, dense clumps of plants. Plants just past flowering, good seed set. Some insect damage to heads. Plants 2-2.5 m tall. Typical branching above, all plants multiheaded. No apparent rust.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/12/1996.

PI 650010. *Helianthus maximilianii* Schrad.

Wild. Ames 22740. Collected 09/1995 in North Dakota, United States. Latitude 46° 39' N. Longitude 97° 14' W. 10 miles south of Leonard.

PI 650011. *Helianthus maximilianii* Schrad.

Wild. Ames 22741. Collected 09/1995 in North Dakota, United States. Latitude 46° 59' N. Longitude 96° 45' W. Kragnes.

The following were collected by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 09/21/1989.

PI 650012. *Helianthus microcephalus* Torr. & A. Gray

Wild. Ames 10808. Collected 09/21/1989 in Indiana, United States. Latitude 38° 15' N. Longitude 86° 8' W. Elevation 206 m. 1 mile NNE of I64 and Indiana 135 interchange. Corydon, Harrison Co., Indiana. Growing on edge of black oak forest in acidic forest loam with *Cornus florida*, *Nyssa sylvatica* and *Toxicodendron radicans*. 5 plants in the population, sample size was 18 seed, okay maturity, and no disease or insect damage.

Unknown source. Received 11/21/1984.

PI 650013. *Helianthus mollis* Lam.

Ames 3201. Collected 1983 in Pennsylvania, United States. Latitude 39° 52' N. Longitude 75° 35' W. Brandywine Conservancy Gardens, Chadds Ford, Delaware County.

The following were collected by Brandywine Conservancy, PO Box 141, Chadds Ford, Pennsylvania 19317, United States. Received 04/03/1996.

PI 650014. *Helianthus mollis* Lam.

Wild. Ames 22796. Collected 04/03/1996 in Pennsylvania, United States. Latitude 39° 52' N. Longitude 75° 35' W. 5 miles from Chadds Ford. Full sun, low spot in a meadow which is wet spring and fall.

The following were collected by Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States. Donated by Scott F. Woodbury, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States. Received 04/22/1997.

PI 650015. *Helianthus mollis* Lam.

Wild. Ames 23691. Collected 11/1996 in Missouri, United States. Latitude 38° 28' N. Longitude 90° 44' W. Pacific, Franklin County.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 03/07/2005.

PI 650016. *Helianthus niveus* (Benth.) Brandegee
Wild. NIV-2444; Ames 27843. Collected 03/02/2005 in Arizona, United States. Latitude 32° 22' 57" N. Longitude 114° 25' 38" W. Elevation 122 m. Yuma Marine Corps Air Station (escort required), active dune area, 0.1 mile north of Monument 198 (rocky outcrop), 0.3 mile north of Mexican border, Yuma County. Active sand dunes.

The following were collected by Chris Knauf, Bureau of Land Management, El Centro Field Office, 1661 South Fourth Street, El Centro, California 92243, United States. Received 11/08/2004.

PI 650017. *Helianthus niveus* subsp. *tephrodes* (A. Gray) Heiser
Wild. Group #1; CALV1B; CALV2; Group #2; 2; Ames 27420. Collected 07/29/2004 in California, United States. Latitude 32° 55' 31" N. Longitude 115° 5' 3" W. Dune buggy access from Gecko Road, southeast of Cahuilla Ranger Station, Imperial Sand Dunes. Active sand dune.

PI 650018. *Helianthus niveus* subsp. *tephrodes* (A. Gray) Heiser
Wild. CALV3; Group #3; 6; Buttercup; Ames 27422. Collected in California, United States. Latitude 32° 43' 6" N. Longitude 114° 53' 7" W. Dune buggy access from Gordon Wells exit, south of Interstate 8, south part of Algodones Dunes, southern region of Imperial Sand Dunes. Active sand dune.

The following were collected by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 08/30/2005.

PI 650019. *Helianthus niveus* subsp. *tephrodes* (A. Gray) Heiser
Wild. 3; Ames 27830. Collected 12/13/2004 in California, United States. Latitude 32° 57' 46" N. Longitude 115° 7' 42" W. Elevation 300 m. Dune buggy access from Gecko Rd, south of Hwy 78, due east of Cahuilla Ranger Station, Imperial Sand Dunes. Active sand dune.

PI 650020. *Helianthus niveus* subsp. *tephrodes* (A. Gray) Heiser
Wild. 4; Ames 27831. Collected 12/14/2004 in California, United States. Latitude 32° 44' 15" N. Longitude 114° 54' 48" W. Elevation 150 m. Dune buggy access from Gordon Wells exit, just north of Interstate 8, southern region of Imperial Sand Dunes. Active sand dune.

PI 650021. *Helianthus niveus* subsp. *tephrodes* (A. Gray) Heiser
Wild. 5; Ames 27832. Collected 12/14/2004 in California, United States. Latitude 32° 43' 36" N. Longitude 114° 54' 24" W. Elevation 220 m.

Dune buggy access from Gordon Wells exit, just south of Interstate 8, southern region of Imperial Sand Dunes. Active sand dune.

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod. Res Lab, PO Drawer 10, Bushland, Texas 79012, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 04/04/1985.

PI 650022. *Helianthus nuttallii* Torr. & A. Gray

Wild. NUT-1711; #1711; Ames 4211. Collected 08/04/1982 in North Dakota, United States. Latitude 46° 38' N. Longitude 97° 1' W. Along Highway 18, 6 miles west and 6 miles south of Kindred. Moist roadside ditch. Large scattered population. Head clipper damage. Population just starting to flower. Leaves somewhat serrate.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/12/1996.

PI 650023. *Helianthus nuttallii* Torr. & A. Gray

Wild. Ames 22742. Collected 09/1995 in North Dakota, United States. Latitude 46° 39' N. Longitude 97° 14' W. 10 miles south of Leonard.

The following were collected by University of Alberta, Devonian Botanic Garden and Field Laboratory, Department of Botany, Edmonton, Alberta T6G 2E1, Canada. Received 05/11/1998.

PI 650024. *Helianthus nuttallii* Torr. & A. Gray

Wild. Index Seminum 344; Ames 24569. Collected 1998 in Alberta, Canada. Latitude 19° 4' N. Longitude 112° 55' W. Elevation 1220 m. Highway 3 bridge crossing over Milk River, southern Alberta. Moist alluvial floodplain.

The following were collected by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/20/1993.

PI 650025. *Helianthus nuttallii* subsp. *rydbergii* (Britton) R. W. Long

Wild. Ames 21630. Collected in North Dakota, United States. Latitude 46° 34' N. Longitude 97° 6' W. Sandy soil in moist roadside ditch. 11.2 km west and 5.9 km south of Kindred, Hwy 18 S, Richland County, ND.

PI 650026. *Helianthus pauciflorus* Nutt.

Wild. PAU-2291; Ames 22217. Collected 09/05/1994 in Saskatchewan, Canada. Latitude 52° 8' 42" N. Longitude 106° 22' 45" W. Elevation 476 m. 12.8 km east of Saskatoon, Hwy. 5 E. Saskatchewan, Canada.

Black-brown, sandy-loam soil, level area of roadside ditch, topography - plain (level), moderate soil nutrient content, no salinity, well drained, tillage affected by stoniness. Located near wheat field. Small, isolated population in roadside ditch near recent construction, population was probably larger. Uniform population, effective population size - 45 plants, population area 50 meters square. Typical *H. pauciflorus* ssp. *subrhomboideus*. Just past peak flowering, seed set questionable. No apparent insect or disease damage. Associated wild species: *Aster*, *Sonchus*, *Crepis*.

The following were collected by Mary Brothers, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 09/16/1994.

PI 650027. *Helianthus pauciflorus* Nutt.

Wild. PAU-2324; Ames 22218. Collected 09/12/1994 in Manitoba, Canada. Latitude 50° 1' 3" N. Longitude 100° 15' 45" W. Elevation 500 m. 0.4 km west of Rivers, Hwy. 250 W. Manitoba, Canada. Brown, sandy soil, level area of roadside ditch, topography - plain (level), moderate soil nutrient content, no to low salinity, well drained, tillage not affected by stoniness. Cropland and grassland vegetation. Population scattered over 0.4 km in level to back-slope of roadside ditch. Uniform population, effective population size - 200 plants. Typical *H. pauciflorus* ssp. *subrhomboideus*, plants short (ca. 0.6 m). Well past flowering, most heads black, seed set questionable. No apparent insect or disease damage but plants very mature. Associated species: *Aster*.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/12/1996.

PI 650028. *Helianthus pauciflorus* Nutt. subsp. *pauciflorus*

Wild. Ames 22744. Collected 09/1995 in North Dakota, United States. Latitude 31° 25' N. Longitude 103° 29' W. 16 km south of Leonard.

The following were collected by T. Van Bruggen, University of South Dakota, Dept. of Biology, Vermillion, South Dakota 57069, United States. Donated by C. Lay, South Dakota State University, Plant Science Dept., P.O. Box 2207-A, Brookings, South Dakota 57007, United States. Received 10/17/1983.

PI 650029. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

Wild. TVB-1; RIG-1743; Ames 7462; Ames 2688. Collected 09/01/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. Paradise Hill, Ray Fletcher Prairie, NW 1/2 of Section 1, R50W, T92N, Union County.

PI 650030. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

Wild. TVB-3; RIG-1745; Ames 2690. Collected 09/03/1982 in Iowa, United States. Latitude 42° 44' N. Longitude 96° 14' W. Missouri River Bluffs, NE 1/4 of SE 1/4 of Section 4, R48W, T90N, Plymouth County. Pasture.

PI 650031. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

TVB-4; RIG-1746; Ames 2691. Collected 09/03/1982 in Iowa, United States. Latitude 42° 44' N. Longitude 96° 14' W. NE 1/4 of SE 1/4 of Section 18, R49W, T93N, Plymouth County. Pasture.

The following were collected by Cynthia Stauffer, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Radovan Marinkovic, Institute of Field and Vegetable Crops, M. Gorkog 30, 21000, Novi Sad, Serbia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, Delhi 110012, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 650032. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

Wild. PAU 2142; Ames 17980. Collected 09/08/1991 in South Dakota, United States. Latitude 44° 6' N. Longitude 103° 14' W. 14 km southwest of Rapid City, Hwy. 16 S, Pennington County, SD. Rocky, limestone soil on backslope of roadside ditch. Seed collected from 50 plants. Population scattered among rocky soil of backslope. Shorter single to three-headed plants. Plants well past flowering, few seeds per head. No rust on few remaining leaves.

The following were collected by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Radovan Marinkovic, Institute of Field and Vegetable Crops, M. Gorkog 30, 21000, Novi Sad, Serbia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, Delhi 110012, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 650033. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

Wild. PAU 2207; Ames 17981. Collected 09/15/1991 in Nebraska, United States. Latitude 41° 33' N. Longitude 100° 57' W. 1.6 km east of Tyron, Hwy. 97 S, McPherson County, NE. Backslope of sandy roadside ditch. Seed collected from 39 plants. Small isolated population of about 75 plants. Typical *H. pauciflorus* subsp. *subrhomboideus* dark green leaves, 1-3 heads at top. Well past flowering, 1-5 seeds per head. No apparent rust.

PI 650034. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

Wild. PAU 2209; Ames 17982. Collected 09/15/1991 in Nebraska, United States. Latitude 42° 0' N. Longitude 101° 24' W. 20.8 km south of Mullen, Hwy. 97 S, Hooker County, NE. Sandy roadside ditch. Seed collected from 75 plants. Population small, ca. 200 plants along roadside ditch and into field. Typical *H. pauciflorus*, opposite, thick, scaberous leaves, 1-2 heads, red stems. Population well past flowering, good seed set, 1-5 seeds per head. No apparent rust.

PI 650035. *Helianthus pauciflorus* subsp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.

Wild. PAU 2228; Ames 17983. Collected 09/17/1991 in South Dakota, United States. Latitude 45° 20' N. Longitude 97° 12' W. 9.6 km southeast of Summit, Hwy. 12 E, Grant County, SD. Sandy roadside ditch. Seed collected from 14 plants. Population in sandy roadside ditch. Typical plants for *H. pauciflorus*, well past flowering most plants had black heads, questionable seed. Approximately 1 m tall, opposite leaves. Slight rust present *H. maximiliani* mixed in population.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 08/22/2005.

PI 650036. *Helianthus pumilus* Nutt.

Wild. PUM-2473; Ames 27891. Collected 08/07/2005 in Colorado, United States. Latitude 39° 4' 6" N. Longitude 104° 55' 23" W. Elevation 2438 m. North side of Mt. Herman Road (Pike National Forest Road 320), 2 miles west of junction with Red Rocks Road, west of Monument, El Paso County. Steep rocky road cut slope and rocky openings in Gambel's oak and pine forest.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Mark L. Dahmer, AgroFresh, 20232 East Lake Avenue, Centennial, Colorado 80016, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 08/22/2005.

PI 650037. *Helianthus pumilus* Nutt.

Wild. PUM-2474; Ames 27892. Collected 08/08/2005 in Colorado, United States. Latitude 38° 59' 55" N. Longitude 104° 53' 35" W. Elevation 2218 m. West side of Academy Drive, ~0.8 mile northwest of hospital, U.S. Air Force Academy (escort required), El Paso County. Roadside meadow, open Gambel's oak and pine woods.

PI 650038. *Helianthus pumilus* Nutt.

Wild. PUM-2475; Ames 27893. Collected 08/08/2005 in Colorado, United States. Latitude 38° 59' 23" N. Longitude 104° 53' 36" W. Elevation 2218 m. Dirt road off Pine Drive, ~0.5 mile southwest of hospital, U.S. Air Force Academy (escort required), 0.6 mile south of collection 2474, El Paso County. Open meadow, some Gambel's oak, adjacent to open pine woods.

PI 650039. *Helianthus pumilus* Nutt.

Wild. PUM-2476; Ames 27894. Collected 08/08/2005 in Colorado, United States. Latitude 38° 52' 59" N. Longitude 104° 52' 11" W. Elevation 1993 m. Hillside and along bike/running path, east side of Mesa Road, from junction with 30th Street south to Garden of the Gods, overlook parking lot, Colorado Springs, El Paso County. Plants scattered on steep, rocky, grassy, slope and roadside ditch.

PI 650040. *Helianthus pumilus* Nutt.

Wild. PUM-2479; Ames 27897. Collected 08/09/2005 in Colorado, United States. Latitude 38° 12' 56" N. Longitude 105° 21' 28" W. Elevation 2499 m. Mostly east side of Oak Creek Grade Road (255 Road) between Dead Mule Gulch and Sevenmile Gulch, 7 miles northeast of Highway 96, Silver Cliff, Custer County. Open pine forest, rocky soil, some grasses, brush.

PI 650041. *Helianthus pumilus* Nutt.

Wild. PUM-2480; Ames 27898. Collected 08/09/2005 in Colorado, United States. Latitude 37° 59' 37" N. Longitude 105° 28' 30" W. Elevation 2681 m. Both sides of South Colony Road (120 Road), 10 miles south of Westcliffe, 0.25 mile east and west of parking lot, South Colony Lakes access, Custer County. Large rocky meadow, scattered brush, slope up to San Isabel National Forest.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 08/22/2005.

PI 650042. *Helianthus pumilus* Nutt.

Wild. PUM-2484; Ames 27901. Collected 08/10/2005 in Colorado, United States. Latitude 38° 25' 47" N. Longitude 105° 35' 47" W. Elevation 2102 m. Both sides of 27 Road, Texas Creek Gulch (Bureau of Land Management), ~2 miles north of Texas Creek off Highway 50, west of Canon City, Fremont County. Very dry, rocky, sandy wash. Many ants.

PI 650043. *Helianthus pumilus* Nutt.

Wild. PUM-2485; Ames 27902. Collected 08/10/2005 in Colorado, United States. Latitude 38° 19' 24" N. Longitude 105° 49' 42" W. Elevation 2620 m. Both sides of Hayden Pass Road (6 Road), 1 mile southwest of Hayden Creek Campground, ~6 miles southwest of Coaldale (Highway 50), Fremont County. Very steep, rocky slope. *H. pumilus* mostly roadside, mountain mahogany and Gambel's oak thickets, some pines.

- PI 650044. *Helianthus pumilus* Nutt.**
 Wild. PUM-2486; Ames 27903. Collected 08/10/2005 in Colorado, United States. Latitude 39° 24' 26" N. Longitude 105° 29' 10" W.
 Elevation 2377 m. North side of Highway 285, across from Bailey Propane Company, west side of town, north side of North Fork South Platte River, Park County. Very steep, rocky road cut and somewhat less steep open pine forest/meadow above the road cut.
- PI 650045. *Helianthus pumilus* Nutt.**
 Wild. PUM-2487; Ames 27904. Collected 08/11/2005 in Colorado, United States. Latitude 39° 45' 9" N. Longitude 105° 27' 29" W.
 Elevation 2380 m. North side of Central City Parkway, 1.5 miles north of Interstate 70W, Exit 243 (recently completed highway; 1 or 2 years), Clear Creek County. Moderate slope, rocky soil. Mountain mahogany, gumweed, young seedlings.
- PI 650046. *Helianthus pumilus* Nutt.**
 Wild. PUM-2488; Ames 27905. Collected 08/11/2005 in Colorado, United States. Latitude 39° 48' 0" N. Longitude 105° 26' 32" W.
 Elevation 2584 m. West side of Smith Hill Gulch Road (7 Road), 2 miles north of junction with Highway 119, Gilpin County. Steep. Grassy meadow, scattered brush and pine.
- PI 650047. *Helianthus pumilus* Nutt.**
 Wild. PUM-2489; Ames 27906. Collected 08/11/2005 in Colorado, United States. Latitude 39° 58' 1" N. Longitude 105° 30' 2" W.
 Elevation 2544 m. North side of Highway 119, across from Barker Reservoir, ~0.6 mile east of junction with Highway 72 (Nederland), Boulder County. Very steep, rocky road cut and somewhat less steep open pine forest/meadow above the road cut. Mountain mahogany, Ribes.
- PI 650048. *Helianthus pumilus* Nutt.**
 Wild. PUM-2490; Ames 27907. Collected 08/11/2005 in Colorado, United States. Latitude 40° 10' 34" N. Longitude 105° 21' 32" W.
 Elevation 2529 m. North side of Highway 7, South St. Vrain Canyon, pull off at mile marker 26, Boulder County. Very steep, rocky road cut north of pullout.
- PI 650049. *Helianthus pumilus* Nutt.**
 Wild. PUM-2491; Ames 27908. Collected 08/12/2005 in Colorado, United States. Latitude 40° 38' 44" N. Longitude 105° 17' 7" W.
 Elevation 2102 m. North side of Rist Canyon Road (52E Road), mile marker 13, Larimer County. Roadside slopes, rocky soil.
- PI 650050. *Helianthus pumilus* Nutt.**
 Wild. PUM-2492; Ames 27909. Collected 08/12/2005 in Colorado, United States. Latitude 40° 41' 22" N. Longitude 105° 18' 35" W.
 Elevation 1767 m. West from Hewlett Gulch trail head parking lot, Highway 14, Cache la Poudre Canyon, Roosevelt National Forest, Larimer County. Steep hillside with rocky but rich topsoil. Brush and grasses.
- PI 650051. *Helianthus pumilus* Nutt.**
 Wild. PUM-2493; Ames 27910. Collected 08/12/2005 in Colorado, United States. Latitude 40° 41' 42" N. Longitude 105° 27' 5" W.
 Elevation 2011 m. North from Highway 14, across from Dutch George

Campground, Cache la Poudre Canyon, Roosevelt National Forest, Larimer County. Very steep, rocky slope in places, in wash and adjacent flat areas. Willows, brush, grasses.

PI 650052. *Helianthus pumilus* Nutt.

Wild. PUM-2494; Ames 27911. Collected 08/12/2005 in Colorado, United States. Latitude 40° 44' 4" N. Longitude 105° 22' 55" W. Elevation 2133 m. Both sides of Red Feather Lakes Road (74E Road) and into adjacent meadows, 11 miles west of junction with Highway 287 (Livermore), Larimer County. Road cut, rocky, gravelly. Grassy meadow, no trees.

PI 650053. *Helianthus pumilus* Nutt.

Wild. PUM-2495; Ames 27912. Collected 08/13/2005 in Colorado, United States. Latitude 40° 41' 12" N. Longitude 105° 10' 33" W. Elevation 1645 m. West side of Highway 287, 8.1 miles south of Livermore, mile marker 358, Larimer County. Steep, rocky, gravelly road cut. Mountain mahogany, *Liatris*.

PI 650054. *Helianthus pumilus* Nutt.

Wild. PUM-2496; Ames 27913. Collected 08/13/2005 in Colorado, United States. Latitude 40° 49' 39" N. Longitude 105° 16' 33" W. Elevation 1798 m. Cherokee Park Road (80C Road) 1.8 miles west of Highway 287 (north side of road), 2.5 miles west (south side of road) and 3 miles west (south side of road), Larimer County. Steep rocky, gravelly road cut to roadside. Mountain mahogany and other brush, grass, scattered pine.

PI 650055. *Helianthus pumilus* Nutt.

Wild. PUM-2497; Ames 27914. Collected 08/13/2005 in Colorado, United States. Latitude 40° 57' 55" N. Longitude 105° 22' 25" W. Elevation 2163 m. Both sides of Highway 287, mile marker 382, 3 miles south of Wyoming state line (north of Virginia Dale), Larimer County. Roadside ditch, rocky slope. Scattered pine.

PI 650056. *Helianthus pumilus* Nutt.

Wild. PUM-2498; Ames 27915. Collected 08/13/2005 in Wyoming, United States. Latitude 41° 5' 34" N. Longitude 105° 31' 49" W. Elevation 2325 m. Both sides of Sportsmans Lake Road (Road 316), 1 mile west of Highway 287 (northwest of Tie Siding), Albany County. Gravelly, sandy, short, steep road cuts, into adjacent meadow. No trees.

PI 650057. *Helianthus pumilus* Nutt.

Wild. PUM-2499; Ames 27916. Collected 08/13/2005 in Wyoming, United States. Latitude 41° 1' 53" N. Longitude 105° 45' 33" W. Elevation 2316 m. Both sides of Sand Creek Road (Road 34), 1 mile north of Colorado/Wyoming border (Chimney Rock, Colorado) for about 0.5 mile north, Larimer County. Sandy roadside ditches. No trees.

PI 650058. *Helianthus pumilus* Nutt.

Wild. PUM-2500; Ames 27917. Collected 08/13/2005 in Wyoming, United States. Latitude 41° 9' 14" N. Longitude 105° 57' 9" W. Elevation 2285 m. Both sides of Highway 230, mile marker 23, 0.3 mile south of the Pioneer Canal bridge, southwest of Laramie, Albany County. Dry to grassy roadside slopes, flat to steep.

- PI 650059. *Helianthus pumilus* Nutt.**
Wild. PUM-2501; Ames 27918. Collected 08/14/2005 in Wyoming, United States. Latitude 41° 23' 27" N. Longitude 105° 29' 48" W.
Elevation 2304 m. Primarily south side of Roger Canyon Road (9th Street Road), 8.2 miles northeast of intersection with Reynolds Street, Laramie, Albany County. Roadside ditch and rocky road cut.
- PI 650060. *Helianthus pumilus* Nutt.**
Wild. PUM-2502; Ames 27919. Collected 08/14/2005 in Wyoming, United States. Latitude 41° 28' 55" N. Longitude 106° 1' 21" W.
Elevation 2316 m. Both sides of Dutton Creek Road (Road 57) at Four Mile Creek, **PI 650061. *Helianthus pumilus* Nutt.**
Wild. PUM-2503; Ames 27920. Collected 08/14/2005 in Wyoming, United States. Latitude 41° 11' 40" N. Longitude 105° 11' 30" W.
Elevation 2200 m. South side of Happy Jack Road (Highway 210), 3 miles east of Curt Gowdy State Park, Laramie County. Roadside, gravelly, grassy ditch, into adjacent, grazed meadow. Chert soil.
- PI 650062. *Helianthus pumilus* Nutt.**
Wild. PUM-2504; Ames 27921. Collected 08/14/2005 in Wyoming, United States. Latitude 41° 4' 13" N. Longitude 105° 21' 53" W.
Elevation 2355 m. Both sides of Monument Road (234 Road), 1.6 and 2 miles south of railroad crossing at Dale Creek, Albany County. Roadside ditch and grazed hillside. Chert soil, rocky, sandy. Brush and scattered pine.
- PI 650063. *Helianthus pumilus* Nutt.**
Wild. PUM-2505; Ames 27922. Collected 08/15/2005 in Wyoming, United States. Latitude 41° 20' 19" N. Longitude 105° 8' 41" W.
Elevation 2060 m. Both sides of Horse Creek Road (Highway 211) at railroad crossing, 3 miles north of Federal, Laramie County. Gravelly chert soil, grassy roadsides, and railroad right-of-way, relatively flat.
- PI 650064. *Helianthus pumilus* Nutt.**
Wild. PUM-2506; Ames 27923. Collected 08/15/2005 in Wyoming, United States. Latitude 41° 33' 6" N. Longitude 105° 9' 10" W.
Elevation 2099 m. Both sides of Bristol Ridge Road (Road 237-1), 3 miles east of Highway 211 (10 miles north of Horse Creek), Laramie County. Ridgetop meadow, relatively flat, gravelly soil.
- PI 650065. *Helianthus pumilus* Nutt.**
Wild. PUM-2508; Ames 27924. Collected 08/15/2005 in Wyoming, United States. Latitude 41° 45' 8" N. Longitude 104° 50' 34" W.
Elevation 1633 m. Both sides of Iron Mountain Road (Road 10), 0.8 and 5.2 miles southwest of Interstate 25, Exit 54 (Chugwater), Platte County. Steep, rocky roadcut and roadside ditches. No trees.
- PI 650066. *Helianthus pumilus* Nutt.**
Wild. PUM-2509; Ames 27925. Collected 08/15/2005 in Wyoming, United States. Latitude 41° 46' 27" N. Longitude 105° 20' 55" W.
Elevation 1843 m. North side of Highway 34, north Sybille Canyon, ~5.5 miles southwest of Platte/Albany County line, Albany County. Rocky, gravelly roadside, mostly level, and adjacent meadow. Some brush.

- PI 650067. *Helianthus pumilus* Nutt.**
 Wild. PUM-2510; Ames 27926. Collected 08/15/2005 in Wyoming, United States. Latitude 41° 57' 39" N. Longitude 104° 57' 24" W.
 Elevation 1548 m. North side of Highway 34, road cut just west of Exit 73, Interstate 25 (southwest Wheatland), Platte County. Rocky, gravelly roadside, road cut, and adjacent grazed land. More level land next to road had been mowed.
- PI 650068. *Helianthus pumilus* Nutt.**
 Wild. PUM-2511; Ames 27927. Collected 08/16/2005 in Wyoming, United States. Latitude 42° 21' 58" N. Longitude 104° 42' 38" W.
 Elevation 1572 m. Both sides of Highway 270, Webb Canyon, ~3.5 miles north of Hartville, Platte County. Rocky, sandy, roadside, some slope, some flat.
- PI 650069. *Helianthus pumilus* Nutt.**
 Wild. PUM-2512; Ames 27928. Collected 08/16/2005 in Wyoming, United States. Latitude 42° 38' 24" N. Longitude 104° 31' 31" W.
 Elevation 1722 m. Both sides of Silver Springs Road (Road 54), 9.2 miles south of Highway 18/20 (southwest of Lusk), Niobrara County. Roadside grassy meadow. Open pine and brush in distance.
- PI 650070. *Helianthus pumilus* Nutt.**
 Wild. PUM-2513; Ames 27929. Collected 08/16/2005 in Wyoming, United States. Latitude 42° 27' 4" N. Longitude 105° 21' 0" W.
 Elevation 1889 m. West side of Glendo Road (Road 6), 1.7 miles northeast of junction with Esterbrook Road (Road 5), Converse County. Rocky roadside grazed meadows, moderate slopes.
- PI 650071. *Helianthus pumilus* Nutt.**
 Wild. PUM-2514; Ames 27930. Collected 08/16/2005 in Wyoming, United States. Latitude 42° 33' 48" N. Longitude 105° 42' 23" W.
 Elevation 2048 m. Both sides of Cold Springs Road (2.3 miles south of pavement, Highway 91), Converse County. Steep, rocky, sandy road cut and into adjacent sloped meadow.
- PI 650072. *Helianthus pumilus* Nutt.**
 Wild. PUM-2515; Ames 27931. Collected 08/17/2005 in Wyoming, United States. Latitude 44° 49' 4" N. Longitude 107° 18' 3" W.
 Elevation 1496 m. North side of Highway 14, 4.4 miles southwest of Dayton, Sheridan County. Steep rocky road cut and grassy ditch, slopes.
- PI 650073. *Helianthus pumilus* Nutt.**
 Wild. PUM-2516; Ames 27932. Collected 08/18/2005 in Wyoming, United States. Latitude 42° 45' 56" N. Longitude 106° 8' 46" W.
 Elevation 1630 m. Both sides of Hat Six Road (Highway 253), 7.8 miles southeast of Exit 182, Interstate 25 (east of Casper), Natrona County. Steep rocky road cut and adjacent meadows.
- PI 650074. *Helianthus pumilus* Nutt.**
 Wild. PUM-2517; Ames 27933. Collected 08/18/2005 in Wyoming, United States. Latitude 42° 17' 0" N. Longitude 105° 3' 3" W. Elevation 1484 m. Both sides of El Rancho Road, ~1.5 miles north of ramp, Exit 94, Interstate 25 (north of Wheatland), Platte County. Roadside ditch, rocky, steep slopes, no trees.

PI 650075. *Helianthus pumilus* Nutt.

Wild. PUM-2518; Ames 27934. Collected 08/18/2005 in Wyoming, United States. Latitude 41° 6' 8" N. Longitude 104° 49' 45" W. Elevation 1594 m. South side of College Avenue (Road 212), 1.1 mile east of Exit 7, Interstate 25 (southwest Cheyenne), Laramie County. Rocky, sandy, grassy, disturbed roadside ditch. No trees.

PI 650076. *Helianthus pumilus* Nutt.

Wild. PUM-2519; Ames 27935. Collected 08/18/2005 in Colorado, United States. Latitude 40° 51' 10" N. Longitude 104° 44' 14" W. Elevation 1664 m. Scattered in and along dry Owl Creek, 0.5 mile north and south of ford, ~1.4 miles northwest of ARS Central Plains Experiment Range Headquarters, Pawnee National Grasslands, off GR 37, Weld County. Rocky, sandy, dry creek bed, bottom and some steep creek banks. Few random cottonwood.

The following were collected by Mark L. Dahmer, AgroFresh, 20232 East Lake Avenue, Centennial, Colorado 80016, United States; Rachel Dahmer, AgroFresh, 20232 East Lake Avenue, Centennial, Colorado 80016, United States. Donated by Mark L. Dahmer, AgroFresh, 20232 East Lake Avenue, Centennial, Colorado 80016, United States. Received 08/26/2005.

PI 650077. *Helianthus pumilus* Nutt.

Wild. PUM-2520; Ames 27936. Collected 08/13/2005 in Colorado, United States. Latitude 39° 4' 9" N. Longitude 104° 55' 48" W. Elevation 2499 m. North side of Mt. Herman Road (Pike National Forest Road 320), 1.8 miles southwest of junction with Red Rocks Road, west of Monument, El Paso County. Steep, rocky hillside, decomposing granite, sand, gravel. Gambel's oak, mountain mahogany, gumweed, and scattered pine.

PI 650078. *Helianthus pumilus* Nutt.

Wild. PUM-2521; Ames 27937. Collected 08/20/2005 in Colorado, United States. Latitude 39° 33' 27" N. Longitude 104° 44' 34" W. Elevation 1865 m. North side of East War Bonnet Trail, ~0.5 mile east of North Travois Trail, 0.5 mile north of Inspiration Drive, north of Parker, Douglas County. Sandy, grassy ditch bank and bridle trail. Yucca and cactus.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/28/2006.

PI 650079. *Helianthus resinosus* Small

Wild. RES-2534; Ames 28382. Collected 09/23/2006 in Alabama, United States. Latitude 32° 28' 17" N. Longitude 86° 50' 27" W. Elevation 61 m. North side of Highway 14, 0.1-0.2 mile west of Little Mulberry Creek, west of Statesville. Road cut, slope up from road, woods margin.

PI 650080. *Helianthus resinosus* Small

Wild. RES-2536; Ames 28384. Collected 09/24/2006 in Mississippi, United States. Latitude 31° 16' 31" N. Longitude 89° 40' 58" W. Elevation 56 m. North side of Highway 98, 0.3 mile west of Improve Road, roughly 6.2 miles east of intersection with Highway 198, east of Columbia. Mowed roadside/pine-oak woods margin, along power line right-of-way. Late flowering. *Helianthus angustifolius* not yet flowering.

PI 650081. *Helianthus resinosus* Small

Wild. RES-2537; Ames 28385. Collected 09/24/2006 in Mississippi, United States. Latitude 31° 13' 54" N. Longitude 90° 7' 14" W. Elevation 115 m. East side of Highway 27, ~0.1 mile north of Walthall schools and Salem Baptist Church, ~10 miles north of intersection with Highway 98, north of Tylertown. Oak overgrown cut pine forest, puccinia infection. Some plants on west side of road.

PI 650082. *Helianthus resinosus* Small

Wild. RES-2538; Ames 28386. Collected 09/24/2006 in Mississippi, United States. Latitude 31° 16' 19" N. Longitude 90° 34' 2" W. Elevation 125 m. North side of Highway 570, 0.4 mile west of Tangipahoa River, ~1.2 miles west of Amite/Pike County line. Fence row, mowed roadside margin. Plants did not look healthy.

PI 650083. *Helianthus resinosus* Small

Wild. RES-2539; Ames 28387. Collected 09/24/2006 in Mississippi, United States. Latitude 31° 35' 40" N. Longitude 90° 29' 5" W. Elevation 142 m. Northeast corner of intersection of Weeks Lane and Highway 550, 0.2 mile west of West Bougue Chitto Creek, west of Interstate 59 and Brookhaven. Wet ditch, edge of pine woods.

The following were developed by North Carolina Botanical Garden, Totten Center, Box 3375, University of North Carolina, Chapel Hill, North Carolina 27599-3375, United States. Received 11/13/1989.

PI 650084. *Helianthus schweinitzii* Torr. & A. Gray

Wild. NCBG-11-02-89-01; Ames 10810. Collected in North Carolina, United States. Latitude 35° 17' N. Longitude 83° 40' W. Elevation 545 m. Along west side of Southern RR, above Nantahala River, 3 miles northeast of road to Hewitt on US19/74, Hewitt quadrangle, Nantahala city, in Swain City. In shade of *Acer rubrum* and *Carpinus*, with *Lobelia siphilitica* and *Rubus argutus*. Springy soil. Seed collected in October 1989 at N.C. Bot. Garden from plants collected in Mecklenburg Co., N.C. by Dr. Larry Mellichamp, Univ. of N.C. at Charlotte.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 12/22/2004.

PI 650085. *Helianthus smithii* Heiser

Wild. 2400; Ames 27696. Collected 10/21/2003 in North Carolina, United States. Latitude 35° 39' 0" N. Longitude 81° 34' 23" W. Elevation 390 m. Exit 105, I 40 (S of Morganton). S ~8 miles on Highway 18, W on River Rd,

S on Walker Chapel Rd, 0.7 mile SE of Walker Chapel Baptist Church, Burke Co. Roadside ditch next to pine woods/powerline right-of-way. Population scattered in ditch. Smaller heads; somewhat reflexed bracts; purple stems; branched above; multiple heads; narrow leaves; plants up to 2 meters.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Donated by Laura Marek, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 11/28/2006.

PI 650086. *Helianthus smithii* Heiser

Wild. SMI-2547; Ames 28393. Collected 09/26/2006 in Alabama, United States. Latitude 33° 44' 42" N. Longitude 85° 31' 34" W. Elevation 361 m. Both sides (but primarily east) of Forest Road 553, Talladega National Forest, 2.5 miles northwest of Highway 78, north of Edwardsville, north of Heflin. Roadside, slope up, mixed pine/hardwood forest margin. Large population spread for a mile along the road.

PI 650087. *Helianthus smithii* Heiser

Wild. SMI-2548; Ames 28394. Collected 09/26/2006 in Alabama, United States. Latitude 33° 45' 49" N. Longitude 85° 31' 46" W. Elevation 450 m. Both sides of Talladega National Forest Road 548, 1.1 miles northeast of intersection with Forest Road 553, north of Edwardsville. Road/pine-oak forest margin. Spread for a mile or more along the road.

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 650088. *Helianthus strumosus* L.

Wild. STR-1211; Ames 7004. Collected 09/25/1979 in Georgia, United States. Latitude 30° 50' N. Longitude 84° 37' W. International Paper Co. Southland Experimental Farm, west side of GA 97, one level down from top level of Tifton uplift, about 4 miles north of junction of GA 97 and 302 and about 5 miles south-southwest of Bainbridge, Decatur County. Moist red clay soil; semi-shady margin of shortleaf pine (*P. echinata*) woods.

The following were collected by T. Van Bruggen, University of South Dakota, Dept. of Biology, Vermillion, South Dakota 57069, United States. Donated by C. Lay, South Dakota State University, Plant Science Dept., P.O. Box 2207-A, Brookings, South Dakota 57007, United States. Received 10/17/1983.

PI 650089. *Helianthus tuberosus* L.

TVB-28; TUB-1765; Ames 2711. Collected 09/27/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. NE 1/4 of NE 1/4 of Section 10, R50W, T91N, Union County. Roadside ditch.

- PI 650090. *Helianthus tuberosus* L.**
Cultivar. TUB-33; Ames 2714. Collected 10/01/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. SW 1/4 of SE 1/4 of Section 34, R49W, T90N, Union County. Roadside ditch.
- PI 650091. *Helianthus tuberosus* L.**
TVB-34; TUB-1769; Ames 2715. Collected 10/01/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. SW 1/4 of SE 1/4 of Section 13, R49W, T90N, Union County. Roadside ditch.
- PI 650092. *Helianthus tuberosus* L.**
TVB-38; TUB-1774; Ames 2720. Collected 10/04/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NE 1/4 of SE 1/4 of Section 18, R52W, T92N, Clay County. Abandoned farm site.
- PI 650093. *Helianthus tuberosus* L.**
TVB-39; TUB-1775; Ames 2721. Collected 10/04/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NE 1/4 of NE 1/4 of Section 35, R52W, T92N, Clay County. Roadside ditch.
- PI 650094. *Helianthus tuberosus* L.**
TVB-41; TUB-1776; Ames 2722. Collected 10/04/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NW 1/4 of NE 1/4 of Section 4, R51W, T91N, Clay County. Roadside ditch.
- PI 650095. *Helianthus tuberosus* L.**
Wild. TUB-49; Ames 2729. Collected 10/05/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. Along Missouri River, E 1/2 of NE 1/4 of Section 30, R53W, T92N, Clay County.
- PI 650096. *Helianthus tuberosus* L.**
Wild. TVB-50; TUB-1783; Ames 2730. Collected 10/05/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NW 1/4 of SW 1/4 of Section 16, R53W, T92N, Clay County. Roadside ditch.
- PI 650097. *Helianthus tuberosus* L.**
TVB-54; TUB-1786; Ames 2733. Collected 10/06/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. Union County State Park, SE 1/4 of NW 1/4 of Section 32, R50W, T94N, Union County.
- PI 650098. *Helianthus tuberosus* L.**
Wild. TVB-59; TUB-1789; Ames 2736. Collected 10/07/1982 in Iowa, United States. Latitude 42° 44' N. Longitude 96° 14' W. SW 1/4 of SW 1/4 of Section 26, R46W, T92N, Plymouth County. Roadside ditch.
- PI 650099. *Helianthus tuberosus* L.**
TUB-64; Ames 2739. Collected 10/07/1982 in Iowa, United States. Latitude 43° 5' N. Longitude 96° 11' W. NW 1/4 of NE 1/4 of Section 28, R44W, T94N, Sioux County. Roadside ditch.
- PI 650100. *Helianthus tuberosus* L.**
TVB-75; TUB-1797; Ames 2744. Collected 10/04/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. Bank of Missouri River, SE 1/4 of Section 19, R52W, T92N, Clay County.

PI 650101. *Helianthus tuberosus* L.

TVB-80; TUB-1800; Ames 2746. Collected 09/16/1982 in South Dakota, United States. Latitude 42° 49' N. Longitude 96° 41' W. SE 1/4 of Section 12, R50W, T92N, Union County. Roadside ditch.

PI 650102. *Helianthus tuberosus* L.

TVB-79; TUB-1799; Ames 2747. Collected 09/29/1982 in South Dakota, United States. Latitude 42° 55' N. Longitude 96° 57' W. NW 1/4 of NW 1/4 of Section 2, R51W, T91N, Clay County. Roadside ditch.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States. Received 04/25/1988.

PI 650103. *Helianthus tuberosus* L.

Wild. Ames 8380; Waldoboro Gold. Collected 04/25/1988 in Maine, United States. Latitude 44° 5' N. Longitude 69° 22' W. Beside Route 1, Waldoboro. A very old patch growing wild.

The following were collected by Jack Kertesz, Freedom, Maine, United States. Donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States. Received 04/25/1988.

PI 650104. *Helianthus tuberosus* L.

Wild. Ames 8383; Jacks Copperskin. Collected 04/25/1988 in Maine, United States.

The following were collected by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Radovan Marinkovic, Institute of Field and Vegetable Crops, M. Gorkog 30, 21000, Novi Sad, Serbia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, Delhi 110012, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 650105. *Helianthus tuberosus* L.

Wild. TUB 2189; Ames 18010. Collected 09/13/1991 in Nebraska, United States. Latitude 40° 28' N. Longitude 96° 22' W. Clay soil along edge of stream. 0.8 km west of Sterling, Hwy 41 W, Johnson County, NE. Seed collected from 38 plants. *Helianthus tuberosus* population closer to water than *H. grosseserratus*. Plants typical, 1.5-2 m tall. Larger diameter stems, leaves thick and scabrous. Plants just getting to peak flowering, seed set variable, seed weevil damage, 1-3 seeds per head, seed quality questionable due to immaturity of seeds. Most plants had rust.

The following were collected by Mary Brothers, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 09/16/1994.

PI 650106. *Helianthus tuberosus* L.

Wild. TUB-2329; Ames 22229. Collected 09/13/1994 in Manitoba, Canada. Latitude 49° 0' 45" N. Longitude 100° 20' 34" W. Elevation 660 m. 20.2 km south of Hwy. 3 W. and Hwy 450 S intersection, on Hwy. 450 S towards Lake Metigoshe. Manitoba, Canada. Brown, sandy-loam soil, upper slope of roadside ditch, topography - plain (level), moderate soil nutrient content, no salinity, moderate to well drained, tillage not affected by stoniness. Savannah. Small, isolated population in roadside ditch on upper slope by fence row, near aspen woodlands. Uniform population, effective population size - 35 plants. Atypical habitat for *H. tuberosus*, typical plants. Just at peak flowering, seed set questionable, only one to three seeds per head. Associated wild species: Aspen, *Cirsium*, *Rudbeckia*, *Aster*, *Solidago*.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/12/1996.

PI 650107. *Helianthus tuberosus* L.

Wild. Ames 22745. Collected 09/1995 in North Dakota, United States.

PI 650108. *Helianthus tuberosus* L.

Wild. Ames 22746. Collected 09/1995 in North Dakota, United States.

The following were collected by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 12/22/2004.

PI 650109. *Helianthus verticillatus* Small

Wild. 2391; Ames 27697. Collected 10/18/2003 in Tennessee, United States. Latitude 35° 29' 6" N. Longitude 88° 42' 45" W. Elevation 134 m. South side of Hwy 45, powerline right-of-way between road and soybean field, Turk Creek, Pinson, Madison County. Very thick brushy area, lots of undergrowth, near soybean field. Tall plants, 3.5-4 meters; branched above; thick stems. Clumps of plants; narrow leaves; smaller heads.

PI 650110. *Helianthus verticillatus* Small

Wild. 2425; Ames 27698. Collected 10/26/2003 in Alabama, United States. Latitude 34° 7' 43" N. Longitude 85° 27' 39" W. Elevation 183 m. East side of county road 29, ~1 mile north of intersection with county road 16 (McCord Crossroads), 2.9 mi north of Hwy 411/25, east of Centre. Alabama Natural Heritage Program, Cherokee County. Small scattered population. 1.5 meters tall; many single-headed plants; 3 leaves at a node, narrow.

The following were developed by Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 08/06/2007.

PI 650111. *Pseudoroegneria spicata* (Pursh) A. Love
Cultivar. Population. 9081457. Pedigree - The 9081457 bluebunch wheatgrass is the first cycle of a Recurrent Restricted Phenotypic Selection. Twenty accessions collected by Jack Carlson were seeded in Cone-tainers and then were randomly space-planted in 20 blocks in 1991. Individual plants were qualitatively evaluated in on vigor, relative forage abundance, and seedhead development, and, measurements were taken of forage and seedhead height. The five best plants in each of the 20 blocks (25% selection rate) were identified and in 1994 the harvested seed was bulked and accessioned as 9081457. The 9081457 bluebunch wheatgrass was rated over a 4-year period in a Comparative Evaluation Planting (CEP). At the end of the CEP, the leafiness was moderate, mean percentage survival was 79, foliage height was 39 centimeters, seedhead height was 74 centimeters, and biomass production was 2,670 kilograms per hectare. Due to fairly poor performance in the CEP and in subsequent seed increase production, a decision was made to discontinue further efforts on the selection and release of this material, under one condition--that a representative seed sample be sent for permanent storage.

The following were developed by Orsetti Seed Company, Inc., Hollister, California, United States. Received 07/26/2007.

PI 650112 PVPO. *Lactuca sativa* L.
Cultivar. "NANI'S BEST". PVP 200700367.

The following were developed by Pioneer Hi-Bred International, Inc., Windfall, Indiana, United States. Received 07/26/2007.

PI 650113 PVPO. *Triticum aestivum* L. **subsp. aestivum**
Cultivar. Pureline. "XW05K"; 25W36. PVP 200700368. Pedigree - 2737W sib/NY6708-18(PI499283)//2548/3/25W33/5/2510 sib/3/Aurora/Tyler//2553/2550 sib/4/2737W. Soft white winter wheat.

PI 650114 PVPO. *Triticum aestivum* L. **subsp. aestivum**
Cultivar. Pureline. "XW05G"; 25R62. PVP 200700369. Pedigree - WBN0686C/WBJ0249B1. Soft red winter wheat.

PI 650115 PVPO. *Triticum aestivum* L. **subsp. aestivum**
Cultivar. Pureline. "XW05J"; 25W43. PVP 200700370. Pedigree - SC8021V2 (PI554142)/25W33//WBL0305A1. Soft white winter wheat.

The following were developed by Central Valley Seeds, Inc., United States. Received 07/26/2007.

PI 650116 PVPO. *Lactuca sativa* L.
Cultivar. "SIDEWINDER". PVP 200700375.

The following were developed by Seminis Vegetable Seeds, Inc., Oxnard, California, United States. Received 07/26/2007.

PI 650117 PVPO. *Spinacia oleracea* L.
Cultivar. "OMB 66-1101M". PVP 200700380.

PI 650118 PVPO. *Spinacia oleracea* L.
Cultivar. "SMB 66-1082F". PVP 200700381.

Unknown source. Received 07/26/2007.

PI 650119 PVPO. *Spinacia oleracea* L.
Cultivar. "SSB-66-1083F". PVP 200700382. Developed in United States.

The following were developed by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 07/26/2007.

PI 650120 PVPO. *Vigna unguiculata* (L.) Walp. subsp. *unguiculata*
Cultivar. "GOLDEN EYE CREAM". PVP 200700383.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maria Fraszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Irena Stropek, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Skłodowska, UL. Sławinkowska 3, Lublin, Lublin 20-818, Poland. Received 05/03/1995.

PI 650121. *Alyssum alyssoides* (L.) L.
Wild. Index Seminum 2429; Ames 22452. Collected in Poland. Kamienna Góra, Krasnik.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 11/12/1996.

PI 650122. *Alyssum canescens* DC.
Wild. E94098; Ames 23252; W6 18053. Collected 09/07/1994 in Mongolia. Latitude 45° 52' 34" N. Longitude 112° 33' 36" E. Elevation 887 m. Dornгови Aimag along the general ecotone between grass steppe and desert steppe ecological zones. Grass-desert steppe. Soils brown with high gravel content, silty loam in texture, and with a calcareous layer present. Aspect west, slope 5-10%.

The following were collected by J.Y. Lesouef. Donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650123. *Alyssum loiseleurii* P. Fourn.

Wild. 20-3456-76; Ames 21263. Collected in France. Sands, Cape Breton, France.

The following were collected by L.A. Zolkina. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 01/16/1998.

PI 650124. *Alyssum obovatum* (C. A. Mey.) Turcz.

Wild. 2514; Ames 24118. Collected 1995 in Altay, Russian Federation. In river valley Czuja.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650125. *Alyssum pateri* Nyar.

Wild. 26-6299-83; Ames 21268. Collected in Turkey. Pastures, Eskisehir, N.W. Turkey.

PI 650126. *Alyssum scutigerum* Durieu

Wild. 30-1130-67; Ames 21271. Collected in Morocco. Latitude 33° N. Longitude 4° W. Near Midelt, Morocco.

PI 650127. *Biscutella auriculata* L.

Wild. 63-1164-67; Ames 21278. Collected in Spain. Cultivated land, Alhambra, Ciudad Real, C. Spain.

PI 650128. *Biscutella didyma* subsp. *lyrata* (L.) Nyman

Cultivated. 71-0167-68; Ames 21286. Collected in Sweden. Botanical Garden Uppsala, Sweden.

PI 650129. *Biscutella frutescens* Coss.

Wild. 67-2235-73; Ames 21282. Collected in Spain. Latitude 37° N. Longitude 5° W. Limestones, sierra Grazalema, Cadiz, S. Spain.

PI 650130. *Biscutella lusitanica* Jord.

Wild. 70-7815-89; Ames 21285. Collected in Portugal. Latitude 39° N. Longitude 8° W. Limestones, sierra Montejunto, C. Portugal.

The following were collected by J. Olowokudewo. Donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650131. *Biscutella sempervirens* L.

Wild. 75-5114-78; Ames 21291. Collected in Spain. Latitude 37° N. Longitude 3° W. S. Granada, S. Spain.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 1993.

PI 650132. *Camelina alyssum* (Mill.) Thell.
CA-CAM21; G 31705; Ames 26658. Collected in Germany.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650133. *Camelina hispida* var. *grandiflora* (Boiss.) Hedge
Wild. 158-6281-83; Ames 21324. Collected in Nevsehir, Turkey. Latitude 38° 38' N. Longitude 34° 43' E. Nevsehir.

PI 650134. *Camelina microcarpa* Andrzej. ex DC.
Cultivated. 160-0933-66; Ames 21326. Collected in Spain. Latitude 37° N. Longitude 3° W. Cultivated fields, N. Granada, S. Spain.

The following were collected by Henri Besancon, Jardin Botanique de Bordeaux, Terrasse du Jardin Public, Place Bardineau, Bordeaux, Gironde 33000, France. Donated by Jardin Botanique, Terrasse du Jardin Public, Place Bardineau, Bordeaux, Gironde 33000, France. Received 05/01/2000.

PI 650135. *Camelina microcarpa* Andrzej. ex DC.
Wild. Index Seminum 238; Ames 26044. Collected 09/1996 in Lozere, France. Latitude 44° 16' N. Longitude 3° 22' E. Causse Mejean. Cornfield. Indigenous species of France.

The following were donated by Institut fur Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany. Received 1993.

PI 650136. *Camelina microcarpa* Andrzej. ex DC.
CM-CAM6; G 31709; Ames 26662. Collected in Germany.

PI 650137. *Camelina microcarpa* Andrzej. ex DC.
CM-CR1669; G 31710; Ames 26663. Collected in Germany.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650138. *Camelina rumelica* Velen.
Wild. 161-3724-75; Ames 21327. Collected in Iran. Cultivated fields, N. Granada, S. Spain.

PI 650139. *Camelina rumelica* subsp. *transcaspica* (Fritsch) Hedge
Wild. 162-3726-75; Ames 21328. Collected in Iran.

The following were donated by Institut fur Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany. Received 04/29/1996.

PI 650140. *Camelina sativa* (L.) Crantz
Cultivar. "Came"; CR 1673/90d; Ames 22986.

The following were donated by R. G. Robinson, University of Minnesota, Agronomy Department, St. Paul, Minnesota 55108, United States; USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650141. *Camelina sativa* (L.) Crantz
Uncertain. NU 52279; Ames 24253.

The following were donated by Instituto Nacional de Investigaciones Agronomicas, Madrid, Madrid, Spain. Received 1993.

PI 650142. *Camelina sativa* (L.) Crantz
CS-163-2073-72; G 31712; Ames 26665. Collected in Denmark.

The following were donated by Institut fur Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany. Received 1993.

PI 650143. *Camelina sativa* (L.) Crantz
CS-CROO; G 31713; Ames 26666. Collected in Germany.

PI 650144. *Camelina sativa* (L.) Crantz
CS-CR1670; Ames 26667; G 31714; Boha. Collected in Denmark.

PI 650145. *Camelina sativa* (L.) Crantz
CS-CR1671; BRSCHW 28347; G 31715; Ames 26668.

PI 650146. *Camelina sativa* (L.) Crantz
CS-CR1672; BRSCHW 30021; G 31716; Ames 26669. Collected in Sweden.

PI 650147. *Camelina sativa* (L.) Crantz
CD-CR1673d; Ames 26670; G 31717; Came. Collected in Sweden.

PI 650148. *Camelina sativa* (L.) Crantz
CS-CR1674; Giessen #3; G 31718; Ames 26671.

PI 650149. *Camelina sativa* (L.) Crantz
CS-CR1675; Giessen #4; G 31719; Ames 26672.

PI 650150. *Camelina sativa* (L.) Crantz
CS-CR1676; Ames 26673; G 31720; Hoga. Collected in Denmark.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 1993.

PI 650151. *Camelina sativa* (L.) Crantz
CS-CR1677; Ames 26674; G 31721; Svalof. Collected in Sweden.

PI 650152. *Camelina sativa* (L.) Crantz
CPS-CAM23; G 31722; Ames 26675. Collected in Germany.

- PI 650153. *Camelina sativa* (L.) Crantz
CPS-CAM10; G 31723; Ames 26676. Collected in Former Soviet Union.
- PI 650154. *Camelina sativa* (L.) Crantz
CSS-CAM25; G 31724; Ames 26677. Collected in Former Soviet Union.
- PI 650155. *Camelina sativa* (L.) Crantz
CSS-CAM27; G 31725; Ames 26678. Collected in Poland.
- PI 650156. *Camelina sativa* (L.) Crantz
CSS-CAM29; G 31726; Ames 26679. Collected in Former Soviet Union.
- PI 650157. *Camelina sativa* (L.) Crantz
CSS-CAM30; G 31727; Ames 26680. Collected in Former Soviet Union.
- PI 650158. *Camelina sativa* (L.) Crantz
CSS-CAM31; G 31728; Ames 26681. Collected in Poland.
- PI 650159. *Camelina sativa* (L.) Crantz
CSS-CAM33; G 31729; Ames 26682. Collected in Poland.
- PI 650160. *Camelina sativa* (L.) Crantz
CSS-CAM34; G 31730; Ames 26683. Collected in Former Soviet Union.
- PI 650161. *Camelina sativa* (L.) Crantz
CSS-CAM35; G 31731; Ames 26684. Collected in Former Soviet Union.
- PI 650162. *Camelina sativa* (L.) Crantz
CSS-CAM36; G 31732; Ames 26685. Collected in Poland.
- PI 650163. *Camelina sativa* (L.) Crantz
CSS-CAM37; G 31733; Ames 26686. Collected in Former Soviet Union.
- PI 650164. *Camelina sativa* (L.) Crantz
CSS-CAM38; G 31734; Ames 26687. Collected in Austria.
- PI 650165. *Camelina sativa* (L.) Crantz
CSS-CAM7; G 31735; Ames 26688. Collected in Former Soviet Union.
- PI 650166. *Camelina sativa* (L.) Crantz
CSS-CAM8; G 31736; Ames 26689. Collected in Former Soviet Union.

The following were collected by Ewa Antoniewska, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Elzbieta Zygala, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Urszula Zablocka, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Donated by Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Received 09/16/2003.

- PI 650167. *Camelina sativa* (L.) Crantz
Wild. Index Seminum 144; Ames 27286. Collected 06/29/2002 in Przemysl, Poland. Latitude 49° 45' N. Longitude 22° 50' E. Luczyce, Opole Zach.

The following were developed by David D. Baltensperger, University of Nebraska, Panhandle Research, & Extension Center, Scottsbluff, Nebraska 69361-4939, United States. Received 11/28/2006.

PI 650168. *Camelina sativa* (L.) Crantz
Breeding. NE2006-1; Ames 28372.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650169. *Chorispora tenella* (Pall.) DC.
Wild. 176-3795-75; Ames 21329. Collected in Iran. Roadsides, mountains S. Chalus, N. Iran.

PI 650170. *Enarthrocarpus arcuatus* Labill.
Wild. 276-7329-86; Ames 21342. Collected in Cyprus. Base of limestone rocks in Cabo Greco, E. Cyprus.

PI 650171. *Eruca pinnatifida* (Desf.) Pomel
Wild. 282-1471-68; Ames 21345. Collected in Morocco. Latitude 33° N. Longitude 4° W. Ksabai, near Midelt, C. Morocco.

The following were donated by Hector Gomez-Campo. Received 09/26/1991.

PI 650172. *Eruca pinnatifida* (Desf.) Pomel
Wild. G 30245; Ames 24930; 1471-68.

PI 650173. *Eruca pinnatifida* (Desf.) Pomel
Wild. G 30246; Ames 24931; 1813-70.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650174. *Eruca sativa* Mill.
Wild. 37-50; NU 42081; Ames 24312. Collected 01/1998 in Israel.

PI 650175. *Eruca sativa* Mill.
Wild. IE 1; NU 47405; Ames 24313. Collected 01/1998 in India.

PI 650176. *Eruca sativa* Mill.
Wild. IE 135; NU 49581; Ames 24319. Collected 01/1998 in India.

PI 650177. *Eruca sativa* Mill.
Wild. IE 76; NU 49679; Ames 24320. Collected 01/1998 in India.

Unknown source. Received 08/10/1984.

PI 650178. *Eruca sativa* Mill.
Uncertain. NU 33745; Ames 25206.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States. Received 06/24/2004.

PI 650179. *Eruca sativa* Mill.

Cultivated. 1; Ames 27526; cod. 54590. Collected 03/09/2004 in Italy. Retail store, Lucca.

PI 650180. *Eruca sativa* Mill.

Cultivated. 2; Ames 27527. Collected 03/16/2004 in Italy. Al Portico (retail store), Piazza S. Firenzi, 50122 Firenze.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; Societa Agricola Italiana Sementi (SAIS), Via Ravennate, 214, Postbox 154, Cesena, Italy. Received 06/24/2004.

PI 650181. *Eruca sativa* Mill.

Cultivated. 4; RIF. REG. C/S WL13; Ames 27528; 3237. Lobed foliage.

PI 650182. *Eruca sativa* Mill.

Cultivated. 5; RIF. REG. C/S AL44; Ames 27529; 3238. Normal, non-indented leaf.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; Sativa-Soc. Coop. a r.l., Via Calcinaro 2425, Cesena, Italy. Received 06/24/2004.

PI 650183. *Eruca sativa* Mill.

Cultivated. 8; LOTTO 3363000; RU0001/RT; Ames 27530.

PI 650184. *Eruca sativa* Mill.

Cultivated. 10; Ames 27531; 3501.

PI 650185. *Eruca sativa* Mill.

Cultivated. 12; Ames 27532.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States. Received 06/24/2004.

PI 650186. *Eruca sativa* Mill.

Cultivated. 17; Ames 27533. Collected 04/14/2004 in Crete, Greece. Chania. Written on packet: S/PAS, Forli, Italy.

PI 650187. *Eruca sativa* Mill.

Cultivated. 18; Ames 27534. Collected 04/20/2004 in Italy. Retail store, Volterra.

PI 650188. *Eruca sativa* Mill.

Cultivated. 19; Ames 27535. Collected 04/20/2004 in Italy. Retail store, Volterra.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; National Research Council, Germplasm Institute, Bari, Italy. Received 06/24/2004.

- PI 650189. *Eruca sativa* Mill.**
Cultivated. 28; RN20; Ames 27536. Collected 05/18/1996 in Italy. Bitritto c/o macello comunale.
- PI 650190. *Eruca sativa* Mill.**
Cultivated. 29; RN21; Ames 27537. Collected 05/25/1996 in Italy. Via Omodeo-Standa Bari?.
- PI 650191. *Eruca sativa* Mill.**
Cultivated. 30; RN21/99; Ames 27538. Collected 05/25/1996 in Italy. Via Omodeo-Standa Bari?.
- PI 650192. *Eruca sativa* Mill.**
Cultivated. 31; RN24; Ames 27539. Collected in Italy. Stigliano-Cupolo.
- PI 650193. *Eruca sativa* Mill.**
Cultivated. 32; RN25; Ames 27540. Collected in Italy. Stigliano-Padula.
- PI 650194. *Eruca sativa* Mill.**
Cultivated. 33; RN27; Ames 27541. Collected in Italy. Bitritto.
- PI 650195. *Eruca sativa* Mill.**
Cultivated. 34; RN31; Ames 27542. Collected in Italy. Putignano c/o Lama di Forchia.
- PI 650196. *Eruca sativa* Mill.**
Cultivated. 35; RN35; Ames 27543. Collected 01/07/1997 in Italy. Ege Univ. Faculty of Agriculture, Bornova.
- PI 650197. *Eruca sativa* Mill.**
Cultivated. 36; RN37; Ames 27544. Collected 06/04/1997 in Italy. Garden near north entrance, Bitritto.
- PI 650198. *Eruca sativa* Mill.**
Cultivated. 40; FN12792; Ames 27545. Collected 11/26/1995 in Italy. Sard 95.
- PI 650199. *Eruca sativa* Mill.**
Cultivated. 41; MG 200127; Ames 27546. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650200. *Eruca sativa* Mill.**
Cultivated. 42; MG 200157; Ames 27547. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650201. *Eruca sativa* Mill.**
Cultivated. 43; MG 200287; Ames 27548. Collected in Italy. Material multiplied in Province of Mataponto, 1996.

- PI 650202. *Eruca sativa* Mill.**
Cultivated. 44; MG 200819; Ames 27549. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650203. *Eruca sativa* Mill.**
Cultivated. 45; MG 200820; Ames 27550. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650204. *Eruca sativa* Mill.**
Cultivated. 47; MG 200911; Ames 27552. Collected in Egypt. Material multiplied in Province of Mataponto, 1996.
- PI 650205. *Eruca sativa* Mill.**
Cultivated. 48; MG 200920; Ames 27553. Collected in Egypt. Material multiplied in Province of Mataponto, 1996.
- PI 650206. *Eruca sativa* Mill.**
Cultivated. 49; MG 200921; Ames 27554. Collected in Egypt. Material multiplied in Province of Mataponto, 1996.
- PI 650207. *Eruca sativa* Mill.**
Cultivated. 50; MG 200924; Ames 27555. Collected in Egypt. Material multiplied in Province of Mataponto, 1996.
- PI 650208. *Eruca sativa* Mill.**
Cultivated. 51; MG 200925; Ames 27556. Collected in Egypt. Material multiplied in Province of Mataponto, 1996.
- PI 650209. *Eruca sativa* Mill.**
Cultivated. 52; MG 200927; Ames 27557. Collected in Egypt. Material multiplied in Province of Mataponto, 1996.
- PI 650210. *Eruca sativa* Mill.**
Cultivated. 53; MG 201143; Ames 27558. Collected in Libya. Material multiplied in Province of Mataponto, 1996.
- PI 650211. *Eruca sativa* Mill.**
Cultivated. 54; MG 201144; Ames 27559. Collected in Libya. Material multiplied in Province of Mataponto, 1996.
- PI 650212. *Eruca sativa* Mill.**
Cultivated. 55; MG 201145; Ames 27560. Collected in Libya. Material multiplied in Province of Mataponto, 1996.
- PI 650213. *Eruca sativa* Mill.**
Cultivated. 56; MG 201152; Ames 27561. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650214. *Eruca sativa* Mill.**
Cultivated. 57; MG 201942; Ames 27562. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650215. *Eruca sativa* Mill.**
Cultivated. 58; MG 202625; Ames 27563. Collected in Italy. Material multiplied in Province of Mataponto, 1996.

- PI 650216. *Eruca sativa* Mill.**
Cultivated. 59; MG 202738; Ames 27564. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650217. *Eruca sativa* Mill.**
Cultivated. 60; MG 202739; Ames 27565. Collected in Italy. Material multiplied in Province of Mataponto, 1996.
- PI 650218. *Eruca sativa* Mill.**
Cultivated. 61; MG 202740; Ames 27566. Collected in Italy. Material multiplied in Province of Mataponto, 1996.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; Ferdinando Branca, University of Catania, Sicily, Italy.
Received 06/24/2004.

- PI 650219. *Eruca sativa* Mill.**
64; RU 3; Ames 27569. Proveniente: Franchi.
- PI 650220. *Eruca sativa* Mill.**
65; RU 4; Ames 27570. Proveniente: Comes.
- PI 650221. *Eruca sativa* Mill.**
66; RU 5; Ames 27571. Proveniente: Royal Sluis.
- PI 650222. *Eruca sativa* Mill.**
67; RU 6; Ames 27572. Proveniente: Salina.
- PI 650223. *Eruca sativa* Mill.**
68; RU 8; Ames 27573. Proveniente: Catania.
- PI 650224. *Eruca sativa* Mill.**
69; RU 9; Ames 27574. Proveniente: Catania.
- PI 650225. *Eruca sativa* Mill.**
70; RU 10; Ames 27575. Proveniente: Dr. Lombardo Zorzi.
- PI 650226. *Eruca sativa* Mill.**
71; RU 11; Ames 27576. Proveniente: Azienda Messina.
- PI 650227. *Eruca sativa* Mill.**
72; RU 13; Ames 27577. Proveniente: Bari.
- PI 650228. *Eruca sativa* Mill.**
73; RU 14; Ames 27578. Proveniente: FOUR.
- PI 650229. *Eruca sativa* Mill.**
74; RU 16; Ames 27579. Proveniente: Azienda Marino.
- PI 650230. *Eruca sativa* Mill.**
75; RU 17; Ames 27580. Proveniente: Sementi Orto.
- PI 650231. *Eruca sativa* Mill.**
76; RU 22; Ames 27581. Proveniente: Sig. Muccio.

PI 650232. *Eruca sativa* Mill.

77; RU 23; Ames 27582. Proveniente: Nicosia.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; Astolfo Zoina, University of Naples, Portici, from Ente Nazionale delle Sementi Elette, Milano, Italy. Received 06/24/2004.

PI 650233. *Eruca sativa* Mill.

79; Ames 27583.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States. Received 06/24/2004.

PI 650234. *Eruca sativa* Mill.

Cultivated. 82; Ames 27584. Collected 04/14/2004 in Italy. Retail store, Sorrento.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; National Research Council, Germplasm Institute, Bari, Italy. Received 06/24/2004.

PI 650235. *Eruca sativa* Mill.

Cultivated. 37; RN39; Ames 27585. Collected in Italy.

PI 650236. *Eruca sativa* Mill.

Cultivated. 38; RN40; Ames 27586. Collected in Italy. Purchased in Bitritto.

The following were donated by Hector Gomez-Campo. Received 09/26/1991.

PI 650237. *Eruca sativa* subsp. *longirostris* (Uechtr.) Jahand. & Maire

Wild. Ames 24932; G 30247; 1796-70.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States; National Research Council, Germplasm Institute, Bari, Italy. Received 06/24/2004.

PI 650238. *Eruca vesicaria* (L.) Cav.

Cultivated. 39; FN12727; Ames 27587. Collected 11/20/1995 in Italy. Sard 95.

Unknown source. Received 10/25/1993.

PI 650239. *Erucastrum gallicum* (Willd.) O. E. Schulz

G 31748; Ames 24936. Collected in Germany.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650240. *Erucastrum ifniense* Gomez-Campo
Wild. 301-2979-74; Ames 21348. Collected in Morocco. Latitude 30° N.
Longitude 10° W. Arid lands, E. of Sidi Ifni, S.W. Morocco.

PI 650241. *Erucastrum littoreum* subsp. *brachycarpum* (Maire & Weiller)
Gomez-Campo
Wild. 304-3018-74; Ames 21352. Collected in Morocco. Rocks in Jbel
Zalagh, near Fez, Morocco.

PI 650242. *Erucastrum littoreum* subsp. *glabrum* (Maire) Gomez-Campo
Wild. 305-3016-76; Ames 21351. Collected in Morocco. Latitude 33° N.
Longitude 6° W. Rocks near Kenifra, Morocco.

The following were collected by Hector Gomez-Campo. Donated by Suzanne Warwick, Agriculture Canada, K.W. Neatby Bldg., C.E.F., Ottawa, Ontario K1A 0C6, Canada. Received 08/27/1991.

PI 650243. *Erucastrum strigosum* (Thunb.) O. E. Schulz
Wild. GCC 4048-7; BCN 8030; G 30198; Ames 24940. Collected in Canada.

The following were collected by A. S. Barclay, USDA, ARS, Crops Research Division, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650244. *Erysimum capitatum* (Douglas ex Hook.) Greene
Wild. 2082; NU 48467; Ames 24341. Collected 01/1998 in Arizona, United States.

PI 650245. *Erysimum capitatum* (Douglas ex Hook.) Greene
Wild. 3031; NU 48587; Ames 24343. Collected 01/1998 in New Mexico, United States.

The following were donated by Botanical Garden, University of Joensuu, P.O. Box 111, Joensuu, Pohjois-Karjala SF 80101, Finland. Received 04/30/1991.

PI 650246. *Erysimum cheiranthoides* L.
Wild. Ames 15627. Collected in Finland. Latitude 62° 0' N. Longitude
26° 40' E. Kangasniemi, Etela-Savo.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; M. Krusche, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 650247. *Erysimum cheiranthoides* L.

Ames 15714. Collected in Germany. Leipzig, Sachsen, Germany.

The following were collected by Anne Westman, USDA, ARS, Geneva, New York, United States. Received 10/07/1993.

PI 650248. *Erysimum cheiranthoides* L.

ERYC-NYONT2; Ames 24942; G 31949. Collected 10/1993 in New York, United States. Seneca Castle, New York State Agricultural Experiment Station, Gates Road.

PI 650249. *Erysimum cheiranthoides* L.

ERYC-NYONT3; Ames 24943; G 31950. Collected 10/1993 in New York, United States. New York State Agricultural Experiment Station research farm, Pre-Emption Road, Geneva.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650250. *Erysimum metlesicsii* Polatschek

Wild. 343-6638-84; Ames 21421. Collected in Italy. Rocky slopes, Marianopoli, C. Sicily, Italy.

PI 650251. *Erysimum nevadense* Reut.

Wild. 346-1626-68; Ames 21424. Collected in Spain. Latitude 37° N. Longitude 3° W. Elevation 2000 m. Sierra Nevada, S. Spain.

The following were developed by Botanical Institute, Czechoslovak Academy of Science, Prague, Central Bohemia D-252 43, Czech Republic. Received 03/16/1990.

PI 650252. *Erysimum repandum* L.

Wild. Ames 13169. Collected in Czechoslovakia. Elevation 120 m. Nove Zamky, Nesvady - sandy sites near the village.

The following were developed by University of Turku, Botanical Garden, Turku, Turku ja Pori SF 20500, Finland. Received 03/16/1990.

PI 650253. *Erysimum virgatum* Roth

Wild. Ames 13151. Collected in Finland. Latitude 61° 5' N. Longitude 21° 18' E. Varsinais-Suomi.

The following were developed by Botanical Institute, Czechoslovak Academy of Science, Prague, Central Bohemia D-252 43, Czech Republic. Received 03/16/1990.

PI 650254. *Erysimum witmannii* Zaw.

Wild. Ames 13170. Collected in Czech Republic. Elevation 500 m. Tribec mts. - rocks Dobrolinske skaly, edges of the forest South from Partizanske town.

The following were collected by Mauno Yli-Pietila, Botanical Garden, University of Turku, Turku, Turku ja Pori FIN-20014, Finland. Donated by University of Turku, Botanical Gardens, Ruissalo 25, Turku, Turku ja Pori FIN-20014, Finland. Received 04/12/2000.

PI 650255. *Hesperis matronalis* L.

Wild. Index Seminum 41; Ames 26025. Collected 1999 in Turku ja Pori, Finland. Latitude 61° 6' N. Longitude 21° 47' E. Ala-Kieri, Lappi T1, Satakunta. Uncultivated origin: casual or introduced plant, collected in the wild.

The following were donated by Alan Whittmore, USDA/ARS, University of Georgia, Regional Plant Introduction Station, Griffin, Georgia 30223-1797, United States. Received 02/28/1992.

PI 650256. *Iberis amara* L.

Ames 19024. Collected 07/20/1991 in Kazakhstan. Government store, Alma Ata, Kazakh Republic.

The following were donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 12/30/1992.

PI 650257. *Isatis buschiana* Schischk.

Cultivated. No. 1289; Ames 20110.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650258. *Isatis tinctoria* L.

Wild. 408-6204-83; Ames 21369. Collected in Italy. Weedy, S.E. Slopes of Monte Etna, Sicily, Italy.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 650259. *Lepidium campestre* (L.) W. T. Aiton

Ames 15716. Collected in Germany. Reichenbach, Thuringen, Germany.

PI 650260. *Lepidium campestre* (L.) W. T. Aiton

Ames 15717. Collected in Germany. Leipzig-Mockau, Sachsen, Germany.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650261. *Lepidium cardamines* L.

Wild. 421-1572-68; Ames 21380. Collected in Cuenca, Spain. Latitude 40° N. Longitude 2° W. Cuenca, eastern Spain. Saline soils.

The following were collected by T. Kubala, Ogród Botaniczny UAM, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland; M. Tarant, Hortus Botanicus, Universitatis Posnaniensis, Poznań, Poznań, Poland; M. Gorska-Zajaczkowska, Ogród Botaniczny UAM, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland; Aleksander Lukasiewicz, Ogród Botaniczny UAM, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland; R. Plackowski, Hortus Botanicus, Universitatis Posnaniensis, Poznań, Poznań, Poland; A. Smigla-Babula, Ogród Botaniczny UAM, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland. Donated by Ogród Botaniczny Uniwersytetu Im. Adama Mickiewicza, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland. Received 04/10/1996.

PI 650262. *Lepidium densiflorum* Schrad.

Wild. Index Seminum 101; Ames 22800. Collected 1994 in Poland. Piotrkowa Tryb.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650263. *Lepidium lasiocarpum* Nutt.

Wild. 430-1738-69; Ames 21389. Collected in United States. Arid soils, Joshua Tree desert, California, USA.

The following were collected by H. Hubatsch, Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 650264. *Lepidium latifolium* L.

Ames 15720. Collected in Germany. Leipzig-Mockern, Sachsen, Germany.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650265. *Lepidium latifolium* L.

Wild. 431-1278-67; Ames 21390. Collected in Spain. Latitude 41° N. Longitude 3° W. Riverbanks, Guadalajara province, C. Spain.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650266. *Lepidium perfoliatum* L.

Wild. 18; NU 44297; Ames 24414. Collected 01/1998 in Turkey.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/03/1992.

PI 650267. *Lepidium ruderales* L.

No. 338; Ames 19137. Collected in Hungary. Alkaline steppes and swamps near Kocsujfalu and Kunmadaras. Hortobagy, National Park at the northeast part of Great Hungarian Plain.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 08/26/1996.

PI 650268. *Lepidium ruderales* L.

162; Ames 23185. Collected 1995 in Saxony, Germany. Leipzig.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 08/26/1996.

PI 650269. *Lepidium ruderales* L.

163; Ames 23186. Collected 1995 in Saxony-Anhalt, Germany. Scheipliz.

The following were collected by Ogr6d Botaniczny Uniwersytetu Im. Adama Mickiewicza, ul. Dabrowskiego 165, Poznan, Poznan 60-594, Poland. Received 07/28/1997.

PI 650270. *Lepidium ruderales* L.

Wild. Index Seminum 72; Ames 23856. Collected 1996 in Poznan, Poland. Latitude 52° 38' N. Longitude 17° 9' E. Slawa Wielkopolska (railroad station).

The following were collected by Howard Scott Gentry, Crops Research Division - USDA-ARS, Horticultural Crops Research Branch, Plant Introduction Section, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650271. *Lepidium sativum* L.

Wild. 22894; NU 61013; Ames 24421. Collected 01/1998 in Ethiopia.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650272. *Lepidium subulatum* L.

Wild. 437-0305-67; Ames 21396. Collected in Spain. Latitude 40° N. Longitude 4° W. Gypsum soils c. Aranjuez, Madrid, C. Spain.

PI 650273. *Lepidium vesicarium* L.

Wild. 438-3705-75; Ames 21397. Collected in Iran. Abandoned fields between Karadj and Tehran, Iran.

Unknown source. Received 1959.

PI 650274. *Matthiola longipetala* subsp. *bicornis* (Sm.) P. W. Ball

NU 31789; Ames 14296. Collected in Minnesota, United States.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650275. *Matthiola maderensis* Lowe

Wild. 465-3634-75; Ames 21442. Collected in Portugal. Litoral cliffs. San Jorge, Madeira, Portugal.

PI 650276. *Matthiola parviflora* (Schousb.) W. T. Aiton

Wild. 468-0907-66; Ames 21445. Collected in Spain. Puerto la Cadena, S. Murcia city, S.E. Spain.

Unknown source. Received 06/25/1965.

PI 650277. *Sinapis alba* L.

NU 51570; Ames 727; Yellow mustard. Collected in Minnesota, United States.

The following were donated by Institut fur Pflanzengenetik und Kulturpflanzenforschung, Genebank-Aussenstelle Malchow, Malchow/Poel, Mecklenburg-W.P. D-23999, Germany. Received 04/29/1996.

PI 650278. *Sinapis alba* L.

Cultivar. "Seco"; CR 1824/79a; Ames 22998.

The following were collected by Henri Besancon, Jardin Botanique de Bordeaux, Terrasse du Jardin Public, Place Bardineau, Bordeaux, Gironde 33000, France. Donated by Jardin Botanique, Terrasse du Jardin Public, Place Bardineau, Bordeaux, Gironde 33000, France. Received 05/01/2000.

PI 650279. *Sinapis alba* subsp. *mairei* (H. Lindb.) Maire

Wild. Index Seminum 258; Ames 26047. Collected 05/1998 in Spain. La Granja d'Escap. Clay-limestone soil. Indigenous species of Spain.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650280. *Sinapis arvensis* L.

Wild. 201; NU 43741; Ames 24480. Collected 01/1998 in Former Serbia and Montenegro.

The following were collected by Manuel Cardoso Alves, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Jaime Ventura Forte, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Armenio Da Costa Matos, Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal. Donated by Jardim Botanico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 05/24/1999.

PI 650281. *Sinapis arvensis* L.

Wild. Index Seminum 561; Ames 25304. Collected 06/03/1998 in Santarem, Portugal. Latitude 39° 36' N. Longitude 8° 25' W. Tomar.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650282. *Sinapis pubescens* L.

Wild. 542-3823-75; Ames 21452. Collected in Italy. Northwestern Sicily.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie Universität Berlin, Konigin-Luise-Str. 6-8, Berlin, Berlin D-14191, Germany. Received 06/21/1996.

PI 650283. *Sinapis pubescens* L. subsp. *pubescens*

SIN 72/94; K 8059; Ames 23169. Collected in Algeria. Little Kabylie, Chabet.

The following were collected by Hans Kohler, Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany; M. Krusche, Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany; H. Roth, Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 650284. *Thlaspi arvense* L.

Ames 15736. Collected in Germany. Kefferhausen, Thuringen, Germany.

The following were collected by H. Hubatsch, Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany; Kurt Hubatsch, Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universität Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 650285. *Thlaspi arvense* L.

Ames 15737. Collected in Germany. Leipzig-Mockau, Sachsen, Germany.

The following were collected by O. Arndt. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 650286. *Thlaspi arvense* L.

Ames 15738. Collected in Germany. Groitzsch, Sachsen, Germany.

The following were collected by Bernard Riebel, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Christophe Gass, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Frederic Tournay, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France. Donated by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/03/1999.

PI 650287. *Thlaspi arvense* L.

Wild. Index Seminum 77; Ames 25262. Collected 1998 in Bas-Rhin, France. Latitude 48° 32' N. Longitude 7° 29' E. Elevation 175 m. Molsheim.

The following were donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/17/1996.

PI 650288. *Thlaspi bellidifolium* Griseb.

Cultivated. 967; Ames 23073.

The following were donated by C. Gomez Campo, Instituto Nacional de Investigaciones, Agrarias, Jose Abascal 56, Madrid, Madrid 28003, Spain. Received 08/23/1993.

PI 650289. *Thlaspi perfoliatum* L.

584-1797-70; Ames 21456. Collected in Algeria. Latitude 57° N. Longitude 1° W. Slopes near Tlemcen, N.W. Algeria.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 08/26/1996.

PI 650290. *Thlaspi perfoliatum* L.

173; Ames 23187. Collected 1995 in Thuringia, Germany. Dillstadt.

The following were collected by Jacques Zeller, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Bernard Riebel, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Christophe Gass, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Frederic Tournay, Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Marta Ramel, Jardin

Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France. Donated by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 04/07/2000.

PI 650291. *Thlaspi perfoliatum* L.

Wild. Index Seminum 14; Ames 26020. Collected in Bas-Rhin, France. Latitude 48° 40' N. Longitude 7° 29' E. Hohengoeft.

The following were donated by Karl Hammer, Inst. fur Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany; Gesellschi Stowdenfreunde, Leonberg, Baden-Wurttemberg, Germany. Received 12/07/1993.

PI 650292. *Linum altaicum* Ledeb. ex Juz.

Cultivated. LIN 1638/88; Ames 21725.

The following were collected by Zoltan Kereszty, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/03/1992.

PI 650293. *Linum austriacum* L.

No. 350; Ames 19138. Collected in Hungary. On the steep south exposed rock ridge of Szarsomlyo hill above Nagyharsany, in limestone grassland. Sedo-Festucetum dalmatica, Villany-Siklos range.

The following were collected by Stavropol Botanic Garden, Stavropol, Stavropol, Russian Federation. Donated by Karl Hammer, Inst. fur Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 12/07/1993.

PI 650294. *Linum austriacum* L.

Wild. LIN 1637/91; Ames 21721. Collected in Stavropol, Russian Federation. Elevation 550 m. Yankuli, Stavropol hills, central Caucasus. Herb bunch grass steppe. From the Caucasus mountains.

The following were donated by Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Received 08/03/1995.

PI 650295. *Linum austriacum* L.

Cultivated. Index Seminum #45; Ames 22586. Collected 1994 in Poland.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 08/23/1995.

PI 650296. *Linum austriacum* L.

Wild. W6 17217; Ames 22589. Collected 06/24/1995 in Tolbukhin, Bulgaria. Latitude 43° 23' N. Longitude 28° 5' E. Elevation 30 m. Above Albena. Rocky soil.

The following were collected by P. Hanelt, Institut für Pflanzengenetik, und Kulturpflanzenforschung, Corrensstraße 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Donated by P. Hanelt, Institut für Pflanzengenetik, und Kulturpflanzenforschung, Corrensstraße 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstraße 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 650297. *Linum austriacum* L.

LIN 1608/93; D 2527; Ames 23147. Collected 08/06/1979 in Germany. SW of Galgenberges, field trail Gatersleben-Cochstedt.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 650298. *Linum austriacum* L.

Wild. B96-100; Ames 23990. Collected 07/06/1996 in Plovdiv, Bulgaria. Latitude 42° 7' 30" N. Longitude 24° 25' 53" E. Elevation 274 m. Rocky hillside with a gentle slope and a south-southwestern exposure. Alkalai soils (pH 9.5).

The following were collected by Miho Mihov, Institute for Wheat and Sunflower, "Dobroudja" 9520, General Toschevo, Tolbukhin 9520, Bulgaria; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 11/03/1997.

PI 650299. *Linum austriacum* L.

Wild. B97-59; Ames 24054. Collected 06/22/1997 in Tolbukhin, Bulgaria. Latitude 43° 22' 22" N. Longitude 28° 27' 45" E. Elevation 46 m. Along roadside near Kaliakra, close to the Black Sea. Open field. Blue flowers.

The following were collected by Geza Kosa, A Magyar Tudományok Akadémia, Ökológiai és Botanikai Kutatóintézetének, Botanikus Kertje, Vácrátot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vácrátot, Pest H-2163, Hungary. Received 07/27/1999.

PI 650300. *Linum austriacum* L.

Wild. Index Seminum 199; Ames 25406. Collected 1998 in Bacs-Kiskun, Hungary. Near Tatatszentgyorgy and Orgovany, part of the Great Hungarian Plain between Duna (Danube) and Tisza Rivers, Kiskunsag. Sand dunes and alkaline sand steppes.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Alan Whittemore, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, NE, Washington, District of Columbia 20002-1958, United States; Ashot A. Charchoqlian, National Academie of Sciences, Institute of Botany, Yerevan, Armenia; Pavel Humbaryan, Armenia Institute of Botany, Yerevan, Armenia; Yura Paityan, Armenia Institute of Botany, Yerevan, Armenia; Gagik Movsesyan, Yerevan Botanic Garden, Yerevan, Armenia. Donated by Kevin Conrad, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States. Received 11/27/2002.

PI 650301. *Linum austriacum* L.

Wild. ARM-135-02; Ames 26934. Collected 09/08/2002 in Armenia. Latitude 40° 27' 16" N. Longitude 45° 25' 21" E. Elevation 1936 m. Near Jil, Gegharkunik Marz. Dry, rocky roadside bank. Slope of 30 with a western aspect. 0.6 meter tall. Reported to have blue flowers. Stems used for fiber. Tan fruit.

The following were collected by Harold E. Bockelman, USDA, ARS, National Small Grains Collection, 1691 S 2700 W, Aberdeen, Idaho 83210, United States; Richard C. Johnson, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Roman Boguslavsky, National Centre for Plant Genetic Resources of Ukraine, Lab. for Introduction & Storage of Plant Genetic Resources, Yurjev Institute of Plant Production, Kharkiv, Kharkiv 61060, Ukraine; Vladislav Korzhenevsky, State Nikitsky Botanical Gardens, Department of Flora & Vegetation, Yalta, Krym 334267, Ukraine. Donated by Richard C. Johnson, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1999.

PI 650302. *Linum austriacum* subsp. *euxinum* (Juz.) Ockendon

Wild. UKR-99-142; Ames 25646. Collected 07/31/1999 in Krym, Ukraine. Latitude 44° 25' 58" N. Longitude 33° 47' 19" E. Elevation 370 m. Near Orlype. Rocky, moderately steep slope with a southern aspect.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 08/28/1995.

PI 650303. *Linum baicalense* Juz.

Wild. E94008; Ames 22610. Collected 09/02/1994 in Mongolia. Latitude 47° 12' N. Longitude 108° 40' 39" E. Elevation 1448 m. On and surrounding the Tariat Research Station located near the Herlen River, Hentii Aimag. Grass steppe uplands above the river floodplain. Previously large areas have been plowed in an attempt to grow cereals.

Most of the plowed land has been abandoned to weeds. Soils are shallow, gravelly, and of obvious low fertility.

PI 650304. *Linum baicalense* Juz.

Wild. E94248; Ames 22611. Collected 09/17/1994 in Mongolia. Latitude 47° 17' 52" N. Longitude 109° 3' 8" E. Elevation 1181 m. In the Hentii Mountains northeast of Tariat Research Station. Mountain steppe. Along two streams draining the area, both have microsites inhabited by numerous species. Dark chestnut soils with high apparent fertility and numerous cobbles. Aspect is southeast with slope of 5%.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/24/1999.

PI 650305. *Linum baicalense* Juz.

Wild. 98HT-70; Ames 25334. Collected 08/30/1998 in Mongolia. Latitude 48° 10' 53" N. Longitude 109° 27' 39" E. Elevation 1524 m. Omnodelger Sum, Henti Aimag. Steep slope with scattered Pinus and Larix trees present. Soils are gravelly and were formed from eroded granitic rock. 25% slope with an eastern aspect. Used for linen, poor forage.

PI 650306. *Linum baicalense* Juz.

Wild. 98HT-137; Ames 25335. Collected 09/02/1998 in Mongolia. Latitude 48° 37' 37" N. Longitude 110° 5' 20" E. Elevation 1219 m. Batchirrit Sum, Henti Aimag. East of a small lake with soils sandy and gravelly. 2% slope with a southwestern aspect. Used for linen; poor forage.

PI 650307. *Linum baicalense* Juz.

Wild. 98HT-250; Ames 25336. Collected 09/08/1998 in Mongolia. Latitude 49° 9' 24" N. Longitude 111° 25' 17" E. Elevation 1036 m. Daduul Sum, Henti Aimag. Stream terrace along a small tributary stream east of a larger river. Soils are sandy. 7% slope with a western aspect. Used for linen; poor forage.

The following were collected by Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Received 02/07/1996.

PI 650308. *Linum bienne* Mill.

Wild. Index Seminum 339; 940617; Ames 22721. Collected in Coimbra, Portugal. Pitanca de Baixo-Condeixa, Beira Litoral Province.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 650309. *Linum bienne* Mill.

Wild. B96-92; Ames 23989. Collected 07/06/1996 in Plovdiv, Bulgaria. Latitude 42° 5' 52" N. Longitude 24° 27' 25" E. Elevation 335 m. 2 km southwest of Nobusevo, and 1 km east of Isperikhovo. Rocky, grassy hillside. Very arid. Alkaline soil (pH 9.5) with a 6-7% slope and a northwestern exposure.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanical Garden - Dijon, Dijon, Cote-d'Or, France. Received 06/21/1996.

PI 650310. *Linum campanulatum* L.

LIN 1760/92; D 3907; Ames 23153.

The following were donated by Botanical Garden, University of Switzerland, Schonbeinstrasse 6, Basel, Basel CH-4056, Switzerland; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 650311. *Linum elegans* Spruner ex Boiss.

LIN 1652/83; D 2842; Ames 23150. Collected in Greece. Crete.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maria Fraszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Malgorzata Rozycka, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Skłodowska, UL. Sławinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/03/1995.

PI 650312. *Linum flavum* L.

Wild. Index Seminum #3087; Ames 22582. Collected 1993 in Chelm, Poland. Zmudz, Chelm.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Harris Garden, University of Reading, School of Plant Sciences, Whiteknights, Reading, England RG6 6AS, United Kingdom. Received 06/21/1996.

PI 650313. *Linum flavum* L.

LIN 97/76; ST 2462; Ames 23141.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Pad. Institute, Muhlhausen, Germany. Received 06/21/1996.

PI 650314. *Linum flavum* L.

LIN 98/76; ST 2465; Ames 23142.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanic Garden - Copenhagen, University of Copenhagen, Oster Farimagsgade 2B, Copenhagen, Copenhagen DK-1353, Denmark. Received 06/21/1996.

PI 650315. *Linum flavum* L.

LIN 99/89; ST 2466; Ames 23143.

The following were collected by Geza Kosa, A Magyar Tudományos Akademia, Ökológiai és Botanikai Kutatóintézetének, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/03/1992.

PI 650316. *Linum hirsutum* L.

No. 351; Ames 19141. Collected in Hungary. Sand-steppes, Festucetum vaginatae-danubiale, near Tatar- Szentgyörgy, Kiskunság. Part of Great Hungarian Plain between Duna, Danube and Tisza rivers.

The following were donated by Arboretum i Zakład Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemyśl, Przemyśl 37-700, Poland. Received 08/03/1995.

PI 650317. *Linum hirsutum* L.

Cultivated. Index Seminum #46; Ames 22587. Collected 1994 in Poland.

The following were donated by Jardin Botanique de l'Université de Cluj, Cluj, Cluj, Romania; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 650318. *Linum hirsutum* L.

LIN 1649/82; D 2811; Ames 23149. Collected in Romania. Letea, Tulcea District.

The following were collected by Stephanie Greene, USDA, ARS, National Temperate Forage Legume, Germplasm Resources Unit, Prosser, Washington 99350-9687, United States; Walter Graves, University of California Cooperative Ext. Service (retired), 7665 Volclay Drive, San Diego, California 92119-1219, United States; Alexander Afonin, Vavilov Institute of Plant Industry, 42 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Melvin Rumbaugh, R.R. 3, Box 125, Humboldt, Nebraska 68376, United States; Jay Hart, 20 Bush Lane, Ithaca, New York 14850, United States; Nicolay Khitrov, Dokvchaev Soil Institute, Pygevsky, per., 7., Moscow, Moscow 109017, Russian Federation. Received 03/04/1996.

PI 650319. *Linum hypericifolium* Salisb.

Wild. VIR M181; Ames 22887. Collected 08/31/1995 in Russian Federation. Latitude 44° 3' 30" N. Longitude 40° 1' 14" E. Elevation 1800 m. Soil pH: 4.55.1 texture: clay, Site moisture: seasonally dry, Landform: lower, mid, upper slopes, Soil pH: 7.75, Fosberg's (class, group): Open, with closed lower layers, open decid. The objectives of this collection trip were: 1) collect wild cultivated species growing in acidic soil and associated Rhizobium species; 2) collect endemic wild species and associated Rhizobium species; 3) visit and assess extent of in situ conservation of native forage legume species in the Teberda Reserve and Caucasus State Biosphere Reserve. These areas were ecogeographically surveyed using GIS prior to the trip and used to select sites that would be visited. In addition to on-site description, the following map-based information was obtained from the survey: mean monthly rainfall, mean min. and max. monthly temp., mean monthly humidity, wind speed, elevation (cross check), aspect, slope (cross check), 2 vegetation classifications.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States; Perry Plummer, Ephraim, Utah, United States. Received 01/29/1998.

PI 650320. *Linum lewisii* Pursh

Uncertain. NU 61018; Ames 24437.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 650321. *Linum mucronatum* Bertol.

Wild. 1615; NU 46176; Ames 24438. Collected 01/1998 in Turkey.

The following were donated by Karl Hammer, Inst. fur Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 12/07/1993.

PI 650322. *Linum narbonense* L.

Wild. LIN 1653/92; Ames 21726. Collected in Switzerland.

The following were collected by Zoltan Kereszty, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/03/1992.

PI 650323. *Linum perenne* L.

No. 352; Ames 19139. Collected in Hungary. Sand-steppes, Festucetum vaginatae danubiale. With a 10km radius of Botanical Garden, Vacratot.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest

H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/03/1992.

PI 650324. *Linum perenne* L.

No. 353; Ames 19140. Collected in Hungary. Alkaline sand-steppes, Festuco-puccinellietalia, near Orgovany and Fulopszallas, Kiskunsag. Part of Great Hungarian Plain between Duna, Danube and Tisza rivers.

PI 650325. *Linum perenne* L.

Wild. 156; Ames 22537. Collected 1995 in Hungary. Near Orgovany. Alkaline sand-steppes. In association with, Festuco Puccinellietalia.

PI 650326. *Linum perenne* L.

Wild. 157; Ames 22538. Collected 1995 in Hungary. Lake BALATON area, N coast. Xeric, thermophilous bush and rocky grassland on limestone near PET.

PI 650327. *Linum perenne* L.

Wild. Ames 22539. Collected 1995 in Hungary. Lake BALATON area, N coast. Xeric, thermophilous bush and oakwood near VOROSBERENY.

The following were collected by Walter J. Kaiser, 3394 Chickory Way, Boise, Idaho 83706, United States. Received 01/17/2003.

PI 650328. *Linum perenne* L.

Wild. Blue (Lewis) Flax; Ames 26973. Collected 08/10/2002 in Idaho, United States. Elevation 2072 m. Bridge on Highway 75 crossing the Big Wood River, between Easley Hot Springs and Baker Creek (about 15 miles northwest of Ketchum), Sawtooth National Recreation Area. Along roadside.

PI 650329. *Linum perenne* L.

Wild. Wild Blue Flax; Ames 26974. Collected 07/05/2002 in Idaho, United States. Bureau of Land Management building, Boise.

The following were donated by Shanghai Botanic Garden, 1100 Long Wu Road, Shanghai, Shanghai, China; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 650330. *Linum stelleroides* Planch.

LIN 1655/93; D 2880; Ames 23151.

The following were collected by Armando De Jesus Machado, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Jose Loureiro Martins, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Andre Dos Anjos Da Serra, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Donated by Goncalo Sampaio, Instituto de Botanica, Universidade Do Porto, 1191 Rua do Campo Alegre, Porto, Porto 4100, Portugal. Received 08/23/1993.

PI 650331. *Linum strictum* L. subsp. *strictum*

No. 264; 920729; Ames 21247. Collected in Portugal. Bitanca de Baixo, Condeixa.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/21/1996.

PI 650332. *Linum tauricum* Willd.

LIN 1611/92; ST 2673; Ames 23148.

The following were donated by Karl Hammer, Inst. für Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 12/07/1993.

PI 650333. *Linum tenuifolium* L.

Wild. LIN 1657/92; Ames 21724. Collected in France.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 650334. *Linum tenuifolium* L.

Wild. B96-226; Ames 23991. Collected 07/11/1996 in Smolyan, Bulgaria. Latitude 41° 39' 34" N. Longitude 24° 34' 5" E. Elevation 1311 m. 2 km east of Gela near a "Y" in the road. Rocky soil on an exposed hill with an eastern exposure.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanic Garden, Carl Skottsbergs Gata 22, Gotenborg, Goteborg and Bohus S-413 19, Sweden. Received 06/21/1996.

PI 650335. *Linum thracicum* Degen

LIN 1553/82; ST 2534; Ames 23145.

The following were donated by Service des Plantations de la Ville, de Nantes Jardin Botanique, Nantes, Loire-Atlantique 44000, France; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 650336. *Linum trigynum* L.

LIN 1554/95; ST 2612; Ames 23146. Collected in France. West France.

The following were donated by W. W. Roath, U.S. Department of Agriculture, North Dakota State University, Waldron Hall, Fargo, North Dakota, United States. Received 06/29/1978.

- PI 650337. *Helianthus annuus* L.**
Cultivar. "Hemas"; Ames 1837. Collected in Bulgaria.
- PI 650338. *Helianthus annuus* L.**
Cultivar. "Peredovik"; Ames 1838. Collected 06/1978 in Former Soviet Union. Collected 06/29/1978 in Bulgaria.
- PI 650339. *Helianthus annuus* L.**
Cultivar. "IH 10"; Ames 1839. Collected in Hungary.
- PI 650340. *Helianthus annuus* L.**
Cultivar. "Iregi 816 B"; Ames 1840. Collected in Hungary.
- PI 650341. *Helianthus annuus* L.**
Cultivar. "Iregi Szurke Csiko"; Ames 1841. Collected in Hungary.
- PI 650342. *Helianthus annuus* L.**
Cultivar. "Argentario"; Ames 1842. Collected in Italy.
- PI 650343. *Helianthus annuus* L.**
Cultivar. "Record"; Ames 1843. Collected in Romania.
- PI 650344. *Helianthus annuus* L.**
Cultivar. "Sepasol"; Ames 1844. Collected in Spain.
- PI 650345. *Helianthus annuus* L.**
Cultivar. "Novi Sad 20"; Ames 1845. Collected in Former Serbia and Montenegro.
- PI 650346. *Helianthus annuus* L.**
Cultivar. "Novi Sad 61"; Ames 1846. Collected in Former Serbia and Montenegro.
- PI 650347. *Helianthus annuus* L.**
Cultivar. "Vniimk 8931"; Ames 1847. Collected 06/1978 in Former Soviet Union. Collected 06/29/1978 in Former Serbia and Montenegro.

The following were donated by Freeman Johnson, Johnson Foundation Seed, RR 3, Box 211, 731 Homestead Ave., Moorhead, Minnesota 56560, United States. Received 05/14/1984.

- PI 650348. *Helianthus annuus* L.**
Cultivated. Ames 3003. Collected in China. Commercial variety imported from China.

Unknown source. Received 01/24/1984.

- PI 650349. *Helianthus annuus* L.**
A 53859; Ames 3085. Collected in Uncertain.

The following were donated by W. W. Roath, U.S. Department of Agriculture, North Dakota State University, Waldron Hall, Fargo, North Dakota, United States. Received 01/21/1985.

- PI 650350. *Helianthus annuus* L.
780676; L-2625-1(Ukraine)-1; Ames 3221. Collected in Ukraine.
- PI 650351. *Helianthus annuus* L.
780677; L-2625-1(Ukraine)-2; Ames 3222. Collected in Ukraine.
- PI 650352. *Helianthus annuus* L.
780678; L-2625-1(Ukraine)-3; Ames 3223. Collected in Ukraine.
- PI 650353. *Helianthus annuus* L.
"Guayacan"; 780694; Ames 3224. Collected in Uncertain.
- PI 650354. *Helianthus annuus* L.
"Pekuan Inta"; 780696; Ames 3225. Collected in Uncertain.
- PI 650355. *Helianthus annuus* L.
Cultivar. "Cordohes"; 780700; Ames 3226. Collected in Uncertain.
- PI 650356. *Helianthus annuus* L.
"Impira Inta"; 780702; Ames 3227. Collected in Uncertain.
- PI 650357. *Helianthus annuus* L.
"HA 7"; 780705; Ames 3228. Collected in Former Serbia and Montenegro.
- PI 650358. *Helianthus annuus* L.
Breeding. 780715; Ames 3230; HA 1. Collected in Former Serbia and Montenegro.
- PI 650359. *Helianthus annuus* L.
Breeding. 780716; Ames 3231; HA 1. Collected in Uncertain.
- PI 650360. *Helianthus annuus* L.
Breeding. 780719; Ames 3232; HA 15. Collected in Former Serbia and Montenegro.
- PI 650361. *Helianthus annuus* L.
780720; Ames 3233; HA 15. Collected in Uncertain.
- PI 650362. *Helianthus annuus* L.
780721; 6 SC UG L6; Ames 3234. Collected in France.
- PI 650363. *Helianthus annuus* L.
780722; 6 SC Z6-2; Ames 3235. Collected in France.
- PI 650364. *Helianthus annuus* L.
Cultivar. "Kustanajskij 01"; 814299; Ames 3258.
- PI 650365. *Helianthus annuus* L.
Cultivar. "Laan"; 814300; Ames 3259.
- PI 650366. *Helianthus annuus* L.
Cultivar. "Loua Sypatonai"; 814301; Ames 3260.
- PI 650367. *Helianthus annuus* L.
Cultivar. "Meyoheguesi cirnos"; 814304; Ames 3261.

- PI 650368. *Helianthus annuus* L.
Cultivar. "Neagra De Cluj"; 814306; Ames 3262.
- PI 650369. *Helianthus annuus* L.
Cultivar. "Olea"; 814308; Ames 3263.
- PI 650370. *Helianthus annuus* L.
Cultivar. "Oleisty Borovskij"; 814309; Ames 3264.
- PI 650371. *Helianthus annuus* L.
Cultivar. "Ostonne"; 814310; Ames 3265.
- PI 650372. *Helianthus annuus* L.
Cultivar. "Polstar"; 814311; Ames 3266.
- PI 650373. *Helianthus annuus* L.
Cultivar. "Primrose"; 814312; Ames 3267.
- PI 650374. *Helianthus annuus* L.
Cultivar. "Rannij 27"; 814314; Ames 3268.
- PI 650375. *Helianthus annuus* L.
Cultivar. "Purpureus"; 814313; Ames 3269.
- PI 650376. *Helianthus annuus* L.
"Rutne"; 814315; Ames 3270.
- PI 650377. *Helianthus annuus* L.
Cultivar. "Saratovskij P-10"; 814317; Ames 3271.
- PI 650378. *Helianthus annuus* L.
"Saratovskij Rannij"; 814318; Ames 3272.
- PI 650379. *Helianthus annuus* L.
Cultivar. "Short Russian"; 814319; Ames 3273.
- PI 650380. *Helianthus annuus* L.
Cultivar. "Slovenska Siva"; 814320; Ames 3274.
- PI 650381. *Helianthus annuus* L.
Cultivar. "Sortandinskij 41"; 814321; Ames 3275.
- PI 650382. *Helianthus annuus* L.
814325; S-4; Ames 3276.
- PI 650383. *Helianthus annuus* L.
Cultivar. "T.F.M. 1743"; 814326; Ames 3277.
- PI 650384. *Helianthus annuus* L.
Cultivar. "Vargata De Clus"; 780566; Ames 3278. Collected in Uncertain.
- PI 650385. *Helianthus annuus* L.
780567; Vniimk 1646; Ames 3279. Collected 01/21/1985 in Russian Federation.

- PI 650386. *Helianthus annuus* L.**
780568; Vniimk 6540; Ames 3280. Collected 01/21/1985 in Former Soviet Union.
- PI 650387. *Helianthus annuus* L.**
Cultivar. "Vniimk 8931"; 780569; Ames 3281. Collected 01/21/1985 in Former Soviet Union.
- PI 650388. *Helianthus annuus* L.**
Cultivar. "Zelenk 61"; 780570; Ames 3282. Collected in Uncertain.
- PI 650389. *Helianthus annuus* L.**
"VR Bulgarian"; 780571; Ames 3283. Collected 01/21/1985 in Bulgaria.
- PI 650390. *Helianthus annuus* L.**
Cultivar. "DDR 1"; 780572; Ames 3284. Collected in Uncertain.
- PI 650391. *Helianthus annuus* L.**
780610-612; B4268; Ames 3285. Collected in Uncertain. Red flowers.
- PI 650392. *Helianthus annuus* L.**
Cultivar. "MN17"; 780613-615; Ames 3286. Orange flowers.
- PI 650393. *Helianthus annuus* L.**
780616-618; T66007; Ames 3287. Collected in Uncertain. Lemon colored flowers.
- PI 650394. *Helianthus annuus* L.**
780619-621; Ames 3288; MR19. Tubular ray flowers.
- PI 650395. *Helianthus annuus* L.**
814286; Ames 3289; Ella.
- PI 650396. *Helianthus annuus* L.**
Cultivar. "Tornado"; 825820-29; Ames 3290.
- PI 650397. *Helianthus annuus* L.**
Cultivar. "Runmano"; 825810-19; Ames 3291.
- PI 650398. *Helianthus annuus* L.**
CMG-3(H. max/Saturn); 814161; Ames 3292. Developed in Canada. Pedigree - CMG-3(H. max/Saturn).
- PI 650399. *Helianthus annuus* L.**
CMG-3(H. max/Saturn); 814159; Ames 3293. Developed in Canada. Pedigree - CMG-3(H. max/Saturn).
- PI 650400. *Helianthus annuus* L.**
CMG-3(H. max/Saturn); 814157; Ames 3294. Developed in Canada. Pedigree - CMG-3(H. max/Saturn).
- PI 650401. *Helianthus annuus* L.**
CMG-2(H. gig/Saturn); 814153; Ames 3295. Developed in Canada. Pedigree - CMG-2(H. gig/Saturn).

- PI 650402. Helianthus annuus L.**
CMG-2(H. gig/Saturn); 814151; Ames 3296. Developed in Canada. Pedigree
- CMG-2(H.gig/Saturn).
- PI 650403. Helianthus annuus L.**
CMG-1(H. pet/Saturn); 814147; Ames 3297. Developed in Canada. Pedigree
- CMG-1(H.pet/Saturn).
- PI 650404. Helianthus annuus L.**
CMG-1(H. pet/Saturn); 814145; Ames 3298. Developed in Canada. Pedigree
- CMG-1(H.pet/Saturn).
- PI 650405. Helianthus annuus L.**
Cultivar. "Franslever"; 814288; Ames 3299.
- PI 650406. Helianthus annuus L.**
Cultivar. "Fuksinka 10"; 814289; Ames 3300. East German line dating back
to 1975.
- PI 650407. Helianthus annuus L.**
"Gigant 549"; 814290; Ames 3301. East German line dating back to 1975.
- PI 650408. Helianthus annuus L.**
"G.O.R. 104"; 814292; Ames 3302.
- PI 650409. Helianthus annuus L.**
Cultivar. "Ireoi Korai Csikos"; 814293; Ames 3303.
- PI 650410. Helianthus annuus L.**
Cultivar. "Iregi Napraforgo"; 814294; Ames 3304.
- PI 650411. Helianthus annuus L.**
Cultivar. "Idanor 8281"; 814295; Ames 3305.
- PI 650412. Helianthus annuus L.**
Cultivar. "Jugovostocnyj"; 814296; Ames 3306.
- PI 650413. Helianthus annuus L.**
"Kvuglik A-41"; 814298; Ames 3307.
- PI 650414. Helianthus annuus L.**
Cultivar. "Wielkeopolski"; 803483; Ames 3308. Developed in Poland.
- PI 650415. Helianthus annuus L.**
803484; B-7422; Ames 3309. Developed in Poland.
- PI 650416. Helianthus annuus L.**
"Flying Saucer"; 803485; Ames 3310.
- PI 650417. Helianthus annuus L.**
Cultivar. "Nanasit"; 803486; Ames 3311.
- PI 650418. Helianthus annuus L.**
803487; Local (Rhodesia); Ames 3312.
- PI 650419. Helianthus annuus L.**
Cultivar. "Jupiter"; 803488; Ames 3313.

- PI 650420. *Helianthus annuus* L.
Cultivar. "Yawne"; 803489; Ames 3314.
- PI 650421. *Helianthus annuus* L.
Cultivar. "Russian Giant"; 803490; Ames 3315.
- PI 650422. *Helianthus annuus* L.
Cultivar. "Comet"; 803491; Ames 3316.
- PI 650423. *Helianthus annuus* L.
Cultivar. "G.O.R. 104"; 803492; Ames 3317.
- PI 650424. *Helianthus annuus* L.
Cultivar. "G.O.R. 101"; 803493; Ames 3318.
- PI 650425. *Helianthus annuus* L.
803494; S72006; Ames 3319.
- PI 650426. *Helianthus annuus* L.
803495; S73001; Ames 3320.
- PI 650427. *Helianthus annuus* L.
803496; VKM 833; Ames 3321.
- PI 650428. *Helianthus annuus* L.
803497; Ames 3322; Hybrid 100.
- PI 650429. *Helianthus annuus* L.
803504; S73050; Ames 3323.
- PI 650430. *Helianthus annuus* L.
Cultivar. "Beacon"; 803505; Ames 3324.
- PI 650431. *Helianthus annuus* L.
Cultivar. "Kortens"; 803508; Ames 3325.
- PI 650432. *Helianthus annuus* L.
Cultivar. "Sunrise"; 803509; Ames 3326.
- PI 650433. *Helianthus annuus* L.
Cultivar. "Dukn"; 803511; Ames 3327.
- PI 650434. *Helianthus annuus* L.
Cultivar. "Mars"; 803512; Ames 3328.
- PI 650435. *Helianthus annuus* L.
Cultivar. "Cruka Super Elite"; 803513; Ames 3329.
- PI 650436. *Helianthus annuus* L.
814275; CM497; Ames 3330.
- PI 650437. *Helianthus annuus* L.
Cultivar. "Saturn"; 814276; Ames 3331.
- PI 650438. *Helianthus annuus* L.
Cultivar. "Advance"; 814277; Ames 3332.

- PI 650439. *Helianthus annuus* L.
Cultivar. "Armavirskij 9345"; 814278; Ames 3333.
- PI 650440. *Helianthus annuus* L.
814279; B-4/1; Ames 3334.
- PI 650441. *Helianthus annuus* L.
Cultivar. "Barnaulskij 1501"; 814280; Ames 3335.
- PI 650442. *Helianthus annuus* L.
Cultivar. "Beacon"; 814281; Ames 3336.
- PI 650443. *Helianthus annuus* L.
Cultivar. "Black Russian"; 814282; Ames 3337.
- PI 650444. *Helianthus annuus* L.
Cultivar. "Black Russian"; 814283; Ames 3338. Striped seed.
- PI 650445. *Helianthus annuus* L.
Cultivar. "Bolero"; Ames 3339. Collected in Uncertain.
- PI 650446. *Helianthus annuus* L.
Cultivar. "H2P6"; Ames 3340. Collected in Uncertain.
- PI 650447. *Helianthus annuus* L.
Cultivar. "H2P5"; Ames 3341. Collected in Uncertain.
- PI 650448. *Helianthus annuus* L.
Cultivar. "Pergamino"; Ames 3342. Collected in Uncertain.
- PI 650449. *Helianthus annuus* L.
Cultivar. "Rodeo"; Ames 3343. Collected in Uncertain.
- PI 650450. *Helianthus annuus* L.
ND 7117; Ames 3344. Collected in Uncertain.
- PI 650451. *Helianthus annuus* L.
Cultivar. "Cerflor"; Ames 3345. Collected in Uncertain.
- PI 650452. *Helianthus annuus* L.
Cultivar. "H2P7"; Ames 3346. Collected in Uncertain.
- PI 650453. *Helianthus annuus* L.
Cultivar. "Cordobes Inta"; Ames 3347. Collected in Uncertain.
- PI 650454. *Helianthus annuus* L.
Cultivar. "Sputnik Elite 71"; 803433; Ames 3348. Developed in Former Soviet Union.
- PI 650455. *Helianthus annuus* L.
Cultivar. "Luch"; 803434; Ames 3349. Developed in Former Soviet Union.
- PI 650456. *Helianthus annuus* L.
Cultivar. "VNIIMK 8931 Elite 72"; 803435; Ames 3350. Developed in Former Soviet Union.

- PI 650457. Helianthus annuus** L.
Cultivar. "Armavirshi 3497 Elite 72"; 803436; Ames 3351. Developed in Former Soviet Union.
- PI 650458. Helianthus annuus** L.
Cultivar. "Voshod Elite 7"; 803437; Ames 3352. Developed in Former Soviet Union.
- PI 650459. Helianthus annuus** L.
Cultivar. "Salute"; 803438; Ames 3353. Developed in Former Soviet Union.
- PI 650460. Helianthus annuus** L.
Cultivar. "Peredovik Elite 72"; 803439; Ames 3354. Developed in Former Soviet Union.
- PI 650461. Helianthus annuus** L.
Cultivar. "VK-1"; 803441; Ames 3355. Developed in Former Soviet Union.
- PI 650462. Helianthus annuus** L.
Cultivar. "VK-2"; 803442; Ames 3356. Developed in Former Soviet Union.
- PI 650463. Helianthus annuus** L.
Cultivar. "VK-6"; 803443; Ames 3357. Developed in Former Soviet Union.
- PI 650464. Helianthus annuus** L.
Cultivar. "VK-10"; 803445; Ames 3358. Developed in Former Soviet Union.
- PI 650465. Helianthus annuus** L.
Cultivar. "VK-25"; 803446; Ames 3359. Developed in Former Soviet Union.
- PI 650466. Helianthus annuus** L.
Cultivar. "VK-32"; 803447; Ames 3360. Developed in Former Soviet Union.
- PI 650467. Helianthus annuus** L.
Cultivar. "VK-47"; 803449; Ames 3361. Developed in Former Soviet Union.
- PI 650468. Helianthus annuus** L.
Cultivar. "VK-53"; 803450; Ames 3362. Developed in Former Soviet Union.
- PI 650469. Helianthus annuus** L.
Cultivar. "VK-63"; 803451; Ames 3363. Developed in Former Soviet Union.
- PI 650470. Helianthus annuus** L.
Cultivar. "HS 62 RM"; 803452; Ames 3364. Developed in Romania.
- PI 650471. Helianthus annuus** L.
Cultivar. "HS 42 RM"; 803453; Ames 3365. Developed in Romania.
- PI 650472. Helianthus annuus** L.
Cultivar. "HS 61"; 803454; Ames 3366. Developed in Romania.
- PI 650473. Helianthus annuus** L.
803455; Romsun-80C; Ames 3367. Developed in Romania.
- PI 650474. Helianthus annuus** L.
803478; PL 8000-61; Ames 3368. Developed in Poland.

- PI 650475. *Helianthus annuus* L.
803479; PL 7969-69; Ames 3369. Developed in Poland.
- PI 650476. *Helianthus annuus* L.
803480; PL 7968-84; Ames 3370. Developed in Poland.
- PI 650477. *Helianthus annuus* L.
803481; PL 7957-91; Ames 3371. Developed in Poland.
- PI 650478. *Helianthus annuus* L.
803482; PL 7937-175; Ames 3372. Developed in Poland.
- PI 650479. *Helianthus annuus* L.
Cultivar. 803400; VIR 111; Ames 3373. Collected 01/21/1985 in Uncertain.
- PI 650480. *Helianthus annuus* L.
803401; VIR 112; Ames 3374. Collected 01/21/1985 in Uncertain.
- PI 650481. *Helianthus annuus* L.
Cultivar. 803402; VIR 113; Ames 3375. Collected 01/21/1985 in Uncertain.
- PI 650482. *Helianthus annuus* L.
Cultivar. 803403; VIR 114; Ames 3376. Collected 01/21/1985 in Uncertain.
- PI 650483. *Helianthus annuus* L.
Cultivar. 803404; VIR 115; Ames 3377. Collected 01/21/1985 in Uncertain.
- PI 650484. *Helianthus annuus* L.
Cultivar. 803410; VIR 125; Ames 3378. Collected 01/21/1985 in Uncertain.
- PI 650485. *Helianthus annuus* L.
Cultivar. 803406; VIR 117; Ames 3379. Collected 01/21/1985 in Uncertain.
- PI 650486. *Helianthus annuus* L.
803407; VIR 119; Ames 3380. Collected 01/21/1985 in Uncertain.
- PI 650487. *Helianthus annuus* L.
Cultivar. 803408; VIR 121; Ames 3381. Collected 01/21/1985 in Uncertain.
- PI 650488. *Helianthus annuus* L.
803411; Romsun H.S. 80C RM; Ames 3382. Developed in Romania.
- PI 650489. *Helianthus annuus* L.
803412; 231B-7BC; Ames 3383. Developed in Romania.
- PI 650490. *Helianthus annuus* L.
803413; HT-60C RM; Ames 3384. Developed in Romania.
- PI 650491. *Helianthus annuus* L.
803414; 363C-74C RM; Ames 3385. Developed in Romania.
- PI 650492. *Helianthus annuus* L.
803415; HT-50C RM; Ames 3386. Developed in Romania.
- PI 650493. *Helianthus annuus* L.
Cultivar. "HS-64"; 803416; Ames 3387. Developed in Romania.

- PI 650494. *Helianthus annuus* L.**
Cultivar. "HS-53"; 803417; Ames 3388. Developed in Romania.
- PI 650495. *Helianthus annuus* L.**
Cultivar. "RM 42"; 803418; Ames 3389. Developed in Romania.
- PI 650496. *Helianthus annuus* L.**
Cultivar. "RM 62"; 803419; Ames 3390. Developed in Romania.
- PI 650497. *Helianthus annuus* L.**
803420; ROMSUN V3355; Ames 3391. Developed in Romania.
- PI 650498. *Helianthus annuus* L.**
803421; Romsun V3355 AC; Ames 3392. Developed in Romania.
- PI 650499. *Helianthus annuus* L.**
803422; ROMSUN V1352; Ames 3393. Developed in Romania.
- PI 650500. *Helianthus annuus* L.**
803423; ROMSUN V1646; Ames 3394. Developed in Romania.
- PI 650501. *Helianthus annuus* L.**
803424; Romsun OP 9573; Ames 3395. Developed in Romania.
- PI 650502. *Helianthus annuus* L.**
803425; ROMSUN P-1384; Ames 3396. Developed in Romania.
- PI 650503. *Helianthus annuus* L.**
803426; ROMSUN Y-3337; Ames 3397. Developed in Romania.
- PI 650504. *Helianthus annuus* L.**
803428; Romsun C-5357; Ames 3398. Developed in Romania.
- PI 650505. *Helianthus annuus* L.**
803430; ROMSUN N-2-2004; Ames 3400. Developed in Romania.
- PI 650506. *Helianthus annuus* L.**
803431; Romsun ADV 946; Ames 3401. Developed in Romania.
- PI 650507. *Helianthus annuus* L.**
803432; Chahimky 269; Ames 3402. Developed in Former Soviet Union.
- PI 650508. *Helianthus annuus* L.**
CMS P21 VR1(F)*5/RHA271-8-7 PL; 803344; Ames 3403. Developed in United States. Pedigree - CMS P24 VR1 (F)*5/RHA 271-8-7.
- PI 650509. *Helianthus annuus* L.**
803345; ND 7117; Ames 3404. Collected in Uncertain.
- PI 650510. *Helianthus annuus* L.**
CMS HA125*5/RHA271-8-7 PL D RR; 803346; Ames 3405. Developed in United States. Pedigree - CMS HA125 * 5/RHA 271-8-7.
- PI 650511. *Helianthus annuus* L.**
803347; HA07-248; Ames 3406. Collected in United States. Havasupi Indian, Grand Canyon US.

- PI 650512. *Helianthus annuus* L.**
803348; CM 392; Ames 3407. Developed in Canada.
- PI 650513. *Helianthus annuus* L.**
S37-388; 803350; Ames 3408. Developed in Canada.
- PI 650514. *Helianthus annuus* L.**
S11 V8931 2/2-1; 803351; Ames 3409. Developed in Canada. Pedigree -
S11 V8931 2/2-1.
- PI 650515. *Helianthus annuus* L.**
803352; RNS-M-1; Ames 3410. Developed in Canada.
- PI 650516. *Helianthus annuus* L.**
S6 PR 4/1-1; 803353; Ames 3411. Developed in Canada. Pedigree - S6PR
4/1-1.
- PI 650517. *Helianthus annuus* L.**
S11 V8883 4/1-1; 803354; Ames 3412. Developed in Canada. Pedigree -
S11 V8883 4/1-1.
- PI 650518. *Helianthus annuus* L.**
S11 NS 7/4-1; 803355; Ames 3413. Developed in Canada. Pedigree - S11
NS 7/4-1.
- PI 650519. *Helianthus annuus* L.**
S8 SM 10/2-2; 803356; Ames 3414. Developed in Canada. Pedigree - S8 Sm
10/2-2.
- PI 650520. *Helianthus annuus* L.**
S8 V8883 4/2-1; 803359; Ames 3415. Developed in Canada. Pedigree - S8
V8883 4/2-1.
- PI 650521. *Helianthus annuus* L.**
S10 A 3497 7/4-1; 803360; Ames 3416. Developed in Canada. Pedigree -
S10A 3497 7/4-1.
- PI 650522. *Helianthus annuus* L.**
S10 A 3497 2/4-1; 803361; Ames 3417. Developed in Canada. Pedigree -
S10A 3497 2/4-1.
- PI 650523. *Helianthus annuus* L.**
S8 V6540 4/7-1; 803362; Ames 3418. Developed in Canada. Pedigree - S8
V6540 4/7-1.
- PI 650524. *Helianthus annuus* L.**
S10 CR 1/7-1; 803363; Ames 3419. Developed in Canada. Pedigree - S10
CR 1/7-1.
- PI 650525. *Helianthus annuus* L.**
S8 A9343 2/3-3; 803364; Ames 3420. Developed in Canada. Pedigree - S8
A9343 2/3-3.
- PI 650526. *Helianthus annuus* L.**
382-1 S; 803371; Ames 3422. Developed in Canada. Pedigree - 3382-1 S.

- PI 650527. *Helianthus annuus* L.
388-2 S; 803373; Ames 3423. Developed in Canada. Pedigree - 388-2 S.
- PI 650528. *Helianthus annuus* L.
388-3 S; 803374; Ames 3424. Developed in Canada. Pedigree - 388-3 S.
- PI 650529. *Helianthus annuus* L.
Cultivar. "456 BS"; 803376; Ames 3425. Developed in Canada.
- PI 650530. *Helianthus annuus* L.
371-3 S; 803378; Ames 3426. Developed in Canada. Pedigree - 371-3 S.
- PI 650531. *Helianthus annuus* L.
803379; Inra 4701 Traite; Ames 3427.
- PI 650532. *Helianthus annuus* L.
Peredovik/HT-301-35; 803383; Ames 3428. Pedigree - Peredovik/HT-301-35.
- PI 650533. *Helianthus annuus* L.
Cultivar. 803393; VIR 101; Ames 3429. Collected 01/21/1985 in Uncertain.
- PI 650534. *Helianthus annuus* L.
803396; VIR 107; Ames 3430.
- PI 650535. *Helianthus annuus* L.
Cultivar. 803397; VIR 109; Ames 3431. Collected 01/21/1985 in Uncertain.
- PI 650536. *Helianthus annuus* L.
Cultivar. 803399; VIR 110; Ames 3432. Collected 01/21/1985 in Uncertain.
- PI 650537. *Helianthus annuus* L.
Cultivar. 813139; Impira Inta Sel.5; Ames 3433. Developed in Argentina.
- PI 650538. *Helianthus annuus* L.
Cultivar. 813140; Impira Inta Sel. 11; Ames 3434. Developed in Argentina.
- PI 650539. *Helianthus annuus* L.
Cultivar. Pergamino 71/538; 813141; Ames 3435. Developed in Argentina.
Pedigree - Pergamino 71/538.
- PI 650540. *Helianthus annuus* L.
803301; Romsun V-8740; Ames 3436. Developed in Romania.
- PI 650541. *Helianthus annuus* L.
Cultivar. "Charata"; 813144; Ames 3437. Developed in Argentina.
- PI 650542. *Helianthus annuus* L.
803304; Romsun V-3319B; Ames 3438. Developed in Romania.
- PI 650543. *Helianthus annuus* L.
803307; Romsun V-6530; Ames 3439. Developed in Romania.
- PI 650544. *Helianthus annuus* L.
803308; Romsun O-7234; Ames 3440. Developed in Romania.

- PI 650545. *Helianthus annuus* L.**
ACC 1338; 803313; Ames 3441. Developed in Canada. Pedigree - ACC/338.
- PI 650546. *Helianthus annuus* L.**
CM 90 RR (Morden 79); 803319; Ames 3442. Developed in Canada. Pedigree - CM 90 RR (Morden 79).
- PI 650547. *Helianthus annuus* L.**
CM 29-3 ACC1123; 803315; Ames 3443. Developed in Canada. Pedigree - CM 29-3 ACC/123.
- PI 650548. *Helianthus annuus* L.**
953-88-3-1-5-4; 803316; Ames 3444. Developed in Canada. Pedigree - 9S3-88-3-1-5-4.
- PI 650549. *Helianthus annuus* L.**
803317; CM 361; Ames 3445. Developed in Canada.
- PI 650550. *Helianthus annuus* L.**
803318; Purple Pigment (Rust Susc.); Ames 3446. Developed in Canada.
- PI 650551. *Helianthus annuus* L.**
803320; CM 5 RR; Ames 3447. Developed in Canada.
- PI 650552. *Helianthus annuus* L.**
Cultivar. "High Oil 73"; 803321; Ames 3448. Developed in United States.
- PI 650553. *Helianthus annuus* L.**
Cultivar. "High Oil 75"; 803323; Ames 3449. Developed in United States.
- PI 650554. *Helianthus annuus* L.**
Cultivar. "Chernianka 75"; 803324; Ames 3450. Developed in Former Soviet Union.
- PI 650555. *Helianthus annuus* L.**
Cultivar. "Chernianka 73"; 803325; Ames 3451. Developed in Former Soviet Union.
- PI 650556. *Helianthus annuus* L.**
Cultivar. "Chernianka 74"; 803326; Ames 3452. Developed in Former Soviet Union.
- PI 650557. *Helianthus annuus* L.**
Cultivar. "Rafinjan Black"; 803328; Ames 3453. Collected in Iran.
- PI 650558. *Helianthus annuus* L.**
Cultivar. "Karlik"; 803332; Ames 3454.
- PI 650559. *Helianthus annuus* L.**
"Peredovik DM Res."; 803341; Ames 3456. Developed in Former Soviet Union. Peredovik Downy Mildew Resistant.
- PI 650560. *Helianthus annuus* L.**
"Smena DM Res."; 803342; Ames 3457. Developed in Former Soviet Union. Smena Downy Mildew Resistant.

PI 650561. Helianthus annuus L.
803343; High Oil Check; Ames 3458. Developed in United States.

PI 650562. Helianthus annuus L.
Cultivar. "High Oil 74"; 803322; Ames 3461. Developed in United States.

Unknown source. Received 01/28/1985.

PI 650563. Helianthus annuus L.
Inbred. "CM 497"; Ames 3465.

Unknown source. Received 01/28/1985.

PI 650564. Helianthus annuus L.
Inbred. "CM 526"; "CMS HA 60"; Ames 3466.

Unknown source. Received 01/28/1985.

PI 650565. Helianthus annuus L.
Cultivar. "Kingman Rhine Composite"; Ames 3475. Kingman RF POPN BRK 1984.

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

PI 650566. Helianthus annuus L.
Breeding. Inbred. CMS HA 60; Ames 3953. Developed in United States.

PI 650567. Helianthus annuus L.
Breeding. Inbred. CMS HA 61; Ames 3955. Developed in United States.

PI 650568. Helianthus annuus L.
Breeding. Inbred. CMS HA 64; Ames 3957. Developed in United States.

PI 650569. Helianthus annuus L.
Breeding. Inbred. CMS HA 65; Ames 3959. Developed in United States.

PI 650570. Helianthus annuus L.
Breeding. Inbred. HA 65; Ames 3960. Developed in United States.

PI 650571. Helianthus annuus L.
Breeding. Inbred. HA 66; Ames 3962. Developed in United States.

PI 650572. Helianthus annuus L.
Breeding. Inbred. CMS HA 89; Ames 3963. Developed in United States.

PI 650573. Helianthus annuus L.
Breeding. Inbred. CMS HA 99; Ames 3965. Developed in United States.

PI 650574. Helianthus annuus L.
Breeding. Inbred. CMS HA 112; Ames 3967. Developed in United States.

- PI 650575. *Helianthus annuus* L.**
Breeding. Inbred. HA 112; Ames 3968. Developed in United States.
- PI 650576. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 115; Ames 3971. Developed in United States.
- PI 650577. *Helianthus annuus* L.**
Breeding. Inbred. HA 115; Ames 3972. Developed in United States.
- PI 650578. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 116; Ames 3973. Developed in United States.
- PI 650579. *Helianthus annuus* L.**
Breeding. Inbred. HA 116; Ames 3974. Developed in United States.
- PI 650580. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 124; Ames 3975. Developed in United States.
- PI 650581. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 133; Ames 3979. Developed in United States.
- PI 650582. *Helianthus annuus* L.**
Breeding. Inbred. HA 133; Ames 3980. Developed in United States.

The following were developed by T. E. Thompson, USDA Southwestern Great Plains Research, Center, Bushland, Texas, United States; R.E. Stafford, Cropping Systems Res. Lab., USDA-ARS, Route 3, Box 215, Lubbock, Texas 79401, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

- PI 650583. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 207; Ames 3983.

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

- PI 650584. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 208; Ames 3985. Developed in United States.
- PI 650585. *Helianthus annuus* L.**
Breeding. Inbred. HA 208; Ames 3986. Developed in United States.
- PI 650586. *Helianthus annuus* L.**
Breeding. Inbred. HA 211; Ames 3988. Developed in United States.
- PI 650587. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 224; Ames 3989. Developed in United States.
- PI 650588. *Helianthus annuus* L.**
Breeding. Inbred. HA 228; Ames 3992. Developed in United States.
- PI 650589. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 232; Ames 3993. Developed in United States.

- PI 650590. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 234; Ames 3995. Developed in United States.
- PI 650591. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 236; Ames 3997. Developed in United States.
- PI 650592. *Helianthus annuus* L.**
Breeding. Inbred. HA 236; Ames 3998. Developed in United States.
- PI 650593. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 243; Ames 3999. Developed in United States.
- PI 650594. *Helianthus annuus* L.**
Breeding. Inbred. HA 243; Ames 4000. Developed in United States.
- PI 650595. *Helianthus annuus* L.**
Breeding. Inbred. HA 246; Ames 4002. Developed in United States.
- PI 650596. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 248; Ames 4003. Developed in United States.
- PI 650597. *Helianthus annuus* L.**
Breeding. Inbred. HA 248; Ames 4004. Developed in United States.
- PI 650598. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 249; Ames 4005. Developed in United States.
- PI 650599. *Helianthus annuus* L.**
Breeding. Inbred. HA 249; Ames 4006. Developed in United States.
- PI 650600. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 250; Ames 4007. Developed in United States.
- PI 650601. *Helianthus annuus* L.**
Breeding. Inbred. HA 250; Ames 4008. Developed in United States.
- PI 650602. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 253; Ames 4009. Developed in United States.
- PI 650603. *Helianthus annuus* L.**
Breeding. Inbred. HA 253; Ames 4010. Developed in United States.
- PI 650604. *Helianthus annuus* L.**
Breeding. Inbred. CMS HA 259; Ames 4011. Developed in United States.
- PI 650605. *Helianthus annuus* L.**
Breeding. Inbred. HA 259; Ames 4012. Developed in United States.

The following were developed by M. L. Kinman, USDA, ARS, Texas Agricultural Experiment Station, College Station, Texas, United States; G. N. Fick, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States; D.E. Zimmer, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

PI 650606. Helianthus annuus L.

Breeding. Inbred. CMS HA 288; Ames 4016.

The following were developed by G. N. Fick, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States; D.E. Zimmer, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States; D.C. Zimmerman, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

PI 650607. Helianthus annuus L.

Breeding. Inbred. CMS HA 291; Ames 4022.

The following were developed by G. N. Fick, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States; D.E. Zimmer, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

PI 650608. Helianthus annuus L.

Breeding. Inbred. CMS HA 292; Ames 4024.

The following were developed by G. N. Fick, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States; D.E. Zimmer, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States; D.C. Zimmerman, USDA, ARS, North Dakota Agric. Exp. Sta., Fargo, North Dakota 58102, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 03/07/1985.

PI 650609. Helianthus annuus L.

Breeding. Inbred. CMS HA 300; Ames 4026.

PI 650610. Helianthus annuus L.

Breeding. Inbred. CMS HA 302; Ames 4030.

PI 650611. Helianthus annuus L.

Breeding. Inbred. CMS HA 303; Ames 4032.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 02/25/1985.

PI 650612. Helianthus annuus L.

Breeding. Inbred. HA 113; Ames 4058; Ames 3970. Developed in United States.

PI 650613. Helianthus annuus L.

Ames 4112; HIR 34.

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States; Henry Shands, Dekalb-Pfizer Genetics, Glyndon, Minnesota, United States. Received 04/12/1985.

PI 650614. *Helianthus annuus* L.
11602-2; Ames 4297. 1982 Glyndon 3175-2 ornamental.

PI 650615. *Helianthus annuus* L.
11603-2; Ames 4302. 1982 Glyndon 3175-3 ornamental.

PI 650616. *Helianthus annuus* L.
11603-4; Ames 4304. 1982 Glyndon 3175-4 ornamental.

PI 650617. *Helianthus annuus* L.
11607-2; Ames 4309. 1982 Glyndon 3175-N ornamental.

The following were donated by C. Lay, South Dakota State University, Plant Science Dept., P.O. Box 2207-A, Brookings, South Dakota 57007, United States. Received 05/06/1985.

PI 650618. *Helianthus annuus* L.
Ames 4334.

The following were donated by Val J. Eylands, USAID, Lusaka, Zambia. Received 07/01/1985.

PI 650619. *Helianthus annuus* L.
Cultivar. "FFA3"; Ames 4393.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 05/19/1986.

PI 650620. *Helianthus annuus* L.
Cultivar. "Armavirec"; 715; Ames 5884. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.

PI 650621. *Helianthus annuus* L.
Cultivar. "Armavirski 14"; 716; Ames 5885. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.

PI 650622. *Helianthus annuus* L.
Cultivar. 717; Ames 5886; Armavirski 50. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.

PI 650623. *Helianthus annuus* L.
Cultivar. 718; Ames 5887; Armavirski 3497. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.

- PI 650624. *Helianthus annuus* L.**
Cultivar. "Avangard"; 719; Ames 5888. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650625. *Helianthus annuus* L.**
Cultivar. "Chernjanka 66"; 720; Ames 5889. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650626. *Helianthus annuus* L.**
Cultivar. "Chakinski 269"; 721; Ames 5890. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650627. *Helianthus annuus* L.**
Cultivar. "Herkowsky 50"; 722; Ames 5891. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650628. *Helianthus annuus* L.**
Cultivar. "Herkowsky 100"; 723; Ames 5892. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650629. *Helianthus annuus* L.**
Cultivar. "Majak"; 724; Ames 5893. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650630. *Helianthus annuus* L.**
Cultivar. "Odessky 63"; 725; Ames 5894. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650631. *Helianthus annuus* L.**
Cultivar. "Peredovik"; 726; Ames 5895. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650632. *Helianthus annuus* L.**
Cultivar. "Progress"; 727; Ames 5896. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650633. *Helianthus annuus* L.**
Cultivar. "Rassvet"; 728; Ames 5897. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650634. *Helianthus annuus* L.**
Cultivar. "Rennespeliy 38"; 729; Ames 5898. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.

- PI 650635. Helianthus annuus L.**
Cultivar. "Salyut"; 730; Ames 5899. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650636. Helianthus annuus L.**
Cultivar. "Smena"; 731; Ames 5900. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650637. Helianthus annuus L.**
Cultivar. "Sputnik"; 732; Ames 5901. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650638. Helianthus annuus L.**
Cultivar. "Start"; 733; Ames 5902. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650639. Helianthus annuus L.**
Cultivar. "Tombowsky"; 734; Ames 5903. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650640. Helianthus annuus L.**
Cultivar. "Vniimk 6540"; 735; Ames 5904. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650641. Helianthus annuus L.**
Cultivar. "Vniimk 8931"; 736; Ames 5905. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650642. Helianthus annuus L.**
Cultivar. "Voshod"; 737; Ames 5906. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650643. Helianthus annuus L.**
Cultivar. "Yugovostockny"; 738; Ames 5907. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.
- PI 650644. Helianthus annuus L.**
Cultivar. "Zarja"; 739; Ames 5908. Collected in Former Serbia and Montenegro. Original seed from Yugoslavia. Sent to and increased by Jerry Miller.

The following were donated by Native Seeds Search, 2509 N. Campbell Ave. #325, Tucson, Arizona 85719, United States. Received 07/25/1986.

PI 650645. *Helianthus annuus* L.

Ames 6049. Collected 1966 in Mexico. Cuatemac. Originally from Cuatemac, Mexico over 20 years ago. White seed with some stripes (50%) on grow-out. All gold flower center.

The following were collected by Gary Nabhan, Native Seeds/SEARCH, 3950 W. New York Drive, Tucson, Arizona 85745, United States; L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 650646. *Helianthus annuus* L.

ANN-1248; Maiz de Tejas; Ames 6859. Collected 08/05/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Mexico Puerla, village of Amecameca. Flowers used in tea to cure sore throat.

The following were donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

PI 650647. *Helianthus annuus* L.

ANN-1102; Ames 7180; HSP-400; O.P. Hopi seed. Collected in New Mexico, United States. Old pollination seed.

PI 650648. *Helianthus annuus* L.

ANN-1103; Ames 7181; HSP-399; Seneca. Collected in New Mexico, United States. Old pollination seed.

The following were developed by R. G. Robinson, University of Minnesota, Agronomy Department, St. Paul, Minnesota 55108, United States. Received 12/23/1986.

PI 650649. *Helianthus annuus* L.

Cultivar. "Arrowhead"; Ames 7573. CV-1. Check variety at NC-7 not to get PI number.

Unknown source. Received 12/23/1986.

PI 650650. *Helianthus annuus* L.

Cultivated. Ames 7574; Mennonite. Collected in Unknown. Check variety at NC-7. Not to receive PI.

The following were developed by R. G. Robinson, University of Minnesota, Agronomy Department, St. Paul, Minnesota 55108, United States. Received 12/23/1986.

PI 650651. *Helianthus annuus* L.

Cultivar. "Mingren"; Ames 7575. CV-2. Check variety at NC-7. Not to receive PI.

The following were donated by Carl L. Johannessen, University of Oregon, Department of Geography, College of Arts & Sciences, Eugene, Oregon 97403-1218, United States. Received 11/10/1986.

PI 650652. *Helianthus annuus* L.

894; Ames 7576. Collected in United States.

The following were collected by Earle Jennings, 3916 Radnor Ave., Mobile, Alabama 26608, United States. Received 05/31/1988.

PI 650653. *Helianthus annuus* L.

Wild. Ames 8412. Collected 1973 in Washington, United States. Vacant lot. Donor has grown seed since 1973. Grown in Pullman, WA during summer after Mt. St. Helen's blew up, Western Washington, Santa Clara and San Jose, California, and Starkville, Mississippi. Not affected by disease or insects. He selectively bred for resilience and productivity.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 11/02/1988.

PI 650654. *Helianthus annuus* L.

Ames 9932; JUMBO.

The following were developed by Jilin Province Institute of Sunflower Sciences, No. 17 Sanhe Road, Baicheng City, Jilin, China. Received 01/23/1989.

PI 650655. *Helianthus annuus* L.

Chang Ling; Ames 10099.

PI 650656. *Helianthus annuus* L.

JB 2; Ames 10100.

PI 650657. *Helianthus annuus* L.

JB 4; Ames 10101.

PI 650658. *Helianthus annuus* L.

JB 8; Ames 10102.

PI 650659. *Helianthus annuus* L.

JB 3158; Ames 10103.

PI 650660. *Helianthus annuus* L.

JB 3160; Ames 10104.

PI 650661. *Helianthus annuus* L.

JB 3161; Ames 10105.

PI 650662. *Helianthus annuus* L.

JB 3186; Ames 10106.

PI 650663. *Helianthus annuus* L.
JB 3187; Ames 10107.

PI 650664. *Helianthus annuus* L.
JB 3170; Ames 10108.

The following were collected by Jose Fernandez Martinez, CIDA-Junta de Andalucia, Apartado 4084, Cordoba, Cordoba 14071, Spain. Received 08/14/1990.

PI 650665. *Helianthus annuus* L.
Landrace. Population. JFM 38; CO-PB 8; Ames 14117. Collected 10/1985 in Cordoba, Spain. Latitude 38° 20' N. Longitude 4° 37' W.
Villanueva de Cordoba. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650666. *Helianthus annuus* L.
Landrace. Population. JFM 43; CO-PB 13; Ames 14120. Collected 10/1985 in Cordoba, Spain. Latitude 38° 22' N. Longitude 4° 51' W.
Pozoblanco. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650667. *Helianthus annuus* L.
Landrace. Population. JFM 44; CO-PB 14; Ames 14121. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W. Espiel.
Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650668. *Helianthus annuus* L.
Landrace. Population. JFM 47; CO-PB 17; Ames 14124. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 18' W.
Navalcuervo. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650669. *Helianthus annuus* L.
Landrace. Population. JFM 49; CO-PB 19; Ames 14126. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 18' W.
Navalcuervo. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650670. *Helianthus annuus* L.
Landrace. Population. JFM 55; CO-PB 25; Ames 14129. Collected 10/1985 in Cordoba, Spain. Latitude 38° 11' N. Longitude 5° 17' W.
Posadilla. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650671. *Helianthus annuus* L.
Landrace. Population. JFM 57; CO-PB 27; Ames 14131. Collected 10/1985 in Cordoba, Spain. Latitude 38° 11' N. Longitude 5° 17' W.
Posadilla. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650672. *Helianthus annuus* L.
Landrace. Population. JFM 62; CO-PB 32; Ames 14136. Collected 10/1985 in Cordoba, Spain. Latitude 37° 40' N. Longitude 4° 56' W. La

Carlota. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650673. *Helianthus annuus* L.

Landrace. Population. JFM 63; CO-PB 33; Ames 14137. Collected 10/1985 in Cadiz, Spain. Latitude 36° 9' 30" N. Longitude 5° 26' 40" W. Rinconcillo. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650674. *Helianthus annuus* L.

Landrace. Population. JFM 67; CO-PB 37; Ames 14138. Collected 10/1985 in Cordoba, Spain. Latitude 38° 27' N. Longitude 4° 54' W. Dos Torres. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650675. *Helianthus annuus* L.

Landrace. Population. JFM 69; CO-PB 39; Ames 14140. Collected 10/1985 in Cordoba, Spain. Latitude 37° 53' N. Longitude 4° 46' W. Cordoba. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650676. *Helianthus annuus* L.

Landrace. Population. JFM 72; CO-PB 42; Ames 14143. Collected 10/1985 in Cordoba, Spain. Latitude 38° 1' N. Longitude 4° 23' W. Montoro. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650677. *Helianthus annuus* L.

Landrace. Population. JFM 73; CO-PB 43; Ames 14144. Collected 10/1985 in Cordoba, Spain. Latitude 37° 16' N. Longitude 4° 32' W. Benameji. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650678. *Helianthus annuus* L.

Landrace. Population. JFM 74; CO-PB 44; Ames 14145. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W. Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650679. *Helianthus annuus* L.

Landrace. Population. JFM 75; CO-PB 45; Ames 14146. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W. Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650680. *Helianthus annuus* L.

Landrace. Population. JFM 77; CO-PB 47; Ames 14148. Collected 10/1985 in Cordoba, Spain. Latitude 37° 16' N. Longitude 4° 32' W. Benameji. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650681. *Helianthus annuus* L.

Landrace. Population. JFM 78; CO-PB 48; Ames 14149. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W. Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

- PI 650682. *Helianthus annuus* L.**
Landrace. Population. JFM 80; CO-PB 50; Ames 14151. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W. Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650683. *Helianthus annuus* L.**
Landrace. Population. JFM 86; CO-PB 56; Ames 14155. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W. Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650684. *Helianthus annuus* L.**
Landrace. Population. JFM 88; CO-PB 58; Ames 14157. Collected 10/1985 in Cordoba, Spain. Latitude 37° 16' N. Longitude 4° 32' W. Benameji. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650685. *Helianthus annuus* L.**
Landrace. Population. JFM 91; CO-PB 61; Ames 14159. Collected 10/1985 in Cordoba, Spain. Latitude 38° 23' N. Longitude 5° 0' W. Villanueva del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650686. *Helianthus annuus* L.**
Landrace. Population. JFM 93; CO-PB 63; Ames 14160. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W. Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650687. *Helianthus annuus* L.**
Landrace. Population. JFM 95; CO-PB 65; Ames 14162. Collected 10/1985 in Cordoba, Spain. Latitude 38° 29' N. Longitude 4° 57' W. El Viso. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650688. *Helianthus annuus* L.**
Landrace. Population. JFM 99; CO-PB 69; Ames 14165. Collected 10/1985 in Cordoba, Spain. Latitude 37° 17' N. Longitude 4° 29' W. Encinas Reales. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650689. *Helianthus annuus* L.**
Landrace. Population. JFM 100; CO-PB 70; Ames 14166. Collected 10/1985 in Cordoba, Spain. Latitude 37° 17' N. Longitude 4° 29' W. Encinas Reales. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650690. *Helianthus annuus* L.**
Landrace. Population. JFM 101; CO-PB 71; Ames 14167. Collected 10/1985 in Cordoba, Spain. Latitude 37° 17' N. Longitude 4° 29' W. Encinas Reales. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

- PI 650691. *Helianthus annuus* L.**
Landrace. Population. JFM 103; CO-PB 73; Ames 14169. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 9' W. Villanueva del Rey. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650692. *Helianthus annuus* L.**
Landrace. Population. JFM 104; CO-PB 74; Ames 14170. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W. Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650693. *Helianthus annuus* L.**
Landrace. Population. JFM 105; CO-PB 75; Ames 14171. Collected 10/1985 in Murcia, Spain. Latitude 38° 0' N. Longitude 2° 15' W. El Entredicho. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650694. *Helianthus annuus* L.**
Landrace. Population. JFM 107; CO-PB 77; Ames 14173. Collected 10/1985 in Cordoba, Spain. Latitude 37° 17' N. Longitude 4° 29' W. Encinas Reales. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650695. *Helianthus annuus* L.**
Landrace. Population. JFM 109; CO-PB 79; Ames 14175. Collected 10/1985 in Cordoba, Spain. Latitude 38° 25' N. Longitude 4° 54' W. Anora. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650696. *Helianthus annuus* L.**
Landrace. Population. JFM 110; CO-PB 80; Ames 14176. Collected 10/1985 in Cordoba, Spain. Latitude 37° 17' N. Longitude 4° 29' W. Encinas Reales. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650697. *Helianthus annuus* L.**
Landrace. Population. JFM 111; CO-PB 81; Ames 14177. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W. Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650698. *Helianthus annuus* L.**
Landrace. Population. JFM 113; CO-PB 83; Ames 14179. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W. Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650699. *Helianthus annuus* L.**
Landrace. Population. JFM 114; CO-PB 84; Ames 14180. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W. Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650700. *Helianthus annuus* L.**
Landrace. Population. JFM 116; CO-PB 86; Ames 14181. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W.

Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650701. Helianthus annuus L.

Landrace. Population. JFM 118; CO-PB 88; Ames 14183. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W.

Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650702. Helianthus annuus L.

Landrace. Population. JFM 119; CO-PB 89; Ames 14184. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W.

Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650703. Helianthus annuus L.

Landrace. Population. JFM 120; CO-PB 90; Ames 14185. Collected 10/1985 in Spain. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650704. Helianthus annuus L.

Landrace. Population. JFM 121; CO-PB 91; Ames 14186. Collected 10/1985 in Cordoba, Spain. Latitude 38° 12' N. Longitude 5° 1' W.

Espiel. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650705. Helianthus annuus L.

Landrace. Population. JFM 123; CO-PB 93; Ames 14187. Collected 10/1985 in Cordoba, Spain. Latitude 38° 23' N. Longitude 4° 58' W.

Alcaracejos. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650706. Helianthus annuus L.

Landrace. Population. JFM 125; CO-PB 95; Ames 14189. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W.

Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650707. Helianthus annuus L.

Landrace. Population. JFM 126; CO-PB 96; Ames 14190. Collected 10/1985 in Cordoba, Spain. Latitude 38° 16' N. Longitude 4° 19' W.

Cardena. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650708. Helianthus annuus L.

Landrace. Population. JFM 127; CO-PB 97; Ames 14191. Collected 10/1985 in Cordoba, Spain. Latitude 38° 25' N. Longitude 4° 54' W.

Anora. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650709. Helianthus annuus L.

Landrace. Population. JFM 129; CO-PB 99; Ames 14193. Collected 10/1985 in Cordoba, Spain. Latitude 38° 23' N. Longitude 4° 58' W.

Alcaracejos. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

- PI 650710. *Helianthus annuus* L.**
Landrace. Population. JFM 134; CO-PB 104; Ames 14195. Collected 10/1985 in Cordoba, Spain. Latitude 38° 23' N. Longitude 4° 58' W.
Alcaracejos. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650711. *Helianthus annuus* L.**
Landrace. Population. JFM 137; CO-PB 107; Ames 14197. Collected 10/1985 in Cordoba, Spain. Latitude 38° 23' N. Longitude 4° 58' W.
Alcaracejos. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650712. *Helianthus annuus* L.**
Landrace. Population. JFM 138; CO-PB 108; Ames 14198. Collected 10/1985 in Cordoba, Spain. Latitude 38° 23' N. Longitude 5° 0' W.
Villanueva del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650713. *Helianthus annuus* L.**
Landrace. Population. JFM 140; CO-PB 110; Ames 14200. Collected 10/1985 in Cordoba, Spain. Latitude 38° 30' N. Longitude 5° 9' W.
Hinojosa del Duque. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650714. *Helianthus annuus* L.**
Landrace. Population. JFM 141; CO-PB 111; Ames 14201. Collected 10/1985 in Cordoba, Spain. Latitude 38° 1' N. Longitude 4° 23' W.
Montoro. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650715. *Helianthus annuus* L.**
Landrace. Population. JFM 142; CO-PB 112; Ames 14202. Collected 10/1985 in Cordoba, Spain. Latitude 38° 25' N. Longitude 4° 54' W.
Anora. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650716. *Helianthus annuus* L.**
Landrace. Population. JFM 143; CO-PB 113; Ames 14203. Collected 10/1985 in Jaen, Spain. Latitude 37° 43' N. Longitude 3° 58' W. Martos.
Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650717. *Helianthus annuus* L.**
Landrace. Population. JFM 146; CO-PB 116; Ames 14205. Collected 10/1985 in Jaen, Spain. Latitude 37° 43' N. Longitude 3° 58' W. Martos.
Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.
- PI 650718. *Helianthus annuus* L.**
Landrace. Population. JFM 147; CO-PB 117; Ames 14206. Collected 10/1985 in Cordoba, Spain. Latitude 38° 16' N. Longitude 5° 12' W.
Belmez. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650719. Helianthus annuus L.

Landrace. Population. JFM 149; CO-PB 119; Ames 14207. Collected 10/1985 in Cordoba, Spain. Latitude 38° 16' N. Longitude 5° 12' W. Belmez. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650720. Helianthus annuus L.

Landrace. Population. JFM 150; CO-PB 120; Ames 14208. Collected 10/1985 in Cordoba, Spain. Latitude 38° 16' N. Longitude 5° 12' W. Belmez. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

PI 650721. Helianthus annuus L.

Landrace. Population. JFM 152; CO-PB 122; Ames 14210. Collected 10/1985 in Cordoba, Spain. Latitude 37° 53' N. Longitude 4° 46' W. Cordoba. Farm land. Accession regenerated 3 times by donor. Last regeneration 07/1989 with 30 plants. Open pollinated variety.

Unknown source. Received 10/08/1990.

PI 650722. Helianthus annuus L.

T10725; Ames 14343. Collected in France.

The following were donated by The Plant Cell Research Institute, Inc., 6560 Trinity Court, Dublin, California 94568, United States. Received 03/18/1991.

PI 650723. Helianthus annuus L.

HO-23-2A-2E; Ames 15656; HP-1.

PI 650724. Helianthus annuus L.

HO-23-2A-11A; Ames 15657; HP-2.

PI 650725. Helianthus annuus L.

HO-23-2A-2; Ames 15658; HP-3.

PI 650726. Helianthus annuus L.

HO-23-2A-11; Ames 15659; HP-4. CA-MN interagency certified. Oil seed variety, female, USDA selection. This is a male sterile line.

PI 650727. Helianthus annuus L.

HO-5/1; HO-5/1-1; Ames 15660; Sannace.

The following were donated by V. A. Dragavtsev, N. I. Vavilov All-Russian Scientific Research, Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 02/24/1992.

PI 650728. Helianthus annuus L.

WIR 952; Ames 18897; Omskii Skorospelyi. Collected 1990 in Omsk, Russian Federation.

PI 650729. Helianthus annuus L.

WIR 1091; Ames 18898; Chernyanka 35. Collected 1989 in Russian Federation.

- PI 650730. *Helianthus annuus* L.**
WIR 1098; Ames 18899; Fuksinka 64. Collected 1990 in Voronezh, Russian Federation.
- PI 650731. *Helianthus annuus* L.**
WIR 1686; Ames 18900; Stepnyak. Collected 1990 in Russian Federation.
- PI 650732. *Helianthus annuus* L.**
WIR 1961; Ames 18901; VNIIMK 8883. Collected 1990 in Russian Federation.
- PI 650733. *Helianthus annuus* L.**
WIR 1964; Ames 18902. Collected 1990 in Krasnodar, Russian Federation.
- PI 650734. *Helianthus annuus* L.**
WIR 2052; Ames 18903; Smena. Collected 1990 in Krasnodar, Russian Federation.
- PI 650735. *Helianthus annuus* L.**
WIR 2179; Ames 18904; Zaria. Collected 1990 in Russian Federation.
- PI 650736. *Helianthus annuus* L.**
WIR 2183; Ames 18905; Rassvet. Collected 1990 in Russian Federation.
- PI 650737. *Helianthus annuus* L.**
WIR 2516; VIR 116 B; Ames 18906. Collected 1990 in Russian Federation.
- PI 650738. *Helianthus annuus* L.**
WIR 2694; Ames 18908. Collected 1990 in Lipetsk, Russian Federation.
- PI 650739. *Helianthus annuus* L.**
WIR 2792; VIR 171; Ames 18909. Collected 1989 in Russian Federation.
- PI 650740. *Helianthus annuus* L.**
WIR 3002; Ames 18910; Donskoi Nizkoroslyi. Collected 1990 in Russian Federation.
- PI 650741. *Helianthus annuus* L.**
WIR 3114; Ames 18911; Skorospelyi. Collected 1990 in Saratov, Russian Federation.
- PI 650742. *Helianthus annuus* L.**
WIR 3267; VIR 137 B; Ames 18912. Collected 1990 in Russian Federation.
- PI 650743. *Helianthus annuus* L.**
WIR 3273; VIR 152; Ames 18913. Collected 1989 in Russian Federation.
- PI 650744. *Helianthus annuus* L.**
WIR 3315; VIR 253; Ames 18914. Collected 1989 in Russian Federation.
- PI 650745. *Helianthus annuus* L.**
WIR 3352; VIR 206; Ames 18915. Collected 1990 in Russian Federation.
- PI 650746. *Helianthus annuus* L.**
WIR 3353; VIR 358; Ames 18916. Collected 1990 in Russian Federation.

- PI 650747. *Helianthus annuus* L.**
WIR 3354; VIR 424; Ames 18917. Collected 1990 in Russian Federation.
- PI 650748. *Helianthus annuus* L.**
WIR 3355; VIR 425; Ames 18918. Collected 1990 in Russian Federation.
- PI 650749. *Helianthus annuus* L.**
WIR 3356; VIR 426; Ames 18919. Collected 1990 in Russian Federation.
- PI 650750. *Helianthus annuus* L.**
WIR 3357; VIR 427; Ames 18920. Collected 1990 in Russian Federation.
- PI 650751. *Helianthus annuus* L.**
WIR 3358; VIR 428; Ames 18921. Collected 1990 in Russian Federation.
- PI 650752. *Helianthus annuus* L.**
WIR 3359; VIR 429; Ames 18922. Collected 1990 in Russian Federation.

The following were developed by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Donated by V. A. Dragavtsev, N. I. Vavilov All-Russian Scientific Research, Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 02/24/1992.

- PI 650753. *Helianthus annuus* L.**
WIR 3360; NSL 192203; Ames 18923; NSL 335992; HA-R2. NSL 192204 possible duplicate.
- PI 650754. *Helianthus annuus* L.**
WIR 3361; NSL 192204; Ames 18924; NSL 335993; HA-R3. NSL 192205 possible duplicate.
- PI 650755. *Helianthus annuus* L.**
WIR 3362; NSL 192205; Ames 18925; NSL 335994; HA-R4. NSL 192206 possible duplicate.

The following were donated by V. A. Dragavtsev, N. I. Vavilov All-Russian Scientific Research, Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 02/24/1992.

- PI 650756. *Helianthus annuus* L.**
WIR 3363; Ames 18926; SP-74-I-2. Collected 1990 in Mexico.
- PI 650757. *Helianthus annuus* L.**
WIR 3364; Ames 18927; E-3 Normal. Collected 1990 in Mexico.
- PI 650758. *Helianthus annuus* L.**
WIR 3365; Ames 18928; E-4 A. Normal. Collected 1990 in Mexico.
- PI 650759. *Helianthus annuus* L.**
WIR 3366; Ames 18929; E-6 Androester. Collected 1990 in Mexico.

PI 650760. *Helianthus annuus* L.

WIR 3367; Ames 18930; Primavera P.. Collected 1990 in Mexico.

The following were donated by Charles B. Heiser, Jr., Indiana University, Department of Biology, Jordan Hall 142, Bloomington, Indiana 47405, United States. Received 04/29/1992.

PI 650761. *Helianthus annuus* L.

Ames 19070; Maiz Negro. Collected in Unknown.

The following were developed by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Received 04/28/1992.

PI 650762. *Helianthus annuus* L.

Ames 19104; NSL 192202; HA-R1.

PI 650763. *Helianthus annuus* L.

Ames 19108; NSL 192206; HA-R5.

The following were donated by N.I. Vavilov Research Institute of Plant Industry, 44, B. Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 07/20/1992.

PI 650764. *Helianthus annuus* L.

WIR 3302; Ames 19242; VIR 224. Collected 1989 in Russian Federation.

PI 650765. *Helianthus annuus* L.

WIR 3291; Ames 19243; VIR 207. Collected 1990 in Russian Federation.

PI 650766. *Helianthus annuus* L.

WIR 3314; Ames 19244; VIR 247. Collected 1989 in Russian Federation.

PI 650767. *Helianthus annuus* L.

WIR 1960; Ames 19245; Armavirskij 3497. Collected 1986 in Russian Federation.

PI 650768. *Helianthus annuus* L.

WIR 1961; Ames 19246; VNIIMK 8883. Collected 1983 in Russian Federation.

PI 650769. *Helianthus annuus* L.

Ames 19247; Vysokooleinovyj 5. Collected 1988 in Russian Federation.

PI 650770. *Helianthus annuus* L.

WIR 3349; Ames 19248; Lider. Collected 1989 in Russian Federation.

PI 650771. *Helianthus annuus* L.

WIR 3368; Ames 19250; Donskoj 60. Collected 1986 in Former Soviet Union.

PI 650772. *Helianthus annuus* L.

WIR 3110; Ames 19251; Pervenec. Collected 1989 in Russian Federation.

PI 650773. *Helianthus annuus* L.

WIR 3351; Ames 19252; Berzanskij. Collected 1989 in Russian Federation.

PI 650774. *Helianthus annuus* L.
WIR 2382; Ames 19254; CM 361. Collected 1988 in Canada.

PI 650775. *Helianthus annuus* L.
WIR 2051; Ames 19255; Peredovik. Collected 1990 in Russian Federation.

The following were donated by Michail Christov, Institute of Wheat and Sunflower - Dobroudja, General Toshevo, Varna, Bulgaria; Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 11/10/1992.

PI 650776. *Helianthus annuus* L.
Cultivar. B92-83; "Peredovik"; W6 10768; Ames 20074. Developed in Russian Federation.

PI 650777. *Helianthus annuus* L.
Cultivar. B92-85; "Nadejdnii"; W6 10770; Ames 20076. Developed in Russian Federation.

PI 650778. *Helianthus annuus* L.
Cultivar. B92-86; "Harkouski-101"; W6 10771; Ames 20077. Developed in Russian Federation.

PI 650779. *Helianthus annuus* L.
Cultivar. B92-87; "Trudovik"; W6 10772; Ames 20078. Developed in Russian Federation.

PI 650780. *Helianthus annuus* L.
Cultivar. B92-88; "Balkan"; W6 10773; Ames 20079. Developed in Bulgaria.

PI 650781. *Helianthus annuus* L.
Cultivar. B92-89; "Kosim"; W6 10774; Ames 20080. Developed in Bulgaria.

PI 650782. *Helianthus annuus* L.
Cultivar. B92-90; "Pervenee"; W6 10775; Ames 20081. Developed in Russian Federation.

PI 650783. *Helianthus annuus* L.
Cultivar. B92-91; "Vniimk 8931"; W6 10776; Ames 20082. Developed in Russian Federation.

PI 650784. *Helianthus annuus* L.
Cultivar. B92-92; "Vniimk 6540"; W6 10777; Ames 20083. Developed in Russian Federation.

PI 650785. *Helianthus annuus* L.
Cultivar. B92-93; "Kubuger"; W6 10778; Ames 20084. Developed in Bulgaria.

PI 650786. *Helianthus annuus* L.
Cultivar. B92-94; "Vniimk 3497"; W6 10779; Ames 20085. Developed in Russian Federation.

PI 650787. Helianthus annuus L.

Cultivar. B92-95; "Vniimk 1696"; W6 10780; Ames 20086. Developed in Russian Federation.

The following were collected by Judy VanVleet-Mills, Palouse Empire Marketing, Inc., Moscow, Idaho 83843, United States. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 11/12/1993.

PI 650788. Helianthus annuus L.

Ames 21671; Ames 24053; W6 17735. Collected 11/1993 in Nei Monggol, China.

The following were collected by Jay Hesely, National Sunflower Association, 4023 State Street, Bismark, North Dakota 58501-0690, United States. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 01/31/1995.

PI 650789. Helianthus annuus L.

Cultivated. Hungarian #4; Ames 22279. Collected in Jilin, China. Latitude 44° 26' N. Longitude 125° 11' E. Nong'an. All collections were from bin run of local farmers crops.

PI 650790. Helianthus annuus L.

Cultivated. Ames 22280. Collected in Jilin, China. Latitude 44° 26' N. Longitude 125° 11' E. Nong'an. All collections were from bin run of local farmers crops.

PI 650791. Helianthus annuus L.

Cultivated. Ames 22281. Collected in China. Bautou. All collections were from bin run of local farmers crops.

PI 650792. Helianthus annuus L.

Cultivated. Ames 22282. Collected in China. Bautou. All collections were from bin run of local farmers crops.

PI 650793. Helianthus annuus L.

Cultivated. Ames 22283. Collected in China. Sample provided by Samwoo Co. production from Dalian Province. All collections were from bin run of local farmers crops.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 05/01/1995.

PI 650794. Helianthus annuus L.

Cultivated. Population. Ames 22450; Manchurian.

PI 650795. Helianthus annuus L.

Cultivated. Population. Ames 22451; CLUJ.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller,

USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650796. Helianthus annuus L.
Cultivar. "Aguaribay"; Ames 22484.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Vavilov Research Institute, Far Eastern Experiment Station, Vavilov Road, House #9, Vladivostok, Primorye 690040, Russian Federation; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650797. Helianthus annuus L.
Cultivar. "Berezanski"; Ames 22487.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650798. Helianthus annuus L.
Cultivar. "Cabure 1004"; Ames 22488.

PI 650799. Helianthus annuus L.
Cultivar. "Cabure Precoz"; Ames 22489.

PI 650800. Helianthus annuus L.
Cultivar. "Calchin"; Ames 22490.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; INRA, Station d'Amelioration des Plantes, Clermont-Ferrand, Puy-de-Dome, France. Received 06/13/1995.

PI 650801. Helianthus annuus L.
Cultivar. "Ciro-Iran"; Ames 22493. Developed in Iran.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650802. Helianthus annuus L.
Cultivar. "Colliguay"; Ames 22494. Developed in Chile.

PI 650803. Helianthus annuus L.
Cultivar. "Conay"; Ames 22495. Developed in Chile.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650804. Helianthus annuus L.

Cultivar. "Early Swedish"; Ames 22496.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650805. Helianthus annuus L.

Cultivar. "Estanzuela 60"; Ames 22497. Developed in Uruguay.

PI 650806. Helianthus annuus L.

Cultivar. "Estanzuela 75"; Ames 22498. Developed in Uruguay.

The following were developed by INRA, Station d'Amelioration des Plantes, Clermont-Ferrand, Puy-de-Dome, France. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; INRA, Station d'Amelioration des Plantes, Clermont-Ferrand, Puy-de-Dome, France. Received 06/13/1995.

PI 650807. Helianthus annuus L.

Cultivar. "Dussol"; Ames 22499.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; INRA, Station d'Amelioration des Plantes, Clermont-Ferrand, Puy-de-Dome, France. Received 06/13/1995.

PI 650808. Helianthus annuus L.

Cultivar. "Gabbes"; Ames 22500. Developed in Monaco.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650809. Helianthus annuus L.

Cultivar. "GB/Enises"; Ames 22501.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650810. Helianthus annuus L.

Cultivar. "Guaran"; Ames 22502.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650811. Helianthus annuus L.
Cultivar. "Hata"; Ames 22503.

PI 650812. Helianthus annuus L.
Cultivar. "Ibera"; Ames 22506.

The following were developed by INRA, Station d'Amelioration des Plantes, Clermont-Ferrand, Puy-de-Dome, France. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; INRA, Station d'Amelioration des Plantes, Clermont-Ferrand, Puy-de-Dome, France. Received 06/13/1995.

PI 650813. Helianthus annuus L.
Cultivar. "Issanka"; Ames 22507.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Vavilov Research Institute, Far Eastern Experiment Station, Vavilov Road, House #9, Vladivostok, Primorye 690040, Russian Federation; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650814. Helianthus annuus L.
Cultivar. "Jubileynij 60"; Ames 22508.

PI 650815. Helianthus annuus L.
Cultivar. "Kavkazets"; Ames 22509.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650816. Helianthus annuus L.
Cultivar. "Klein A"; Ames 22510.

PI 650817. Helianthus annuus L.
Cultivar. "Klein Casares"; Ames 22511.

PI 650818. Helianthus annuus L.
Cultivar. "K.L.M."; Ames 22512.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Vavilov Research Institute, Far Eastern Experiment Station, Vavilov Road, House #9, Vladivostok, Primorye 690040, Russian Federation; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650819. Helianthus annuus L.
Cultivar. "Leader"; Ames 22513.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller,

USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650820. Helianthus annuus L.

Cultivar. "Norte 160"; Ames 22515.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Vavilov Research Institute, Far Eastern Experiment Station, Vavilov Road, House #9, Vladivostok, Primorye 690040, Russian Federation; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650821. Helianthus annuus L.

Cultivar. "Peredovik 92"; Ames 22517.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650822. Helianthus annuus L.

Cultivar. "Pergamino 4"; Ames 22518.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Bill Hartman, Emporia State University, Emporia, Kansas, United States. Received 06/13/1995.

PI 650823. Helianthus annuus L.

Cultivar. "Persian"; Ames 22519. Collected 1986 in Iran. Seed was purchased as common confectionery sunflower produced in the vicinity of Tabriz, Azarbaijan, Iran. Receivee, Bill Hartman, planted seeds for four years at Kansas, during early May, the grain matured in early September. 5-6 foot plant, 9-10 inch diameter head.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650824. Helianthus annuus L.

Cultivar. "P.G.R.K"; Ames 22520.

PI 650825. Helianthus annuus L.

Cultivar. "PGRL"; Ames 23263; Ames 22521.

PI 650826. Helianthus annuus L.

Cultivar. "Putano"; Ames 22522.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States;

Institute of Field and Vegetable Crops, M. Gorkog 30, Novi Sad, Serbia.
Received 06/13/1995.

PI 650827. *Helianthus annuus* L.
Cultivar. "Rennespeliy 38"; Ames 22523.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Vavilov Research Institute, Far Eastern Experiment Station, Vavilov Road, House #9, Vladivostok, Primorye 690040, Russian Federation; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650828. *Helianthus annuus* L.
Cultivar. "Rodnick"; Ames 22524.

The following were donated by Inst. Nacional Tecnologia Agropecuaria, Estacion Experimental, Pergamino, Buenos Aires, Argentina; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 06/13/1995.

PI 650829. *Helianthus annuus* L.
Cultivar. "Saenz Pena"; Ames 22525.

PI 650830. *Helianthus annuus* L.
Cultivar. "Yatay"; Ames 23265; Ames 22528.

The following were developed by Vniimk, Krasnodar, Krasnodar, Russian Federation. Donated by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Institute of Field and Vegetable Crops, M. Gorkog 30, Novi Sad, Serbia. Received 06/13/1995.

PI 650831. *Helianthus annuus* L.
Cultivar. "Zelenka"; Ames 22530.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 650832. *Helianthus annuus* L.
Cultivated. HEL 218/91; D 4951; Ames 23132. Collected 07/10/1988 in Colombia. Villa de Leyva. Yellow-yellow, black matt- dark grey striped.

PI 650833. *Helianthus annuus* L.
Cultivated. HEL 220/91; D 5328; Ames 23134. Collected 12/03/1990 in Cuba. La Habana, El Comino, on the road from the Hershey sugar factory to Jaruco. Central flowers with petals.

The following were donated by Patricia Dimarco, Zeneca Semillas, Bioscience Department (Balcarce), Av. Leandro N. Alem 1110, Buenos Aires, Buenos Aires 1001, Argentina. Received 11/19/1996.

- PI 650834. *Helianthus annuus* L.**
Uncertain. P3; Ames 23260.
- PI 650835. *Helianthus annuus* L.**
Uncertain. P4; Ames 23261.
- PI 650836. *Helianthus annuus* L.**
Uncertain. P5; Ames 23262.
- PI 650837. *Helianthus annuus* L.**
Uncertain. ANTILCO; Ames 23264.

The following were donated by Thompson & Morgan Seed Co., 220 Faraday Avenue, P.O. Box 1308, Jackson, New Jersey 08527-0308, United States. Received 04/28/1997.

- PI 650838. *Helianthus annuus* L.**
Cultivar. "Teddy Bear"; Ames 23705. Flower color is golden yellow. Seeds and young sprouts are edible, not flowers.
- PI 650839. *Helianthus annuus* L.**
Cultivar. "Taiyo"; Ames 23707. Seeds and young sprouts are edible, not flowers.

The following were developed by B.H. Beard, USDA-ARS, Agronomy & Range Science, University of California, Davis, California 95616, United States. Received 10/29/1997.

- PI 650840. *Helianthus annuus* L.**
Ames 24032; HA GERMPLASM POOL VII S6; HA GPP VII S6.
- PI 650841. *Helianthus annuus* L.**
Ames 24033; HA GERMPLASM POOL VII S7; HA GPP VII S7.
- PI 650842. *Helianthus annuus* L.**
Ames 24034; HA GERMPLASM POOL VII HMO BULK; HA GPP VII HMO BULK.
- PI 650843. *Helianthus annuus* L.**
Ames 24035; HA GPP V-1P(?); HA GERMPLASM POOL V-1P(?). Pedigree - PH09G BC1 F1.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 01/04/2000.

- PI 650844. *Helianthus annuus* L.**
Cultivated. P032; POL 234603; Ames 25947. Collected 07/13/1999 in Bialystok, Poland. Latitude 52° 45' 12" N. Longitude 23° 2' 10" E. Grabowiec.

The following were developed by John M. Clarke, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Res. Centre, Airport Road, Box 1030, Swift Current, Saskatchewan S9H 3X2, Canada; Ron M. DePauw, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Res. Centre, Box 1030, Swift Current, Saskatchewan S9H 3X2, Canada; R.E. Knox, Agriculture Canada, Research Station, Box 1030, Swift Current, Saskatchewan S9H 3X2, Canada; M.R. Fernandez, Agriculture Canada, Research Station, Swift Current, Saskatchewan, Canada; H. Campbell, Agriculture and Agri-Food Canada, Research Centre, Swift Current, Saskatchewan S9H 3X2, Canada; Grant McLeod, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Research Centre, #1, Airport Road, Swift Current, Saskatchewan S9H 3X2, Canada. Received 08/16/2007.

PI 650845. *Triticum turgidum* subsp. *durum* (Desf.) Husn.

Breeding. Pureline. DT676. GP-838. Pedigree - DT369/3*Kyle/4/Kyle//VIR51658/2*Medora/3/Kyle. Released 2007. Durum wheat with resistance to the prevalent races of loose smut found in the Northern Great Plains. Well adapted to the drier regions of the northern great plain. Has complete resistance to loose smut races T32 and T33 and incomplete resistance to loose smut race T26. Shows resistance to stem rust, leaf rust and common bunt. Has 81% coefficient of parentage with Kyle and is similar in maturity, test weight, grain protein content, yield, 1000 k wt. Significantly shorter than Kyle and has numerically more lodging resistance.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 08/14/2007.

PI 650846. *Lactuca sativa* L.

Cultivar. "CASSITA". PVP 200700404.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 08/14/2007.

PI 650847 PVPO. *Spinacia oleracea* L.

Cultivar. "SMB 66-1100M". PVP 200700361.

PI 650848 PVPO. *Spinacia oleracea* L.

Cultivar. "SSB 66-1042F". PVP 200700362.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 08/14/2007.

PI 650849 PVPO. *Lactuca sativa* L.

Cultivar. "STRAIGHT SHOT". PVP 200700392.

The following were developed by Bayer Cotton Seed International, United States. Received 08/14/2007.

PI 650850 PVPO. *Gossypium hirsutum* L.

Cultivar. "FM 1600LL". PVP 200700397.

PI 650851 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 955LLB2". PVP 200700398.

PI 650852 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 1735LLB2". PVP 200700399.

PI 650853 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 988LLB2". PVP 200700402.

PI 650854 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 1800LL". PVP 200700403.

The following were developed by Syngenta Seeds, Inc., Colorado 80513, United States. Received 08/14/2007.

PI 650855 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "W1377"; M01-4377. PVP 200700406. Pedigree - Coker 9663/VA91-54-219. Soft red winter wheat.

Unknown source. Received 07/06/1939.

PI 650856. *Trifolium reflexum* L.
Wild. Population. S-34-6; G 31453. Collected in United States.

The following were donated by Mark J. Bassett, University of Florida, Department of Vegetable Crops, 1253 Fifield Hall, Gainesville, Florida 32611, United States. Received 08/29/2007.

PI 650857. *Phaseolus vulgaris* L.
Genetic. Genetic Marker 118; W6 31013. Pedigree - BC2 to 5-593 from 02-226. Source: Sal Am from Lamprecht M0168(PI 527868); v from PI 527830. The gene combination Sal Am v expressing scarlet flower color and oxblood red seed coats. Is a bulk of seeds from six plants known to be true breeding for the genotype.

The following were developed by Freddie A. Martin, Louisiana State University, Sugar Station/Audubon Sugar Institute, Louisiana Agricultural Center, Baton Rouge, Louisiana 70803-2109, United States; K.P. Bischoff, Louisiana Agr. Exp. Sta., Louisiana State University, Agronomy Dept., Baton Rouge, Louisiana 70803, United States; J.W. Hoy, Louisiana State University, Agric. Ctr., Plant Pathology & Crop Physiology Dept., Baton Rouge, Louisiana 70803-2109, United States; T.E. Reagan, Louisiana State University, Agric. Ctr., Entomology Dept., Baton Rouge, Louisiana 70803-2109, United States; Collins Kimbeng, Louisiana State Univ., Agronomy Dept, 104 M B Sturgis Hall, Baton Rouge, Louisiana 70803, United States; S.B. Milligan, 684 Turtle Lane, Labelle, Florida 33935, United States; C.M. Laborde, Louisiana State University Agricultural Center, Sugar Research Station, 5755 LSU Ag Road, St. Gabriel, Louisiana 70776, United States; G.L. Hawkins, Louisiana State University Agricultural Center, Sugar Research Station, 5755 LSU Ag road, St. Gabriel, Louisiana 70776, United States. Donated by Benjamin L. Legendre, USDA, ARS, U.S. Sugarcane Field Laboratory, P.O. Box 470, Houma, Louisiana

70361, United States; Kenneth Gravois, Louisiana State University, Sugar Research Station, 5755 LSU Ag. Road, St. Gabriel, Louisiana 70776, United States. Received 08/27/1999.

PI 650858. *Saccharum* sp.

Cultivar. L 97-128; M01340; Q 40442. CV-129; REST 650858; . Pedigree - LCP 81-10/LCP 85-384. Single stool seedling selection was done at the St. Gabriel Res. Stn. in St. Gabriel, LA in 1994. Stalks are greenish-brown (green predominates), are covered with a heavy wax layer. In the sunlight the stalks have a more purplish hue. Has an average population of large diameter stalks. Its stalk population is 86% and stalk weight is 124% of Louisiana's leading variety, LCP 85-384, averaged over plant-cane, first stubble, second-stubble, and third-stubble crops. Good stubbling variety. Resistant to sugarcane mosaic virus and sorghum mosaic virus. Is moderately susceptible to smut (*Ustilago scitaminea*), moderately resistant to rust (*Puccinia melanocephala*) and moderately resistant to leaf scalf (*Xanthomonas albilineans*) under natural field infection. The effect of yellow leaf syndrome on the yield is unknown. May sustain significant yield loss in stubble crops from ratoon stunting disease (*Clavibacter xyli*). To realize the maximum yield potential of this variety, healthy seed cane free of this disease must be planted. Is susceptible to the sugarcane borer (*Diatraea saccharalis*) and should be scouted to insure timely insecticide applications. Field observations indicated that L 97-128 is not any more susceptible to herbicides commonly used for weed control than other commercial sugarcane cultivars.

The following were developed by William L. Rooney, Texas A&M University, Department of Soil and Crop Sciences, Sorghum Breeding and Genetics, College Station, Texas 77843-2474, United States. Received 09/05/2007.

PI 650859. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. ATX2929. REST 650859. Pedigree - (B4RxBTx642)-B9-B2-B1-B1-B2-B1-T1-C4-C4-C1-C1. Red pericarp, purple plant, purple glume, plant ht: 95 cm exsertion: 8 cm, 77 d to anthesis. Resistant to head smut (*Sporosorium relianum*).

PI 650860. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. BTX2929. REST 650860. Pedigree - (B4RxBTx642)-B9-B2-B1-B1-B2-B1-T1-C4-C4-C1-C1. Red pericarp, purple plant, purple glume, plant ht: 95 cm exsertion: 8 cm, 77 d to anthesis. Resistant to head smut (*Sporosorium relianum*).

PI 650861. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. ATX2930. REST 650861. Pedigree - (BTx631xBTx626)-B11-B2-T1-C1-C4-C1. Red pericarp, tan plant color, tan glume. Plant ht: 105 cm exsertion: 8 cm. 77 d to anthesis. Resistant to rust caused by *Puccinia purpurea*.

PI 650862. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. BTX2930. REST 650862. Pedigree - (BTx631xBTx626)-B11-B2-T1-C1-C4-C1. Red pericarp, tan plant color, tan glume. Plant ht: 105 cm exsertion: 8 cm. 77 d to anthesis. Resistant to rust caused by *Puccinia purpurea*.

PI 650863. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. ATX2931. REST 650863. Pedigree - RS4490-?64-T4-C5-C1-C1-C1. Red pericarp, purple plant color, purple glume. Plant ht: 95 cm. Exsertion: 5 cm. 82 d to anthesis. Resistant to head smut (*Sporosorium relianum*) and to rust (caused by *Puccinia purpurea*).

PI 650864. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. BTX2931. REST 650864. Pedigree - RS4490-?64-T4-C5-C1-C1-C1. Red pericarp, purple plant color, purple glume. Plant ht: 95 cm. Exsertion: 5 cm. 82 d to anthesis. Resistant to head smut (*Sporosorium relianum*) and to rust (caused by *Puccinia purpurea*).

PI 650865. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. ATX2932. REST 650865. Pedigree - (B8201-2 x IS9530)-CF2-C1-C3-C3-C6-C5-C3-C3-C1. Red pericarp, purple plant color, purple glume. Plant ht: 118 cm. Exsertion: 8 cm. 76 d to anthesis. Resistant to head smut (*Sporosorium relianum*).

PI 650866. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. BTX2932. REST 650866. Pedigree - (B8201-2 x IS9530)-CF2-C1-C3-C3-C6-C5-C3-C3-C1. Red pericarp, purple plant color, purple glume. Plant ht: 118 cm. Exsertion: 8 cm. 76 d to anthesis. Resistant to head smut (*Sporosorium relianum*).

PI 650867. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. ATX2933. REST 650867. Pedigree - (IS9530 x B8110)-B7-B1-B1-B1-B3-B3-B2-B2-B1-C3. Red pericarp, purple plant color, purple glume. Plant ht 98 cm. Exsertion: 10 cm. 77 d to anthesis. Resistant to anthracnose (caused by *Colletotrichum graminicola*). Resistant to head smut (*Sporosorium relianum*).

PI 650868. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. BTX2933. REST 650868. Pedigree - (IS9530 x B8110)-B7-B1-B1-B1-B3-B3-B2-B2-B1-C3. Red pericarp, purple plant color, purple glume. Plant ht 98 cm. Exsertion: 10 cm. 77 d to anthesis. Resistant to anthracnose (caused by *Colletotrichum graminicola*). Resistant to head smut (*Sporosorium relianum*).

PI 650869. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. ATX2934. REST 650869. Pedigree - (B4R x BTx642)-B10-B2-B1-B1-B2-B1-B2-B2-B1-B1-C6. Red pericarp, purple plant color, purple glume. Plant ht: 85 cm. Exsertion: 8 cm. 79 d to anthesis. Resistant to head smut, and to rust (caused by *Puccinia purpurea*).

PI 650870. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. BTX2934. REST 650870. Pedigree - (B4R x BTx642)-B10-B2-B1-B1-B2-B1-B2-B2-B1-B1-C6. Red pericarp, purple plant color, purple glume. Plant ht: 85 cm. Exsertion: 8 cm. 79 d to anthesis. Resistant to head smut, and to rust (caused by *Puccinia purpurea*).

PI 650871. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2935. REST 650871. Pedigree - ((SC120 x Tx7000) x 7000)-10-4-7-1-1. White pericarp, tan plant color, tan glume. Plant ht: 110 cm. Exsertion: 13 cm. 78 d to anthesis. Resistant to head smut (*Sporosorium relianum*). Resistant to anthracnose (caused by *Colletotrichum graminicola*).

- PI 650872. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2936. REST 650872. Pedigree - (RTx430 x Sureno)-B12-B1-B1-B1. White pericarp, tan plant color, tan glume. Plant ht.: 115 cm. Exsertion: 10 cm. 81 d to anthesis. Resistant to heat smut (*Sporosorium relianum*). Resistant to rust (caused by *Puccinia purpurea*).
- PI 650873. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2937. REST 650873. Pedigree - (ADN55 x RTx430)-10-2-3-3-B1-B2-B1-B1-B1. White pericarp, tan plant color, tan glume. Plant ht.: 103 cm. Exsertion: 10 cm. 76 d to anthesis. Resistant to head smut (*Sporosorium relianum*). Resistant to anthracnose (caused by *Colletotrichum graminicola*).
- PI 650874. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2938. REST 650874. Pedigree - ((RTx434 x SC414-12)-B9-B2 x RTx430)-B7-B3-B3-BE2. Red pericarp, purple plant color, purple glume. Plant ht.: 98 cm. Exsertion: 8 cm. 78 d to anthesis.
- PI 650875. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2939. REST 650875. Pedigree - (((RTx430 x SC326-6)-1-1-2-6 x RTx435)-18-5-L1 x Sureno)-B3-B4-B1. White pericarp, tan plant color, tan glume. Plant ht.: 125 cm. Exsertion: 16 cm. 81 d to anthesis. Resistant to head smut (*Sporosorium relianum*).
- PI 650876. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2940. REST 650876. Pedigree - ((77CS2 x CS3541)-4-4-B2-B1 x Tx2894)-B7-B2-B2-BE2. White pericarp, tan plant color, tan glume. Plant ht.: 98 cm. Exsertion: 8 cm. 76 d to anthesis. Resistant to head smut (*Sporosorium relianum*).
- PI 650877. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2941. REST 650877. Pedigree - ((RTx435 x RTx430)-14-1-L1 x Dorado)-B5-B1-B1-BE3. White pericarp, tan plant color, tan glume. Plant ht.: 108 cm. Exsertion: 5 cm. 77 d to anthesis. Resistant to head smut (*Sporosorium relianum*).
- PI 650878. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2942. REST 650878. Pedigree - (R9030 x Tx2892)-C11-CS1-CSBK. Red pericarp, tan plant color, tan glume. Plant ht.: 110 cm. Exsertion: 10 cm. 75 d to anthesis. Resistant to head smut (*Sporosorium relianum*). Resistant to rust (caused by *Puccinia purpurea*).
- PI 650879. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2943. REST 650879. Pedigree - (RTx430 x Sureno)-B12-B2-B1-B1. White pericarp, tan plant color, tan glume. Plant ht.: 118 cm. Exsertion: 10 cm. 81 d to anthesis. Resistant to head smut (*Sporosorium relianum*). Resistant to rust (caused by *Puccinia purpurea*).
- PI 650880. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2944. REST 650880. Pedigree - (RTx436 x RTx435)-B6-B1-B1-B2-B2. White pericarp, tan plant color, tan glume. Plant ht.: 98 cm. Exsertion: 5 cm. 74 d to anthesis.

The following were developed by Marcelo J. Carena, North Dakota State University, Department of Plant Science, Loftsgard Hall 374D, Fargo, North Dakota 58105-5051, United States. Received 09/04/2007.

PI 650881. *Zea mays* L. subsp. *mays*

Breeding. Pureline. ND2001. Pedigree - NDSG(M)C19, improved version of NDSG (open-pollinated variety 'Minnesota 13'). Yellow-dent inbred line derived from the improved breeding population, NDSG(M)C19 through pedigree selection and four years of early and late generation testing. When compared to commercial checks, hybrids with this inbred as a parent produced above average grain yield, average agronomic performance, and below average test weight. Good combining ability with LH82-derived lines especially in dry environments. Good source for developing early maturing and high yielding inbreds. AES maturity 200-300. Good male.

PI 650882. *Zea mays* L. subsp. *mays*

Breeding. Pureline. ND2002. Pedigree - NDSM(M)C7 is an improved version of NDSM, yellow-dent synthetic variety developed by intercrossing 13 elite lines of AES 100-300 maturity. Yellow-dent inbred line derived from the improved breeding population, NDSM(M)C7 through pedigree selection and four years of early and late generation testing. Hybrids with this inbred as a parent produced above average grain yield, below average test weights, and above average root lodging was also observed. Good combining ability with specific Iodent types. Good source for developing early maturing and high yielding inbreds. AES maturity 200-300. Good male and female.

PI 650883. *Zea mays* L. subsp. *mays*

Breeding. Pureline. ND2003. Pedigree - NDSCD(M)C10 is an improved version of NDSCD, yellow endosperm, dent synthetic variety developed by one cycle of full-sib recurrent selection among 78 full-sib families between NDSC(FS)C1 and NDSD(FS)C1 (AES200 maturity). Yellow-dent inbred line derived from the improved breeding population, NDSCD(M)C10 through pedigree selection and five years of early and late generation testing. Hybrids with this inbred as a parent produced the top specific combining ability for grain yield across 15 ND locations in 2006 (similar to top performing check) and average agronomic performance. Good combining ability with specific Iodent types, especially under irrigation. However, it combined well across testers of several heterotic groups. Good source for developing early maturing and high yielding inbreds. AES maturity 200-300. Good male and female.

PI 650884. *Zea mays* L. subsp. *mays*

Breeding. Pureline. ND2004. Pedigree - NDSCD(M)C8 is an improved version of NDSCD, yellow endosperm, dent synthetic variety developed by one cycle of full-sib recurrent selection among 78 full-sib families between NDSC(FS)C1 and NDSD(FS)C1 (AES200 maturity). Yellow-dent inbred line derived from the improved breeding population, NDSCD(M)C8 through pedigree selection and four years of early and late generation testing. When compared to commercial checks, hybrids with this inbred as a parent produced above average grain yield and average agronomic performance, with the exception of excellent lodging resistance. Good combining ability across heterotic groups. Good source for developing early maturing lodging resistant inbreds. AES maturity 200-300. Good male and female.

PI 650885. *Zea mays* L. subsp. *mays*

Breeding. Pureline. ND2005. PL-354. Pedigree - NDSM(M)C5 is an improved version of NDSM, yellow-dent synthetic variety developed by intercrossing 13 elite lines of AES 100-300 maturity. Yellow-dent inbred line derived from the improved breeding population, NDSM(M)C5 through pedigree selection and six years of early and late generation testing. Hybrids with this inbred as a parent produced average grain yield and above average early maturity and high test weight. It also produced above average root lodging and excellent stalk lodging resistance. Good combining ability with Iodent and LH82-derived types. Good source for developing very early maturing, high quality, and lodging resistant inbreds. AES maturity 200. Good female.

PI 650886. *Zea mays* L. subsp. *mays*

Breeding. Pureline. ND2006. PL-355. Pedigree - NDSBF(LM)C7(HGR)C4 is an improved version of NDSBF, yellow-dent synthetic variety developed by one cycle of full-sib recurrent selection among 78 full-sib families between NDSB(FS)C1 and NDSF(FS)C1(AES 100 maturity). Yellow-dent inbred line derived from breeding population, NDSBF through recurrent selection, pedigree selection and five years of early and late generation testing. Hybrids with this inbred as a parent produced the top performance for grain moisture at harvest, test weight, and grain protein concentration. Average performance for other traits was similar to checks, except ND2006 crosses had below average stalk lodging and above average root lodging (especially with LH82 testers). Good combining ability with Iodent types. Good source for developing very early maturing and above average quality inbreds. Excellent dry down. AES maturity 100-200. Good male.

The following were developed by Marcelo J. Carena, North Dakota State University, Department of Plant Science, Loftsgard Hall 374D, Fargo, North Dakota 58105-5051, United States; D.D. Wanner, North Dakota State Univ., Dept. of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105, United States; C. Eno, North Dakota State University, Dept. of Plant Sciences, Corn Breeding and Genetics, Fargo, North Dakota 58105-5051, United States.
Received 09/04/2007.

PI 650887. *Zea mays* L. subsp. *mays*

Breeding. Population. NDBS11(FR-M)C3. GP-554; REST 650887. Pedigree - BS11(FR)C13. Yellow-dent maize broad-based improved population released for breeding programs developing elite germplasm for short-growing-season areas. It is an earlier version of BS11(FR)C13. It is released as an improved early maturing germplasm source for development of inbred parents for early maturing and high yielding corn hybrids and for elite population hybrids. This improved population was consistently the best ND improved population for grain moisture at harvest per se of all newly adapted populations (8.5% less moisture than the original improved version) and it is AES 300 maturity.

PI 650888. *Zea mays* L. subsp. *mays*

Breeding. Population. NDBS1011; NDBS1011(FR-M)C4. GP-555; REST 650888. Pedigree - BS11(FR)C13 x BS10(FR)C13. Yellow-dent maize genetically broad-based improved population released for breeding programs developing elite germplasm for short-growing-season areas. It is a cross

between BS10(FR)C13 and BS11(FR)C13. The original cross was made at North Dakota State University (NDSU) and later improved for adaptation to ND (AES 300 maturity).

PI 650889. *Zea mays* L. subsp. *mays*

Breeding. Population. NDBSK(HI-M)C3. GP-556; REST 650889. Pedigree - BSK(HI)C11. Yellow-dent maize genetically broad-based improved population released for breeding programs developing elite germplasm for short-growing-season areas. It is an earlier version of BSK(HI)C11, originally improved from Krug Yellow Dent open-pollinated variety. It is released as an improved early maturing germplasm source for development of inbred parents for early maturing, high quality, and high yielding corn hybrids as well as an elite parent for population hybrids. This improved population was consistently the best North Dakota (ND) improved population for grain yield performance per se even though it was 6.9% less grain moisture at harvest than the original improved version brought to ND (AES 300 maturity).

The following were developed by Oregon State University, Corvallis, Oregon, United States. Received 08/29/2007.

PI 650890 PVPO. *Solanum tuberosum* L.
Cultivar. "MAZAMA". PVP 200100092.

PI 650891 PVPO. *Solanum tuberosum* L.
Cultivar. "WINEMA". PVP 200100093.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 08/30/2007.

PI 650892 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHHDN". PVP 200700401.

PI 650893 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHHCC". PVP 200700400.

The following were donated by Shirley A. Graham, Kent State University, Dept. of Biological Sciences, Kent, Ohio 44242-0001, United States. Received 07/25/1986.

PI 650894. *Cuphea mimuloides* Cham. & Schltldl.
Wild. Perez 337; Ames 6068. Collected in Jalisco, Mexico. 34.7 km from Chamela adelante del Rio San Nicolas, toward Puerto Vallarta.

The following were collected by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; G. Pedralli, EMBRAPA-CENARGEN, Centro Internacional de Mejoramiento de Maiz y Trigo, Brasilia, Federal District, Brazil. Donated by EMBRAPA-CENARGEN, S.A.I.N. - Parque Rural - C.P. 10.2372, Brasilia, Federal District CEP 70.770, Brazil. Received 05/06/1991.

PI 650895. *Cuphea calophylla* subsp. *mesostemon* (Koehne) Lourteig
Wild. GP-WWR 003027; BRA 002372; Ames 15482. Collected 11/02/1989 in

Parana, Brazil. Latitude 25° 17' S. Longitude 49° 53' W.
Elevation 910 m. At Rio Tibagi & BR 376. Ponta Grossa. Steep hillside E.
slope above river, open grassland, sands. 100+ seed collected.

PI 650896. *Cuphea linarioides* Cham. & Schltldl.

Wild. GP-WWR 003262; BRA 003921; Ames 15552. Collected 12/04/1989 in
Parana, Brazil. Latitude 25° 45' S. Longitude 49° 41' W.
Elevation 1050 m. 4 km NE Lapa toward Curitiba on BR476. Lapa. Open
grassland, mixed vegetation, along roadway to among rocks, lite colored
sandy soils. 100+ seed collected.

PI 650897. *Cuphea glutinosa* Cham. & Schltldl.

Wild. GP-WWR 003062; BRA 002577; Ames 15577. Collected 11/08/1989 in
Santa Catarina, Brazil. Latitude 26° 52' S. Longitude 52° 4' W.
Elevation 1320 m. 18 km E Fachinal dos Guedes toward Ponte Serrada on BR
282. Vargeao. Steep roadside cut, near concrete ditch, red silt loam.
100 seed collected.

PI 650898. *Cuphea glutinosa* Cham. & Schltldl.

Wild. GP-WWR 003130; BRA 002933; Ames 15583. Collected 11/16/1989 in Rio
Grande do Sul, Brazil. Latitude 28° 32' S. Longitude 50° 47' W.
Elevation 830 m. 27 km E Vacaria toward Bom Jesus. Vacaria. Roadside
grassland to creek bank. Flowers on some plants about 50% larger than
others. 35 sd.

PI 650899. *Cuphea glutinosa* Cham. & Schltldl.

Wild. GP-WWR 003211; BRA 003492; Ames 15599. Collected 11/30/1989 in
Santa Catarina, Brazil. Latitude 27° 47' S. Longitude 50° 24' W.
Elevation 930 m. 7 km from inter. at Lages toward Sao Jose de Cerrito.
Lages. Open grassland above wet area, clays. 75 seed collected.

The following were collected by William W. Roath, USDA, ARS, Iowa State
University, Regional Plant Introduction Station, Ames, Iowa 50011-1170,
United States; Alvaro Campos, Universidad National Autonoma de Mexico,
Department of Botany, Mexico City, Federal District, Mexico. Donated by
William W. Roath, USDA, ARS, Iowa State University, Regional Plant
Introduction Station, Ames, Iowa 50011-1170, United States. Received
09/30/1991.

PI 650900. *Cuphea wrightii* A. Gray var. *wrightii*

Wild. WR-AC 3509; Ames 17789. Collected 09/13/1991 in Oaxaca, Mexico.
Latitude 17° 17' N. Longitude 96° 55' W. Elevation 1830 m. 93.3
km SE Junction Mex 190 and Mex 125 S Huajuapán on Mex 190 toward Oaxaca.
Near Huitzo. Gravely clay loam. Roadside ditch.

PI 650901. *Cuphea wrightii* A. Gray var. *wrightii*

Wild. WR-AC 3531; Ames 17809. Collected 09/21/1991 in Chiapas, Mexico.
Latitude 16° 55' N. Longitude 92° 55' W. Elevation 1300 m. Small
scattered population. Brushy roadside into pasture. Gravels 18.1 km S
intersection of road to El Bosque and Mex 195 to Jitotol toward Tuxtla
Ger. Near Bochil.

PI 650902. *Cuphea lutea* Rose

Wild. WR-AC 3536; Ames 17815. Collected 09/24/1991 in Oaxaca, Mexico.
Latitude 17° 42' N. Longitude 96° 48' W. Elevation 1660 m. 2

plants population. Rocky clay. 8.1 km N Mex 190 on road thru San Juan del Estado, N of Oaxaca. Roadside ditch. White flowered variant.

PI 650903. *Cuphea palustris* Koehne

Wild. WR-AC 3538; Ames 17817. Collected 09/24/1991 in Oaxaca, Mexico. Latitude 17° 41' N. Longitude 96° 48' W. Elevation 1610 m. Very large population. clay 7.0 km N from Mex 190 on road thru San Juan del Estado. In roadside ditch to up in abandoned field.

The following were collected by Shirley A. Graham, Kent State University, Dept. of Biological Sciences, Kent, Ohio 44242-0001, United States. Received 10/17/1991.

PI 650904. *Cuphea aequipetala* Cav.

Wild. Graham 1059; Ames 17835. Collected in Guerrero, Mexico. Elevation 2200 m. 35.4 km west of Milpillas on road to Filo de Caballo. Guerrero. Oak-pine forest openings.

PI 650905. *Cuphea aequipetala* Cav.

Wild. Graham 1069; Ames 17838. Collected in Oaxaca, Mexico. Elevation 2350 m. 45.1 km south of Miahuatlan on hwy 175 to Pochutla. Oaxaca. Pine-oak forest openings.

The following were donated by Shirley A. Graham, Kent State University, Dept. of Biological Sciences, Kent, Ohio 44242-0001, United States. Received 10/17/1991.

PI 650906. *Cuphea angustifolia* Jacq. ex Koehne

Wild. Graham 1006; Ames 17841. Collected in Veracruz, Mexico. Low wet pastured field, western town limits of Cd. Mendoza on hwy 55. Veracruz.

The following were collected by Shirley A. Graham, Kent State University, Dept. of Biological Sciences, Kent, Ohio 44242-0001, United States. Received 10/17/1991.

PI 650907. *Cuphea axilliflora* Koehne

Wild. Graham 1018; Ames 17842. Collected in Alta Verapaz, Guatemala. Dense thickets above the road, at km 220 marker at the north end of San Pedro Carcha on road to Fray Bartolome de las Casas. Dept. Alta Verapaz.

PI 650908. *Cuphea carthagenensis* (Jacq.) J. F. Macbr.

Wild. Graham 1084; Ames 17845. Collected in Chiapas, Mexico. Elevation 1600 m. Roadside weed, 10 km north of Jitotul. Chiapas.

PI 650909. *Cuphea hookeriana* Walp.

Wild. Graham 1083; Ames 17858. Collected in Chiapas, Mexico. Pine-oak-liquidambar forest, at Rio Hondo on hwy 195, 6 km north of Jitotul. Chiapas.

PI 650910. *Cuphea leptopoda* Hemsl.

Wild. Graham 1026; Ames 17861. Collected in Nayarit, Mexico. Mixed oak-subtropical zone, 32 km south of Tepic and 1 km east of Santa Maria del Oro. Nayarit.

The following were collected by Roger Fuentes-Granados, Iowa State University, Plant Introduction Station, G212 Agronomy, Ames, Iowa 50011, United States; William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Donated by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

PI 650911. *Cuphea wrightii* A. Gray var. *wrightii*

Wild. RWCF 55; Ames 21524. Collected 10/12/1993 in Zacatecas, Mexico. Latitude 22° 41' N. Longitude 103° 41' W. Elevation 2060 m. Eroded dry roadside. Assoc. *Tagetes*, *Sanvitalia procumbens* *Salvia*, *Opuntia*. 7.5 km SW Valparaiso near Valparaiso. Small - 6 sampled 3. Only 21 seed. photo 6/22-23 Taxonomy may be in question.

The following were developed by Steven J. Knapp, Oregon State University, Department of Crop & Soil Science, Crop Science Building, 451C, Corvallis, Oregon 97331-3002, United States. Received 02/29/1992.

PI 650912. *Cuphea* hybrid

Breeding. IH50; Ames 22392. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata* (4*VS55/LN43).

PI 650913. *Cuphea* hybrid

Breeding. IH63; Ames 22393. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata*.

PI 650914. *Cuphea* hybrid

Breeding. IH86; Ames 22394. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata* (3*VS55/IH35).

PI 650915. *Cuphea* hybrid

Breeding. IH90; Ames 22395. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata* (4*VS55/LN43).

PI 650916. *Cuphea* hybrid

Breeding. IH95; Ames 22398. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata* (4*VS55/LN43).

PI 650917. *Cuphea* hybrid

Breeding. IH115; Ames 22399. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata*.

PI 650918. *Cuphea* hybrid

Breeding. IH117; Ames 22400. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata* (3*VS55/IH35).

- PI 650919. *Cuphea hybrid***
Breeding. IH139; Ames 22401. Pedigree - *Cuphea viscosissima* X *Cuphea lanceolata* (2*VS55/IH35).
- PI 650920. *Cuphea viscosissima* Jacq.**
Breeding. VS108-3; Ames 22404. Pedigree - MCM-1. Fatty acid mutant.
- PI 650921. *Cuphea lanceolata* W. T. Aiton**
Breeding. LN086; Ames 22408.
- PI 650922. *Cuphea lutea* Rose**
Breeding. LU006; Ames 22409.
- PI 650923. *Cuphea lutea* Rose**
Breeding. LU016; Ames 22410. M2 mutagen treated.
- PI 650924. *Cuphea lutea* Rose**
Breeding. LU017; Ames 22411. M2 mutagen treated.
- PI 650925. *Cuphea lanceolata* W. T. Aiton**
Breeding. PSR3; Ames 22413. Shatter resistant.
- PI 650926. *Cuphea lanceolata* W. T. Aiton**
Breeding. PSR4; Ames 22414. Shatter resistant.
- PI 650927. *Cuphea lanceolata* W. T. Aiton**
Breeding. PSR5; Ames 22415. Shatter resistant.

The following were developed by Anson E. Thompson, USDA, ARS, 4331 E. Broadway Road, Phoenix, Arizona 85040, United States. Received 05/03/1990.

- PI 650928. *Cuphea hybrid***
Breeding. AZ1010; Ames 22421. Pedigree - *Cuphea llavea* X *Cuphea procumbens*.
- PI 650929. *Cuphea hybrid***
Breeding. AZ1016; Ames 22422. Pedigree - *Cuphea procumbens* X *Cuphea llavea*.
- PI 650930. *Cuphea hybrid***
Breeding. AZ1026; Ames 22423. Pedigree - *Cuphea procumbens* X *Cuphea llavea*.
- PI 650931. *Cuphea hybrid***
Breeding. AZ1056; Ames 22424. Pedigree - *Cuphea leptopoda*/2**Cuphea laminuligera*.
- PI 650932. *Cuphea hybrid***
Breeding. AZ1057; Ames 22425. Pedigree - *Cuphea leptopoda*/2**Cuphea laminuligera*.
- PI 650933. *Cuphea hybrid***
Breeding. AZ1067; Ames 22428. Pedigree - *Cuphea lanceolata* X *Cuphea viscosissima*.

PI 650934. *Cuphea hybrid*

Breeding. AZ1068; Ames 22429. Pedigree - *Cuphea lanceolata* X *Cuphea viscosissima*.

PI 650935. *Cuphea hybrid*

Breeding. AZ1088; Ames 22431. Pedigree - *Cuphea caeciliae* X *Cuphea ignea*.

PI 650936. *Cuphea hybrid*

Breeding. AZ1089; Ames 22432. Pedigree - *Cuphea ignea* X *Cuphea caeciliae*.

The following were developed by Jacksonville Seed Co., Jacksonville, Illinois, United States. Received 1986.

PI 650937. *Cuphea lanceolata* W. T. Aiton

Breeding. LAN1001; Ames 22433.

The following were collected by David Brenner, Iowa State University, Regional Plant Introduction Station, Room G212, Agronomy Building, Ames, Iowa 50011-1170, United States. Received 09/04/1996.

PI 650938. *Cuphea viscosissima* Jacq.

Wild. DB 96494; Ames 23188. Collected 08/31/1996 in Virginia, United States. Latitude 38° 44' N. Longitude 78° 11' W. Elevation 430 m. Rappahannock County, Virginia, USA. West of the town of Washington Virginia, on Jenkins Mountain on farmland owned by Mr. E.H. Brenner. Weeds in a steeply sloped pasture with a north east exposure. Associated species: *Daucus carita*, and *Rumex* sp. The soils are derived from granite and green stone(basalt). Soil assumed to be acidic.

The following were donated by William Van Roekel, USDA-ARS, North Central Regional Plant Intro. Sta., Iowa State University, Ames, Iowa 50011-1170, United States. Received 03/07/1997.

PI 650939. *Cuphea racemosa* (L. f.) Spreng.

Ames 23677. Developed in United States.

The following were donated by Richard K. Schoellhorn, University of Florida, Institute of Food and Agricultural Sciences, West Florida Research and Education Center-Jay, Milton, Florida 32572-3634, United States. Received 10/18/2000.

PI 650940. *Cuphea micropetala* Kunth

Ames 26109.

The following were collected by Scott F. Woodbury, Shaw Nature Reserve, Missouri Botanical Garden, P.O. Box 38, Gray Summit, Missouri 63039, United States; Kunso Kim, The Morton Arboretum, 4100 Illinois Route 53, Lisle, Illinois 60532-1293, United States; Boyce Tankersley, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States; Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction

Station, Ames, Iowa 50011-1170, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 12/29/2004.

PI 650941. *Cuphea viscosissima* Jacq.

Wild. 20; Ames 27721. Collected 10/19/2004 in Missouri, United States. Latitude 38° 2' 6" N. Longitude 91° 31' 6" W. Elevation 325 m. Railroad tracks, roadside along Interstate 44, Phelps County. Prairie remnant. 0-5 degrees of slope with a western aspect.

The following were collected by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Patrick D. McMillan, Clemson University, Department of Biological Sciences, 132 Long Hall, Clemson, South Carolina 29634, United States. Donated by Joe-Ann McCoy, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States. Received 02/01/2006.

PI 650942. *Cuphea carthagenensis* (Jacq.) J. F. Macbr.

Wild. JM2005816; Ames 28007. Collected 09/30/2005 in South Carolina, United States. Latitude 33° 9' 16" N. Longitude 79° 36' 51" W. Elevation 69 m. North of high voltage power line, east side of Halfway Creek Road (State Highway 654), south of State Highway 45, north of McClellanville, Francis Marion National Forest, Berkeley County. Sandy, flat waste area under power lines; nearby marshy areas, pond cypress, rushes, and sedges.

Unknown source. Received 05/01/1987.

PI 650943. *Malus sikkimensis* (Wenz.) Koehne ex C. K. Schneid.

GMAL 2283 .a.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Received 09/19/1996.

PI 650944. *Malus sieversii* (Ledeb.) M. Roem.

Wild. KAZ 96 08-17; GMAL 4053; GMAL 4053 .c. Collected 09/14/1996 in Kazakhstan. Latitude 42° 39' 45" N. Longitude 70° 15' 13" E. Elevation 930 m. Kok Bulak (Black Spring) Forestry Camp. 35 km southeast of Boraldy Camp visited in 1995. Collections made in and around camp-north, east, south of camp. Variable and open, stream bed and hillsides. Rainfall 275mm. Dominant tree sp: *Crataegus*; Assoc.-*Malus*, *Vitis*, *Morus Rhamnus*. Dominant shrub sp: *Amygdalus*, *Pyrus*, *Rosa*. Dominant herbaceous: Grasses. Pedigree - PI 600622 x *M. sieversii* (Open-Pollinated). Sampled 40 fruits from 1 tree. Flesh flavor is aromatic and sweet. Fruit size is larger than 50mm. Free of disease. Heavy codling moth, nice apple. Scion also collected.

PI 650945. *Malus sieversii* (Ledeb.) M. Roem.

Wild. KAZ 96 09-02; GMAL 4054 .d. Collected 09/15/1996 in Kazakhstan. Latitude 42° 19' 42" N. Longitude 70° 22' 8" E. Elevation 1010 m. Talasky, Alatau. Located in "reserve" Aksu Jabagli. Collected near river. Soil: fine, stoney. Incline 5%, north, open. Rainfall 320mm.

Dominant tree sp: *Malus*; Assoc.-*Prunus*. Pedigree - PI 600623 x *M. sieversii* (Open-Pollinated). Sampled 15 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is larger than 50mm. Free of disease and insects. Very elongated fruit. Late season. Excellent. Scion also collected.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Developed by James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 01/04/2007.

PI 650946. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-21-20; GMAL 4733. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Collected in North end of West Valley, upstream 3 km. from site 05 (GMAL's 3604-3607, GMAL's 3760-3789). Silt to clay loam soil. Aspect: Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*, *Acer*. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*. Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Sampled 30 fruits from 1 tree. Selected for texture and flavor. Fruit is firm. Fruit size is larger than 50mm, scab detected.

PI 650947. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-21-27; GMAL 4734. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 14" N. Longitude 81° 34' 45" E. Elevation 960 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. NE of Alekseyevka. Slopes of East-West Valley. Collected on north slope of North Valley. Between & East of sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Slope incline: 5-20. Aspect: South and North. Rainfall: 400 mm. Dominant tree sp.: *M. sieversii*; Assoc.-*Crataegus*. Dominant shrub sp.: *Rosa*; Associated-*Amygdalus*. Dominant herbaceous: *Aster*. Sampled 30 fruits from 1 tree. Flesh flavor is aromatic, very flavorful. Fruit size is larger than 50mm, generally free of scab. Scion also collected.

PI 650948. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-21-47; GMAL 4735. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Flat slope. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 60 fruits from 1 tree. Fruit is hard with aromatic flesh flavor. Over color is 90% red. Fruit size is larger than 50mm, free of scab. Very heavy cropload.

PI 650949. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-21-56; GMAL 4736. Collected 09/21/1995 in Kazakhstan. Latitude 47° 14' 39" N. Longitude 81° 34' 14" E. Elevation 870 m. Semipalitinsk Region (Tarbagatai Mountain Range). Village of Alekseyevka. 4 km. Northeast of Alekseyevka, 20 km. North of Urdzhar. Flat area near stream. Collected in South end of West Valley.

Coordinated in Urdzhar: 47-05-01, 81-37-49. Temp: max. +41, min. -40. Stony gravelly loam soil. Good drainage. 400mm rainfall. Dominant tree sp.: Populus. Dominant shrub sp.: Crataegus, Rosa; Associated-Viburnum. Random pop. as close as 20 m. to stream. Many new small trees growing. Sampled 5 fruits from 1 tree. Fruit size is larger than 50mm.

PI 650950. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-21-86; GMAL 4737. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 60 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 75% red. Very clean. Spur type tree.

PI 650951. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-22-81; GMAL 4738. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 14" N. Longitude 81° 34' 45" E. Elevation 960 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. NE of Alekseyevka. Slopes of East-West Valley. Collected on north slope of North Valley. Between & East of sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Slope incline: 5-20 degrees. Aspect: South and North. Rainfall: 400 mm. Dominant tree sp.: M. sieversii; Assoc.-Crataegus. Dominant shrub sp.: Rosa; Associated-Amygdalus. Dominant herbaceous: Aster. Sampled 5 fruits from 1 tree. Fruit is firm. Fruit size is larger than 50mm. Over color is 80% red.

PI 650952. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-23-53; GMAL 4739. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes in center of West Valley. Equidistant between sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: West. Landform mostly hillside. Dominant tree sp.: M. sieversii. Dominant shrub sp.: Rosa; Associated-Lonicera, Rubus. Dominant herbaceous: Malva; Assoc.-Fragaria. Sampled 15 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 80% red. Fruit size is larger than 50mm. Small amount of scab detected. Very column-shaped tree. Scion also collected.

PI 650953. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-23-91; GMAL 4740. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Landform: slightly inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 8 fruits from 1 tree. Flesh flavor is aromatic. Mostly spur-type. Very tenacious-late season type. Drought tolerant.

- PI 650954. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-24-100; GMAL 4741. Collected 09/21/1995 in Kazakhstan.
Latitude 47° 16' 40" N. Longitude 81° 35' 53" E. Elevation 1120
m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail.
East Valley collection site. Collected on south end by East River.
Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*;
Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*.
Sampled 30 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is
larger than 50mm, free of scab. Tree has wide angle branching, side
branches long, central leader dominant. Heavy cropload.
- PI 650955. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-24-107; GMAL 4742. Collected 09/21/1995 in Kazakhstan.
Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony
soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm.
Dominant tree sp: *Crataegus*; Associated-*M. Sieversii*. Dominant shrub sp:
Amygdalus; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Sampled
60 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over
color is 75% red. Very clean. Spur type tree.
- PI 650956. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-25-48; GMAL 4743. Collected 09/21/1995 in Kazakhstan.
Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920
m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes
in center of West Valley. Equidistant between sites 05 & 06 (GMAL's
3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: West.
Landform mostly hillside. Dominant tree sp.: *M. sieversii*. Dominant
shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*;
Assoc.-*Fragaria*. Sampled 15 fruits from 1 tree. Flesh flavor is
aromatic. Fruit size is larger than 50mm obtained from a small tree.
- PI 650957. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-25-61; GMAL 4744. Collected 09/21/1995 in Kazakhstan.
Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
Forest Camp which is 80 km. North of Chimkent. Landform: slighty
inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10
degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;
Associated-*M. Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*.
Associated herbaceous: *Rheum*, *Tulipa*. Sampled 8 fruits from 1 tree.
Fruit over color is 90% red. Mostly spur-type. Very tenacious-late
season type. Drought tolerant.
- PI 650958. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-25-77; GMAL 4745. Collected 09/21/1995 in Kazakhstan.
Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony
soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm.
Dominant tree sp: *Crataegus*; Associated-*M. Sieversii*. Dominant shrub sp:
Amygdalus; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Sampled
150 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over
color is 70% red. Very Clean. Spur type tree.

- PI 650959. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 85-25-84; GMAL 4746. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected from west end
 between Middle and South Valley, on a ridge. Slope incline: 3 degrees.
 Aspect: Northwest. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.:
Amygdalus; Associated-*Rosa*. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*.
 Sampled 50 fruits from 1 tree. Flesh flavor is aromatic. Over color is
 85% red. Fruit size is larger than 50mm, moderate scab. Largest apple
 found in Tarbagatai (over 73mm). Scion also collected.
- PI 650960. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 85-25-97; GMAL 4747. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside.
 Collected in North end of West Valley, upstream 3 km. from site 05
 (GMAL's 3604-3607, GMAL's 3760-3789). Silt to clay loam soil. Aspect:
 Mostly East. Dominant tree sp.: *M. sieversii*; Associated-*Populus*, *Pyrus*,
Acer. Dominant shrub sp.: *Rosa*; Assoc.-*Lonicera*, *Amygdalus*, *Rubus*.
 Dominant herbaceous: Grasses; Assoc.-*Potentilla*, *Fragaria*. Sampled 30
 fruits from 1 tree. Selected for texture and flavor. Fruit is firm.
 Fruit size is larger than 50mm, scab detected.
- PI 650961. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 85-25-105; GMAL 4748. Collected 09/21/1995 in Kazakhstan.
 Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
 Forest Camp which is 80 km. North of Chimkent. Landform: slighty
 inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10
 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;
 Associated-*M. Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*.
 Associated herbaceous: *Rheum*, *Tulipa*. Sampled 8 fruits from 1 tree.
 Flesh flavor is aromatic. Mostly spur-type. Very tenacious-late season
 type. Drought tolerant.
- PI 650962. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 85-25-127; GMAL 4749. Collected 09/21/1995 in Kazakhstan.
 Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
 Forest Camp which is 80 km. North of Chimkent. Landform: slighty
 inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10
 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;
 Associated-*M. Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*.
 Associated herbaceous: *Rheum*, *Tulipa*. Sampled 8 fruits from 1 tree.
 Fruit over color is 60% red. Mostly spur-type. Very tenacious-late
 season type. Drought tolerant.
- PI 650963. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 85-25-128; GMAL 4750. Collected 09/21/1995 in Kazakhstan.
 Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
 Forest Camp which is 80 km. North of Chimkent. Landform: slighty
 inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10
 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*;

Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 8 fruits from 1 tree. Fruit over color is 60% red. Mostly spur-type. Very tenacious-late season type. Drought tolerant.

PI 650964. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-26-18; GMAL 4751. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 40" N. Longitude 81° 35' 53" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on south end by East River. Dominant tree sp.: M. sieversii. Dominant shrub sp.: Rosa; Associated-Lonicera, Rubus. Dominant herbaceous: Malva; Assoc.-Fragaria. Sampled 30 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is larger than 50mm, free of scab. Tree has wide angle branching, side branches long, central leader dominant. Heavy cropload.

PI 650965. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-26-50; GMAL 4752. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Flat slope. Dominant tree sp.: M. sieversii. Dominant shrub sp.: Rosa; Associated-Lonicera, Rubus. Dominant herbaceous: Malva; Assoc.-Fragaria. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Fruit size is larger than 50mm. Very heavy cropload. Same as accession GMAL 3829.

PI 650966. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-26-66; GMAL 4753. Collected 09/21/1995 in Kazakhstan. Latitude 47° 14' 39" N. Longitude 81° 34' 14" E. Elevation 870 m. Semipalitinsk Region (Tarbagatai Mountain Range). Village of Alekseyevka. 4 km. Northeast of Alekseyevka, 20 km. North of Urdzhar. Flat area near stream. Collected in South end of West Valley. Coordinates in Urdzhar: 47-05-01, 81-37-49. Temp: max. +41, min. -40. Stoney gravelly loam soil. Good drainage. 400 mm rainfall. Dominant tree sp.: Populus. Dominant shrub sp.: Crataegus, Rosa; Associated-Viburnum. Random pop. as close as 20 m. to stream. Many new small trees growing. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flavor. Fruit size is larger than 50mm.

PI 650967. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-26-95; GMAL 4754. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South Valley. Slope incline: 3 degrees. Aspect: South. Dominant tree sp.: M. sieversii. Dominant shrub sp.: Amygdalus; Associated-Rosa. Dominant herbaceous: Aster; Assoc.-Xanthium. Sampled 30 fruits from 1 tree. Summer apple. Fruit over mature, but still hanging tightly. Fruit is firm with aromatic flesh flavor. Over color is 70% red. Fruit size is larger than 50mm. Spur type tree.

PI 650968. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-26-96; GMAL 4755. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000

m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South Valley. Slope incline: 3 degrees. Aspect: South. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Summer apple. Fruit over mature, but still hanging tightly. Fruit is firm with aromatic flesh flavor. Over color is 70% red. Fruit size is larger than 50mm. Spur type tree.

PI 650969. *Malus sieversii* (Ledeb.) M. Roem.

Wild. Mn 88-27-62; GMAL 4756. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Slope incline 2 degrees. Aspect: East. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 70% red. Fruit size is larger than 50mm. Looks scab free. Winter type. Commercial size.

PI 650970. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-27-73; GMAL 4757. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Flat slope. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Fruit size is larger than 50mm. Very heavy cropload. Same as accession GMAL 3829.

PI 650971. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-27-121; GMAL 4758. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in Middle and South Valley, on slopes or edges. Slope incline: 5 degrees. Aspect: West. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 50 fruits from 1 tree. Fruit is hard. Over color is 80% red. Some hail damage noted. Tree sets fruit in large clusters. Heavy cropload. Spur type tree.

PI 650972. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-28-25; GMAL 4759. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected from west end between Middle and South Valley, on a ridge. Slope incline: 3 degrees. Aspect: Northwest. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 50 fruits from 1 tree. Flesh flavor is aromatic. Over color is 85% red. Fruit size is larger than 50mm, moderate scab. Largest apple found in Tarbagatui (over 73mm). Scion also collected.

- PI 650973. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-28-59; GMAL 4760. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in Middle and South
 Valley. Aspect: North. Dominant tree sp.: *M. sieversii*. Dominant shrub
 sp.: *Amygdalus*; Associated-Rosa. Dominant herbaceous: Aster;
 Assoc.-Xanthium. Sampled 40 fruits from 1 tree. Flesh flavor is
 acid/aromatic mix. Fruit size is larger than 50mm. Nice clean finish.
- PI 650974. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-28-96; GMAL 4761. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected from east end of
 Middle Valley. Aspect: North. Dominant tree sp.: *M. sieversii*. Dominant
 shrub sp.: *Amygdalus*; Associated-Rosa. Dominant herbaceous: Aster;
 Assoc.-Xanthium. Sampled 30 fruits from 1 tree. Fruit is hard with
 aromatic flesh flavor. Over color is 90% red. Fruit size is larger than
 50mm. Very free of disease.
- PI 650975. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-28-121; GMAL 4762. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South
 Valley. Slope incline: 3 degrees. Aspect: South. Dominant tree sp.: *M.*
sieversii. Dominant shrub sp.: *Amygdalus*; Associated-Rosa. Dominant
 herbaceous: Aster; Assoc.-Xanthium. Sampled 30 fruits from 1 tree.
 Summer apple. Fruit over mature, but still hanging tightly. Fruit is
 firm with aromatic flesh flavor. Over color is 70% red. Fruit size is
 larger than 50mm. Spur type tree.
- PI 650976. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-29-26; GMAL 4763. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South
 Valley. Slope incline: 5-10 degrees. Aspect: South. Dominant tree sp.:
M. sieversii. Dominant shrub sp.: *Amygdalus*; Associated-Rosa. Dominant
 herbaceous: Aster; Assoc.-Xanthium. Sampled 150 fruits from 1 tree.
 Fruit is firm with aromatic flesh flavor. Over color is 90% red. Fruit
 size is larger than 50mm, no scab. Closest to McIntosh group of those
 sampled. Spur type tree. Scion also collected.
- PI 650977. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-29-27; GMAL 4764. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South
 Valley. Slope incline: 5-10 degrees. Aspect: South. Dominant tree sp.:
M. sieversii. Dominant shrub sp.: *Amygdalus*; Associated-Rosa. Dominant
 herbaceous: Aster; Assoc.-Xanthium. Sampled 150 fruits from 1 tree.
 Fruit is firm with aromatic flesh flavor. Over color is 90% red. Fruit
 size is larger than 50mm, no scab. Closest to McIntosh group of those
 sampled. Spur type tree. Scion also collected.

- PI 650978. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-29-39; GMAL 4765. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South
 Valley. Slope incline: 5-10 degrees. Aspect: South. Dominant tree sp.:
M. sieversii. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant
 herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Tree
 has wide branch angles. Late fruit and leaves damaged by hail. Fruit is
 firm with aromatic flesh flavor. Fruit size is larger than 50mm, no
 scab. Spur type tree.
- PI 650979. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-29-50; GMAL 4766. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South
 Valley. Slope incline: 5-10 degrees. Aspect: South. Dominant tree sp.:
M. sieversii. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant
 herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Tree
 has wide branch angles. Late fruit and leaves damaged by hail. Fruit is
 firm with aromatic flesh flavor. Fruit size is larger than 50mm, no
 scab. Spur type tree.
- PI 650980. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-29-56; GMAL 4767. Collected 09/21/1995 in Kazakhstan.
 Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000
 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
 Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South
 Valley. Slope incline: 5-10 degrees. Aspect: South. Dominant tree sp.:
M. sieversii. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant
 herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Tree
 has wide branch angles. Late fruit and leaves damaged by hail. Fruit is
 firm with aromatic flesh flavor. Fruit size is larger than 50mm, no
 scab. Spur type tree.
- PI 650981. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 55-29-107; GMAL 4768. Collected 09/21/1995 in Kazakhstan.
 Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910
 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
 Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony
 soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm.
 Dominant tree sp: *Crataegus*; Associated-*M. Sieversii*. Dominant shrub sp:
Amygdalus; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Sampled
 150 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over
 color is 70% red. Very Clean. Spur type tree.
- PI 650982. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-30-27; GMAL 4769. Collected 09/21/1995 in Kazakhstan.
 Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m.
 Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy
 Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony
 soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm.
 Dominant tree sp: *Crataegus*; Associated-*M. Sieversii*. Dominant shrub sp:

Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 200 fruits from 1 tree. Flesh flavor is aromatic. Very clean. Spur type tree.

PI 650983. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-30-42; GMAL 4770. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 60 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 75% red. Very clean. Spur type tree.

PI 650984. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-30-43; GMAL 4771. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 60 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 75% red. Very clean. Spur type tree.

PI 650985. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-30-60; GMAL 4772. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 60 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 75% red. Very clean. Spur type tree.

PI 650986. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-30-67; GMAL 4773. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 60 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 75% red. Very clean. Spur type tree.

PI 650987. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-30-74; GMAL 4774. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp:

Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 150 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Very clean. Very old tree. Spur type tree.

PI 650988. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 88-31-2; GMAL 4775. Collected 09/21/1995 in Kazakhstan. Latitude 43° 19' 45" N. Longitude 77° 35' 55" E. Elevation 1360 m. Zielisky Alatau Province. Turgen Forest region - 120 hectares. Central part of Zielisky. Along stream next to North slope. Near Composer's house (site 32 in 1993) - from 1360-1200 m. Dominant tree sp.: Apricot; Associated-*Padus*. Dominant shrub sp.: *Berberis*; Assoc-*Ribes*. Dominant herbaceous: Grasses; Assoc.-*Geranium*, *Epilobium*, *Achillea*. Sampled 5 fruits from 1 tree. Cultivated apple close by.

PI 650989. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 88-31-31; GMAL 4776. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 14" N. Longitude 81° 34' 45" E. Elevation 960 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. NE of Alekseyevka. Slopes of East-West Valley. Collected on north slope of North Valley. Between & East of sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Slope incline: 5-20 degrees. Aspect: South and North. Rainfall: 400 mm. Dominant tree sp.: *M. sieversii*; Assoc.-*Crataegus*. Dominant shrub sp.: *Rosa*; Associated-*Amygdalus*. Dominant herbaceous: *Aster*. Sampled 5 fruits from 1 tree. Fruit is firm. Fruit size is larger than 50mm. Over color is 80% red.

PI 650990. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 88-31-51; GMAL 4777. Collected 09/21/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on east slope above the flat. Aspect: Mainly East. Landform: flat valley and East slope. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 5 fruits from 1 tree.

PI 650991. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 88-31-58; GMAL 4778. Collected 09/21/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Landform: slightly inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: *Crataegus*; Associated-*M. Sieversii*. Dominant shrub sp: *Amygdalus*; Assoc-*Cerasus*. Associated herbaceous: *Rheum*, *Tulipa*. Sampled 8 fruits from 1 tree. Fruit is firm with aromatic flesh flavor, bruise free. Over color is 90% red, mostly spur-type. Very tenacious-late season type. Drought tolerant.

PI 650992. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-14-21; GMAL 4779. Collected 09/21/1995 in Kazakhstan. Latitude 43° 20' 23" N. Longitude 79° 28' 54" E. Elevation 1640 m. Ketmen Mts. Village-Kirghiz sai. Southwest of Bol'shoye Askus Village. Heavily grazed area, no undergrowth. Heavily grazed area, no undergrowth. Soil: Gravely loam. Incline 10-20%, north, open grazed. N. ridge above stream; rainfall 600-650mm. Dominant tree sp:

Apricot, Crataegus; Assoc-Populus & Betula above 1660m. Dominant shrub sp: Sorbus, Berberis; Assoc-Lonicera. Sampled 50 fruits from 1 tree. Flesh flavor is subacid. Fruit size is over 50mm. Free of insects and disease. Interesting striped. Same as 01-01P-13, GMAL 4069.

PI 650993. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-5; GMAL 4780. Collected 09/19/1996 in Kazakhstan. Latitude 45° 31' 2" N. Longitude 80° 43' 40" E. Elevation 1230 m. 9 km southeast of Lepinsk, 2 km southeast of Lepsinsk Forestry Camp. Incline 20%. Excellent drainage, mostly N-Ne, rainfall 700mm. Dominant Tree sp: Malus sieversii; Assoc-Populus tremula. Dominant shrub sp: Rubus caesius; Assoc-Lonicera. Dominant Herbaceous: Urtica; Assoc-Cirsium. Sampled 50 fruits from 1 tree. Flesh flavor is aromatic. Over color is 50% red. Free of disease and insects. Scion collected also.

PI 650994. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-11; GMAL 4781. Collected 09/19/1996 in Kazakhstan. Latitude 45° 31' 2" N. Longitude 80° 43' 40" E. Elevation 1230 m. 9 km southeast of Lepinsk, 2 km southeast of Lepsinsk Forestry Camp. Incline 20%. Excellent drainage, mostly N-Ne, rainfall 700mm. Dominant Tree sp: Malus sieversii; Assoc-Populus tremula. Dominant shrub sp: Rubus caesius; Assoc-Lonicera. Dominant Herbaceous: Urtica; Assoc-Cirsium. Sampled 50 fruits from 1 tree. Flesh flavor is aromatic. Over color is 50% red. Free of disease and insects. Scion collected also.

PI 650995. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-17; GMAL 4782. Collected 09/19/1996 in Kazakhstan. Latitude 45° 24' 44" N. Longitude 80° 24' 44" E. Elevation 1250 m. 15km east of Topelevka-Djungarsky Range. 3 km southeast of Topelevka Forestry Camp. Collections made in radius around camp. Incline 10%, east. Fertile. Dominant tree sp: Malus sieversii; Assoc.-Betula, Crataegus, Acer, Quercus, Tilia, Populus, Betula. Dom. Shrub Sp: Berberis, Lonicera; Assoc.-Cotoneaster, Rubus, Berberis, Ribes. Dom. herb.: Fragaria, Grasses, Humulus; Assoc.-Dianthus. Sampled 80 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is over 50mm. Free of disease and insects. Scion collected also.

PI 650996. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-20; GMAL 4783. Collected 09/19/1996 in Kazakhstan. Latitude 45° 24' 26" N. Longitude 80° 26' 22" E. Elevation 1460 m. 15km east of Topelevka-Djungarsky Range. 3 km southeast of Topelevka Forestry Camp. Collections made in radius around camp. Incline 10%, northwest. Fertile. Dominant tree sp: Malus sieversii; Assoc.-Betula, Crataegus, Acer, Quercus, Tilia, Populus, Betula. Dom. Shrub Sp: Berberis, Lonicera; Assoc.-Cotoneaster, Rubus, Berberis, Ribes. Dom. herb.: Fragaria, Grasses, Humulus; Assoc.-Dianthus. Sampled 80 fruits from 1 tree. Flesh flavor is subacid. Fruit size is larger than 50mm. Free of disease and insects. Nice apple, 50 year old tree. Scion collected also.

PI 650997. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-29; GMAL 4784. Collected 09/19/1996 in Kazakhstan. Latitude 45° 24' 12" N. Longitude 80° 24' 22" E. Elevation 1500 m. 15km east of Topelevka-Djungarsky Range. 3 km southeast of Topelevka Forestry Camp. Collections made in radius around camp. Aspect west.

Fertile. Dominant tree sp: *Malus sieversii*; Assoc.-*Betula*, *Crataegus*, *Acer*, *Quercus*, *Tilia*, *Populus*, *Betula*. Dom. Shrub Sp: *Berberis*, *Lonicera*: Assoc.-*Cotoneaster*, *Rubus*, *Berberis*, *Ribes*. Dom. herb.: *Fragaria*, *Grasses*, *Humulus*: Assoc.-*Dianthus*. Sampled 100 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is larger than 50mm. Free of disease and insects. Scion collected also.

PI 650998. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 80-16-3; GMAL 4785. Collected 09/19/1996 in Kazakhstan. Latitude 42° 19' 42" N. Longitude 70° 22' 8" E. Elevation 1010 m. Talasky, Alatau. Located in "reserve" Aksu Jabagli. Collected near river. Soil: fine, stoney. Incline 5%, north, open. Rainfall 320mm. Dominant tree sp: *Malus*; Assoc.-*Prunus*. Sampled 20 fruits from 1 tree. Flesh flavor is subacid. Fruit size is larger than 50mm. Free of disease and insects. Interesting conical shape again. Not quite as good as 09-02. Scion collected also.

PI 650999. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 80-16-12; GMAL 4786. Collected 09/19/1996 in Kazakhstan. Latitude 42° 39' 45" N. Longitude 70° 15' 13" E. Elevation 930 m. Kok Bulak (Black Spring) Forestry Camp. 35 km southeast of Boraldy Camp visited in 1995. Collections made in and around camp-north, east, south of camp. Variable and open, stream bed and hillsides. Rainfall 275mm. Dominant tree sp: *Crataegus*; Assoc.-*Malus*, *Vitis*, *Morus Rhamnus*. Dominant shrub sp: *Amygdalus*, *Pyrus*, *Rosa*. Dominant herbaceous: *Grasses*. Sampled 40 fruits from 1 tree. Flesh flavor is aromatic and sweet. Fruit size is larger than 50mm. Free of disease. Heavy codling moth, nice apple. Scion also collected.

PI 651000. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 80-16-28; GMAL 4787. Collected 09/19/1996 in Kazakhstan. Latitude 43° 17' 30" N. Longitude 79° 30' 50" E. Elevation 1660 m. Ketmer Mts., Kirghiz sai. Southwest of Bol'shoje Aksa village. Heavily grazed area, no undergrowth. Soil: Gravely loam. Incline 10-20%, north, open-grazed. Rainfall 600-650mm. Dominant tree sp: *Apricot*, *Crataegus*; Assoc.-*Populus* & *Betula* above 1660m. Dominant shrub sp: *Sorbus*, *Berberis*; Assoc.-*Lonicera*. Elevation 1600-1660 meters. Sampled 8 fruits from 20 trees. Flesh flavor is acid. Moderate scab. Apricots in area are early blooming, very good quality. Late maturing types.

PI 651001. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 80-16-29; GMAL 4788. Collected 09/19/1996 in Kazakhstan. Latitude 42° 42' 27" N. Longitude 70° 17' 22" E. Elevation 1040 m. Kok Bulak (Black Spring) Forestry Camp. 35 km southeast of Boraldy Camp visited in 1995. Collections made in and around camp-noth, east, south of camp. Variable and open, stream bed and hillsides. Rainfall 275mm. Dominant tree sp: *Crataegus*; Assoc.-*Malus*, *Vitis*, *Morus Rhamnus*. Dominant shrub sp: *Amygdalus*, *Pyrus*, *Rosa*. Dominant herbaceous: *Grasses*. Sampled 80 fruits from 1 tree. Fruit size is larger than 50mm. Free of disease and insects. Overripe.

PI 651002. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 80-16-34; GMAL 4789. Collected 09/19/1996 in Kazakhstan. Latitude 42° 40' 16" N. Longitude 70° 15' 28" E. Elevation 800 m. Kok Bulak (Black Spring) Forestry Camp. 35 km southeast of Boraldy Camp visited in 1995. Collected along river east of camp. Variable and open, stream bed and hillsides. Rainfall 275mm. Dominant tree sp:

Crataegus; Assoc.-Malus, Vitis, Morus Rhamnus. Dominant shrub sp: Amygdalus, Pyrus, Rosa. Dominant herbaceous: Grasses. Sampled 100 fruits from 1 tree. Flesh flavor is subacid. Over color is 70% red. Free of disease and insects. Scion collected also.

PI 651003. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 88-28-74; GMAL 4790. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in Middle and South Valley. Aspect: North. Dominant tree sp.: M. sieversii. Dominant shrub sp.: Amygdalus; Associated-Rosa. Dominant herbaceous: Aster; Assoc.-Xanthium. Sampled 40 fruits from 1 tree. Flesh flavor is acid/aromatic mix. Fruit size is larger than 50mm. Nice clean finish.

PI 651004. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 88-29-42; GMAL 4791. Collected 09/21/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South Valley. Slope incline: 5-10 degrees. Aspect: South. Dominant tree sp.: M. sieversii. Dominant shrub sp.: Amygdalus; Associated-Rosa. Dominant herbaceous: Aster; Assoc.-Xanthium. Sampled 30 fruits from 1 tree. Tree has wide branch angles. Late fruit and leaves damaged by hail. Fruit is firm with aromatic flesh flavor. Fruit size is larger than 50mm, no scab. Spur type tree.

PI 651005. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-14-23; GMAL 4792. Collected 09/19/1996 in Kazakhstan. Latitude 43° 20' 23" N. Longitude 79° 28' 54" E. Elevation 1640 m. Ketmen Mts. Village-Kirghiz sai. Southwest of Bol'shoye Asku Village. Heavily grazed area, no undergrowth. Heavily grazed area, no undergrowth. Soil: Gravely loam. Incline 10-20%, north, open grazed. N. ridge above stream; rainfall 600-650mm. Dominant tree sp: Apricot, Crataegus; Assoc-Populus & Betula above 1660m. Dominant shrub sp: Sorbus, Berberis; Assoc-Lonicera. Sampled 50 fruits from 1 tree. Flesh flavor is subacid. Fruit size is over 50mm. Free of insects and disease. Interesting striped. Same as 01-01P-13, GMAL 4069.

PI 651006. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-30; GMAL 4793. Collected 09/19/1996 in Kazakhstan. Latitude 85° 24' 55" N. Longitude 80° 24' 10" E. Elevation 1250 m. 15km east of Topelevka-Djungarsky Range. 3 km southeast of Topelevka Forestry Camp. Collections made in radius around camp. Aspect flat. Fertile. Dominant tree sp: Malus sieversii; Assoc.-Betula, Crataegus, Acer, Quercus, Tilia, Populus, Betula. Dom. Shrub Sp: Berberis, Lonicera; Assoc.-Cotoneaster, Rubus, Berberis, Ribes. Dom. herb.: Fragaria, Grasses, Humulus; Assoc.-Dianthus. Sampled 60 fruits from 1 tree. Flesh flavor is aromatic. Over color is 70% red. Fruit size is larger than 50mm. Free of disease and insects. Best apple so far, great.

PI 651007. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-34; GMAL 4794. Collected 09/19/1996 in Kazakhstan. Latitude 45° 24' 17" N. Longitude 80° 24' 25" E. Elevation 1220 m. 15km east of Topelevka-Djungarsky Range. 3 km southeast of Topelevka Forestry Camp. Collections made in radius around camp. Fertile. Dominant

tree sp: *Malus sierversii*; Assoc.-*Betula*, *Crataegus*, *Acer*, *Quercus*,
Tilia, *Populus*, *Betula*. Dom. Shrub Sp: *Berberis*, *Lonicera*:
Assoc.-*Cotoneaster*, *Rubus*, *Berberis*, *Ribes*. Dom.
herb.: *Fragaria*, Grasses, *Humulus*: Assoc.-*Dianthus*. Sampled 70 fruits from
1 tree. Flesh flavor is aromatic. Fruit size is larger than 50mm.
Free of disease and insects. White transparent type. Heavy crop load.

The following were donated by Susan K. Brown, Cornell University, New York
State Agric. Exp. Sta., Department of Horticultural Sciences, Geneva, New
York 14456-0462, United States. Received 02/01/2007.

PI 651008. *Malus domestica* Borkh.
"Royal Gala"; RS4-8-4; GMAL 4795.

The following were donated by Lab. for Fruit Tree Genetics & Breeding,
Research Inst. for Fruit Growing, Trustul Pomiculturii, Pitesti-Maracineni,
Arges 0300, Romania; Joseph A. Foster, USDA, APHIS, NPGQC Building 580
BARC-E, Powder Mill Rd., Beltsville, Maryland 20705, United States. Received
03/20/2007.

PI 651009. *Malus domestica* Borkh.
Cultivar. "Geoagiu 21"; Q 22333; GMAL 4796.

The following were donated by LWK Hannover P flanzenschutzamt, Postfach 91 08
10, Hanover, Germany. Received 03/10/2007.

PI 651010. *Malus domestica* Borkh.
Cultivar. "Finkenwerder Herbstprinz"; Q 39720; GMAL 4797.

The following were donated by Department of Agriculture, 1 Franklin Wharf,
Hobart, Tasmania 7000, Australia. Received 03/10/2007.

PI 651011. *Malus pumila* Mill.
Cultivar. "Legana A8"; C 18443; BE0825; Q 26454; GMAL 4798.

The following were developed by Jorge Dubcovsky, University of California,
Department of Plant Sciences, One Shields Avenue, Davis, California
95616-8515, United States; Gabriela Edith Tranquilli, INTA, Instituto de
Recursos Biologicos, Las Cabanas y Los Reseros s/n, Castelar, Buenos Aires
1712, Argentina; O. Chicaiza, University of California, Dept. of Plant
Sciences, Davis, California 95616-8515, United States; Marcos Bonafede,
Instituto de Recursos Biologicos, INTA Castelar, Buenos Aires, Argentina.
Received 09/13/2007.

PI 651012. *Triticum aestivum* L. subsp. *aestivum*
Genetic. Pureline. T5AmS-5AS.5AL R#45; T5A^mS-5AS.5AL R#45;
NSGC 18778. GP-839. Pedigree - Translocation of the distal region of
chromosome 5AmS from *Triticum monococcum* into chromosome 5A of Chinese
Spring, in a Chinese Spring genetic background. Recombinant 45 (R#45)
has a *T. monococcum* 5AmS segment of approximately 6 cM, with a
recombination point between markers Bgpp and BG606847, and includes the
Hardness locus. This translocation replaces the deleted PinA and PinB

puroindoline genes from *T. aestivum* by the active genes from *T. monococcum* (Crop Science 2007, 47:821-826). Seeds from R#45 are significantly softer than those from Chinese Spring. Average Single Kernel hardness values for Chinese Spring were 53.2 ± 0.9 and those from R#45 30.1 ± 0.7 (plants were grown simultaneously in the same greenhouse).

The following were donated by USDA, ARS, NCGRP, National Center for Genetic Resources Preservation, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States. Received 01/17/1995.

PI 651013. *Solanum lycopersicum* L.
Cultivar. "Chatham"; NSL 26915; G 32181.

The following were donated by University of New Hampshire, Agricultural Experiment Station, Durham, New Hampshire, United States. Received 1961.

PI 651014. *Solanum lycopersicum* L.
NSL 6883; ORANGE CHATHAM. List of veg. var. "Committee on veg. var & breeding" Am'n. Soc. for Hort. Sc. August 1959, p.83.

The following were developed by Robert T. Lewellen, USDA, ARS, Crop Improvement and Protection Research, 1639 E. Alisal St., Salinas, California 93905, United States; Linda Hanson, USDA, ARS, Sugarbeet Research Unit, Crops Research Lab., Fort Collins, Colorado 80526-2083, United States; Lee Panella, USDA, ARS, Crops Research Lab, Sugarbeet Research Unit, Fort Collins, Colorado 80526-2083, United States. Received 09/10/2007.

PI 651015. *Beta vulgaris* L. subsp. *vulgaris*
Breeding. Pureline. FC220. GP-263. Pedigree - This is a population comprised of the following parents: FC709-2 (PI 599668), C931 (PI 636340), FC902 (PI 590655) C78 (PI 593671), FC607 (PI 590837), MonoHy T6, MonoHy A4, MonoHy A7, C918 (PI 578079) and SR 87 (PI 607899). The crossing scheme was (FC709-2/C931) X {(FC902/C78) X [(FC607/ MonoHy T6+ MonoHy A4+ MonoHy A7+SR87) X C918]}. Components of (FC709-2/C931) were selected for resistance to *Rhizoctonia solani* and curly top. These selected populations were bulked with the rest and selected for rhizomania resistance, cercospora leaf spot resistance and yield. FC220 sugarbeet germplasm is multigerm (M) in a fertile cytoplasm, segregating for genetic male sterility (alal), self-compatibility (Sf) and hypocotyl color (R). It has good resistance to root-rotting strains (AG-2-2) of *Rhizoctonia solani* K hn and is segregating for the Rzl gene, which confers resistance to some strains of Beet necrotic yellow vein virus (BNYVV), the causal agent of rhizomania. This germplasm has moderate resistance to *Aphanomyces cochlioides* Drechsl., which causes aphanomyces root rot (aphanomyces black root). FCC220 does not show resistance to Beet curly top virus (BCTV), but shows resistance to the sugarbeet root aphid (*Pemphigus* sp.). It has moderate susceptibility to cercospora leaf spot, caused by *Cercospora beticola* Sacc. This germplasm has good field performance for percentage sucrose. It is a population from which to select disease-resistant, multigerm pollinator parents.

PI 651016. *Beta vulgaris* L. subsp. *vulgaris*
Breeding. Pureline. FC221. GP-264. Pedigree - This is a population

comprised of the following parents: FC709-2 (PI 599668), C931 (PI 636340), FC902 (PI 590655) C78 (PI 593671), FC607 (PI 590837), MonoHy T6, MonoHy A4, MonoHy A7, C918 (PI 578079) and SR 87 (PI 607899). The crossing scheme was (FC709-2/C931) X {(FC902/C78) X [(FC607/ MonoHy T6+ MonoHy A4+ MonoHy A7+SR87) X C918]}. Components of (FC709-2/C931) were selected for resistance to *Rhizoctonia solani* and curly top. These selected populations were bulked with the rest and selected for rhizomania resistance, cercospora leaf spot resistance and yield. FC221 sugarbeet germplasm is multigerm (M) in a fertile cytoplasm, segregating for genetic-male-sterility (alal), self-compatibility (Sf) and hypocotyl color (R). It has good resistance to root-rotting strains (AG-2-2) of *Rhizoctonia solani* K hn and is segregating for the Rzl gene, which confers resistance to some strains of Beet necrotic yellow vein virus (BNYVV), the causal agent of rhizomania. This germplasm has moderate resistance to *Aphanomyces cochlioides* Drechsl., which causes aphanomyces root rot (aphanomyces black root). FCC221 shows moderate resistance to Beet curly top virus (BCTV), but does not show resistance to the sugarbeet root aphid (*Pemphigus* sp.). It has moderate susceptibility to cercospora leaf spot, caused by *Cercospora beticola* Sacc. This germplasm has good field performance for sugar yield. It is a population from which to select disease-resistant, multigerm pollinator parents.

The following were developed by Norman L. Taylor, University of Kentucky, Department of Agronomy, N-122 Agric. Sci. Bldg.-N, Lexington, Kentucky 40546-0019, United States. Received 09/12/2007.

PI 651017. *Trifolium pratense* L.

Cultivar. Population. "FreedomMR". CV-29. Pedigree - Selected for mildew resistance from the cultivar Freedom!. FreedomMR resulted from five generations of selection for mildew resistance from Freedom!. In a study of mildew resistance conducted in 2006, FreedomMR was scored 1.8 compared to Kenland and Freedom! scores of 9.0 and 4.8 respectively. (on a scale of 1 equal most to 9 equal least resistance). Pubescence of FreedomMR averaged 5.4 compared to Freedom! at 2.1 and Kenland at 6.8 (on a scale of 9 equal dense pubescence and 1 a few hairs on the first internode below the flowering stem).

PI 651018. *Trifolium pratense* L.

Cultivar. Population. "KENWAY". Pedigree - Kenway is an increase with further selection from the germplasm (19-L-381472, Kentucky Virus and Mildew Resistant Synthetic, KVMRS) which was released in 1975 after five cycles of selection from the cultivar Kenland (PI 300105) for resistance to peanut stunt and bean yellow mosaic virus and powdery mildew (caused by *Erysiphe polygoni* DC emend Salm. Medium red clover adapted to the same general area as Kenland in the central clover region of the US. One cycle of selection in KVMRS for seed yield was conducted in 2000 in Oregon by the following protocol: A spaced plant nursery was established near Brownsville, OR. At flowering, those plants with the lowest number of heads per plant were eliminated and the remainder (about 10%) were allowed to cross and produce seed. This population constituted the breeder seed of the Kenway cultivar that was released. In four of six forage yield trials conducted in Kentucky, Kenway yielded slightly less forage than Freedom! but was not significantly different in two other trials. Virus diseases were not prevalent in these trials.

It is expected, however, that use of the Kenway cultivar should provide insurance against loss of stand and forage and seed yields in severe virus epidemics.

The following were developed by Oregon State University, Corvallis, Oregon, United States. Received 09/14/2007.

PI 651019 PVPO. *Solanum tuberosum* L.
Cultivar. "KLAMATH RUSSET". PVP 200100094.

The following were developed by Orsetti Seed Company, Inc., Hollister, California, United States. Received 09/13/2007.

PI 651020 PVPO. *Lactuca sativa* L.
Cultivar. "TORRETO". PVP 200700407.

The following were developed by Louisiana State University, Baton Rouge, Louisiana, United States. Received 09/13/2007.

PI 651021 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "LA482". PVP 200700420. Pedigree - FR93.12/FL85238-G76//Coker 9835.

PI 651022 PVPO. *Avena sativa* L.
Cultivar. "TROPHY". PVP 200700421.

The following were developed by Oregon State University, Corvallis, Oregon, United States. Received 09/13/2007.

PI 651023 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "TUBBS 06". PVP 200700423.

The following were developed by 3 Star Lettuce, LLC, United States. Received 09/13/2007.

PI 651024 PVPO. *Lactuca sativa* L.
Cultivar. "WINSLOW". PVP 200700425.

The following were developed by DLF International Seeds, Inc., United States. Received 09/13/2007.

PI 651025 PVPO. *Poa pratensis* L.
Cultivar. "RHYTHM". PVP 200700426.

The following were developed by WestBred LLC, United States. Received 09/13/2007.

PI 651026 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "CDC BUTEO". PVP 200700431. Pedigree - Norstar*2/Vona//Abilene.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 09/13/2007.

PI 651027 PVPO. *Lactuca sativa* L.
Cultivar. "SHOWTIME". PVP 200700432.

The following were developed by Progeny Advanced Genetics, Inc., Salinas, California, United States. Received 09/13/2007.

PI 651028 PVPO. *Lactuca sativa* L.
Cultivar. "INFINEON". PVP 200700438.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 09/13/2007.

PI 651029 PVPO. *Lactuca sativa* L.
Cultivar. "SIZZLER". PVP 200700439.

The following were developed by Jajo Genetics, Baton Rouge, Louisiana, United States. Received 09/13/2007.

PI 651030 PVPO. *Gossypium hirsutum* L.
Cultivar. "JAJO 0065". PVP 200700440.

The following were developed by Resource Seeds, Inc., Gilroy, California, United States. Received 09/13/2007.

PI 651031 PVPO. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Cultivar. "FORTISSIMO". PVP 200700442. Pedigree - Vic/Leeds//Aldura/881.

PI 651032 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "CAL ROJO". PVP 200700443.

PI 651033 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "ULTRA". PVP 200700444.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 09/13/2007.

PI 651034 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PH8ER". PVP 200700433.

PI 651035 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHC55". PVP 200700434.

PI 651036 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE6W". PVP 200700435.

PI 651037 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE6Z". PVP 200700436.

PI 651038 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHHKC". PVP 200700437.

The following were donated by Albert J. Oakes, USDA-ARS, Germplasm Resources Laboratory, Bldg. 001, Beltsville, Maryland, United States. Received 01/01/1973.

PI 651039. *Trifolium spumosum* L.

"Marco"; 6019; NSL 448197.

The following were developed by Alan W. Meerow, USDA, ARS, National Germplasm Repository, 13601 Old Cutler Road, Miami, Florida 33158, United States. Received 07/2003.

PI 651040. *Tecoma guarume* DC.

Cultivar. Population. "Miami Sunrise"; MIA 36189.

PI 651041. *Tecoma guarume* DC.

Cultivar. Population. "Miami Sunset"; MIA 36190.

PI 651042. *Tecoma guarume* DC.

Cultivar. Population. "Tangelo"; MIA 36191.

The following were developed by Robert A. Graybosch, USDA-ARS, University of Nebraska, 314 Biochem Hall, Lincoln, Nebraska 68583, United States. Received 09/19/2007.

PI 651043. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "MACE"; N02Y5117; NSGC 18779. CV-1027; PVP 200800300. Pedigree - Yuma//T-57/3/CO850034/4/4*Yuma/5/KS91H184/Arlin S/KS91HW29//NE89526). Hard red winter wheat. WSMV resistant.

PI 651044. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "ANTON"; NW98S097; NSGC 18780. PVP 200800301. Pedigree - WA691213-27/PI 559717//Platte. Hard white winter wheat. Low polyphenol oxidase (PPO).

PI 651045. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2244; NSGC 18781. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 5+10.

PI 651046. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2245; NSGC 18782. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 5+10.

PI 651047. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2246; NSGC 18783. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 5+10.

PI 651048. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2247; NSGC 18784. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 5+10.

- PI 651049. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2248; NSGC 18785. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 5+10.
- PI 651050. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2249; NSGC 18786. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 5+10.
- PI 651051. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2254; NSGC 18787. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 5+10.
- PI 651052. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2255; NSGC 18788. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 5+10.
- PI 651053. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2256; NSGC 18789. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 5+10.
- PI 651054. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2257; NSGC 18790. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 5+10.
- PI 651055. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2258; NSGC 18791. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 5+10.
- PI 651056. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2259; NSGC 18792. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 5+10.
- PI 651057. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2264; NSGC 18793. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 2+12.
- PI 651058. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2265; NSGC 18794. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 2+12.
- PI 651059. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2266; NSGC 18795. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 2+12.
- PI 651060. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2267; NSGC 18796. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 2+12.
- PI 651061. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2268; NSGC 18797. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 2+12.
- PI 651062. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2269; NSGC 18798. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+8, 2+12.

- PI 651063. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2270; NSGC 18799. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 2+12.
- PI 651064. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2272; NSGC 18800. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 2+12.
- PI 651065. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2274; NSGC 18801. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 2+12.
- PI 651066. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2275; NSGC 18802. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 2+12.
- PI 651067. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2276; NSGC 18803. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 2+12.
- PI 651068. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2277; NSGC 18804. Pedigree - selection from Centurk. HMW glutenin genotype: Centurk 2*, 7+9, 2+12.
- PI 651069. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2279; NSGC 18805. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 5+10.
- PI 651070. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2281; NSGC 18806. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 5+10.
- PI 651071. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2282; NSGC 18807. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 5+10.
- PI 651072. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2283; NSGC 18808. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 5+10.
- PI 651073. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2284; NSGC 18809. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 5+10.
- PI 651074. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2285; NSGC 18810. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 5+10.
- PI 651075. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2286; NSGC 18811. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 3+12.
- PI 651076. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N04Y2287; NSGC 18812. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 3+12.

PI 651077. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2288; NSGC 18813. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 3+12.

PI 651078. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2289; NSGC 18814. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 3+12.

PI 651079. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2290; NSGC 18815. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 3+12.

PI 651080. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2291; NSGC 18816. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 6+8, 3+12.

PI 651081. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2292; NSGC 18817. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 3+12.

PI 651082. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2293; NSGC 18818. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 3+12.

PI 651083. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2294; NSGC 18819. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 3+12.

PI 651084. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2295; NSGC 18820. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 3+12.

PI 651085. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2296; NSGC 18821. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 3+12.

PI 651086. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2297; NSGC 18822. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 3+12.

Unknown source. Received 09/19/2007.

PI 651087. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2298; NSGC 18823. Developed in United States.
Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 7+9,
5+10.

The following were developed by Robert A. Graybosch, USDA-ARS, University of
Nebraska, 314 Biochem Hall, Lincoln, Nebraska 68583, United States. Received
09/19/2007.

PI 651088. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. N04Y2301; NSGC 18824. Pedigree - selection from
Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 5+10.

PI 651089. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2302; NSGC 18825. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 5+10.

PI 651090. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2303; NSGC 18826. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 5+10.

PI 651091. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. N04Y2304; NSGC 18827. Pedigree - selection from Ok102. HMW glutenin genotype: Ok102 2*, 7+9, 5+10.

Unknown source. Received 01/14/1982.

PI 651092. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

IS 845; CISO 808; SMITHS MILO X KAFIR.

Unknown source. Received 01/14/1982.

PI 651093. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

"BISHOP"; IS 849; MN 158; REG (ASA) 36; CISO 814; TS 18010; FC 8993. CV-36.

The following were donated by John B. Sieglinger, USDA Research Station, Route 2, Woodward, Oklahoma, United States. Received 01/14/1982.

PI 651094. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

"DOUBLE DWARF YELLOW MILO"; IS 8372; MN 2673; TS 2728; REG (ASA) 27; CISO 868; FC 8963. CV-27.

Unknown source. Received 01/14/1982.

PI 651095. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

IS 345; MN 81; IS 8370; CISO 917; SOONER MILO.

Unknown source. Received 01/14/1982.

PI 651096. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

CISO 935; RED DURRA.

Unknown source. Received 01/14/1982.

PI 651097. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

REG NO 2; CISO 950; DWARF WHITE DURRA.

Unknown source. Received 01/14/1982.

PI 651098. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

MN 224; CISO 953; REG NO 1; WHITE DURRA.

Unknown source. Received 01/14/1982.

PI 651099. Sorghum bicolor (L.) Moench **subsp. bicolor**
MN 230; CISO 956; REG NO 1; WHITE DURRA.

Unknown source. Received 01/14/1982.

PI 651100. Sorghum bicolor (L.) Moench **subsp. bicolor**
MN 121; IS 203; CISO 1103; SEDAN KAFIR.

The following were donated by USDA, ARS Tropical Agriculture Research Station, 2200 Pedro Albizu Campos Ave. Ste. 201, Mayaguez, Puerto Rico. Received 1968.

PI 651101. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6872; NSL 50393; 65I 1151.

PI 651102. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 1201; NSL 50453; 65I 1211.

PI 651103. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 3625; ZA 10; NSL 50482; Mori; 65I 1240. Collected in Kaduna, Nigeria . Zaria.

PI 651104. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6718; NSL 50491; 65I 1249. Collected in Burkina Faso.

PI 651105. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6724; NSL 50494; 65I 1252. Collected in Burkina Faso.

PI 651106. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6725; NSL 50495; 65I 1253.

PI 651107. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6739; NSL 50508; 65I 1266. Collected in Burkina Faso.

PI 651108. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6746; NSL 50512; 65I 1270. Collected in Burkina Faso.

PI 651109. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6759; NSL 50519; 65I 1277. Collected in Burkina Faso.

PI 651110. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6785; NSL 50528; 65I 1286. Collected in Burkina Faso.

PI 651111. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6837; NSL 50552; 65I 1310. Collected in United States.

PI 651112. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 6847; NSL 50555; 65I 1313. Collected in United States.

PI 651113. Sorghum bicolor (L.) Moench **subsp. bicolor**
IS 7271; AD 7; NSL 50564; 65I 1322. Collected in Nigeria.

- PI 651114. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7358; BO 67; NSL 50567; 65I 1325. Collected in Borno, Nigeria. Biu.
- PI 651115. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7359; BO 68; NSL 50568; 65I 1326. Collected in Borno, Nigeria. Biu.
- PI 651116. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7361; BA 2; NSL 50569; 65I 1327. Collected in Nigeria.
- PI 651117. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7378; BA 21; NSL 50571; 65I 1329. Collected in Nigeria.
- PI 651118. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7385; BA 30; NSL 50572; 65I 1330. Collected in Nigeria.
- PI 651119. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7386; BA 31; NSL 50573; 65I 1331. Collected in Bauchi, Nigeria. Deba
Habe.
- PI 651120. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7397; BA 44; NSL 50578; 65I 1336. Collected in Bauchi, Nigeria.
Dindima.
- PI 651121. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7410; BE 14; NSL 50588; 65I 1346. Collected in Nigeria.
- PI 651122. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7413; BE 19; NSL 50592; 65I 1350. Collected in Nigeria.
- PI 651123. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7415; BE 21; NSL 50593; 65I 1351. Collected in Plateau, Nigeria.
Loko.
- PI 651124. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7416; BE 22; NSL 50594; 65I 1352. Collected in Nigeria.
- PI 651125. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7569; PL 34; NSL 50633; 65I 1391. Collected in Nigeria.
- PI 651126. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7571; PL 36; PL 40; NSL 50635; 65I 1393. Collected in Nigeria.
- PI 651127. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7574; NSL 50636; 65I 1394. Collected in Nigeria.
- PI 651128. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7576; PL 44; NSL 50637; 65I 1395. Collected in Nigeria.
- PI 651129. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7585; NG 7; NSL 50641; 65I 1399. Collected in Nigeria.
- PI 651130. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7624; NG 50; NSL 50665; 65I 1423. Collected in Nigeria.
- PI 651131. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7633; NG 60; NSL 50669; 65I 1427. Collected in Nigeria.

- PI 651132. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7634; NG 61; NSL 50670; 65I 1428. Collected in Nigeria.
- PI 651133. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7651; NG 82; NSL 50676; 65I 1434. Collected in Niger, Nigeria. Agaie
- PI 651134. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7652; NG 83; NSL 50677; 65I 1435. Collected in Nigeria.
- PI 651135. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7655; NG 86; NSL 50678; 65I 1436. Collected in Nigeria.
- PI 651136. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7659; NG 91; NSL 50680; 65I 1438. Collected in Nigeria.
- PI 651137. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7662; NG 94; NSL 50681; 65I 1439. Collected in Nigeria.
- PI 651138. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7709; NG 146; NSL 50713; 65I 1471. Collected in Nigeria.
- PI 651139. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7746; 5090; ZA 30; NSL 50725; 65I 1483. Collected in Nigeria.
- PI 651140. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7766; 5092; ZA 54; NSL 50738; 65I 1496. Collected in Nigeria.
- PI 651141. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7801; ZA 92; NSL 50754; 65I 1512. Collected in Nigeria.
- PI 651142. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7811; ZA 102; NSL 50758; 65I 1516. Collected in Nigeria.
- PI 651143. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7817; ZA 108; NSL 50760; 65I 1518. Collected in Nigeria.
- PI 651144. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7824; ZA 115; NSL 50764; 65I 1522.
- PI 651145. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7887; IN 50; NSL 50812; 65I 1570. Collected in Nigeria. Agwarra,
Kogi.
- PI 651146. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7892; IN 64; NSL 50816; 65I 1574. Collected in Nigeria.
- PI 651147. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7897; IN 69; NSL 50818; 65I 1576. Collected in Nigeria.
- PI 651148. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7900; IN 73; NSL 50820; 65I 1578. Collected in Nigeria.
- PI 651149. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7903; IN 76; NSL 50821; 65I 1579. Collected in Nigeria.

- PI 651150. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7976; SO 82; NSL 50862; 65I 1620. Collected in Nigeria.
- PI 651151. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7978; 5100; SO 84; NSL 50864; 65I 1622. Collected in Nigeria.
- PI 651152. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7213; NSL 50889; 65I 1647. Collected in Nigeria.
- PI 651153. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7215; NSL 50890; 65I 1648. Collected in Nigeria.
- PI 651154. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3825; NSL 50902; 65I 1660. Collected in Mali.
- PI 651155. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3832; NSL 50903; 65I 1661. Collected in Mali.
- PI 651156. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3866; NSL 50908; 65I 1666. Collected in Mali.
- PI 651157. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3868; NSL 50909; 65I 1667. Collected in Mali.
- PI 651158. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3875; NSL 50911; 65I 1669. Collected in Mali.
- PI 651159. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3878; NSL 50912; 65I 1670. Collected in Mali.
- PI 651160. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8060; NSL 50918; 65I 1676. Collected in Japan.
- PI 651161. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8153; EC 21344; NSL 50921; 65I 1679. Collected in Uganda.
- PI 651162. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 8225; EC 21422; SB 40; NSL 50923; 65I 1681. Collected in Uganda.
- PI 651163. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6767; NSL 50926; 65I 1684. Collected in Burkina Faso.
- PI 651164. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7265; NSL 50929; 65I 1687. Collected in Nigeria.
- PI 651165. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7266; NSL 50930; 65I 1688. Collected in Nigeria. Jalingo, Taraba.
- PI 651166. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7272; NSL 50931; 65I 1689. Collected in Nigeria.
- PI 651167. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7273; NSL 50932; 65I 1690. Collected in Nigeria.
- PI 651168. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7274; NSL 50933; 65I 1691. Collected in Nigeria. Mubi, Adamawa.

- PI 651169. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7275; AD 11; NSL 50934; 65I 1692. Collected in Nigeria.
- PI 651170. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7306; BO 4; NSL 50938; 65I 1696. Collected in Nigeria.
- PI 651171. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7307; BO 6; NSL 50939; 65I 1697. Collected in Nigeria.
- PI 651172. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7451; KA 19; NSL 50944; 65I 1702. Collected in Nigeria. Funtua,
Katsina.
- PI 651173. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7488; KO 1; NSL 50952; 65I 1710. Collected in Nigeria. Ringim,
Jigawa.
- PI 651174. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7509; KO 26; NSL 50954; 65I 1712. Collected in Nigeria.
- PI 651175. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7564; PL 29; NSL 50955; 65I 1713. Collected in Nigeria.
- PI 651176. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7631; NG 57; NSL 50959; 65I 1717. Collected in Nigeria.
- PI 651177. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7644; NG 72; NSL 50963; 65I 1721. Collected in Nigeria.
- PI 651178. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7735; 5108; ZA 18; NSL 50967; 65I 1725. Collected in Nigeria.
- PI 651179. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7798; ZA 89; NSL 50970; 65I 1728. Collected in Nigeria.
- PI 651180. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7812; NSL 50973; 65I 1731. Collected in Nigeria.
- PI 651181. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7816; ZA 107; NSL 50974; 65I 1732. Collected in Nigeria.
- PI 651182. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7884; IN 56; NSL 50977; 65I 1735. Collected in Nigeria.
- PI 651183. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7921; SO 17; NSL 50981; 65I 1739. Collected in Nigeria.
- PI 651184. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7922; 5110; SO 18; NSL 50982; 65I 1740. Collected in Nigeria.
- PI 651185. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7961; SO 64; NSL 50983; 65I 1741. Collected in Nigeria. Illo, Kebbi.
- PI 651186. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 7191; NSL 50990; 65I 1749. Collected in Nigeria.

- PI 651187. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 6392; NSL 50997; 65I 1757. Collected in Karnataka, India. Dharwad.
- PI 651188. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 3978; NSL 51489; 65I 2257. Collected in United States.
- PI 651189. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4512; NSL 67910; 66I 4153. Collected in Maharashtra, India.
Aurangabad.
- PI 651190. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 9708; NSL 76664; 69I 6999. Collected in Sudan.
- PI 651191. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10400A; NSL 77034; 69I 7471.
- PI 651192. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10410A; NSL 77040; 69I 7481.
- PI 651193. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10440A; NSL 77057; 69I 7507.
- PI 651194. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10752; NSL 77222; 69I 7781. Collected in Chad.
- PI 651195. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10779; NSL 77247; 69I 7809. Collected in Chad.
- PI 651196. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10826; NSL 77285; 69I 7856. Collected in Chad.
- PI 651197. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 10838; NSL 77295; 69I 7868. Collected in Chad.
- PI 651198. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15213; NSL 82155; PURDUE NO 49436. Collected in Cameroon.
- PI 651199. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 16189; NSL 82351; PURDUE NO 50409.
- PI 651200. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15266; NSL 83260; PURDUE NO 49492. Collected in Cameroon.
- PI 651201. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 16325; NSL 84038; PURDUE NO 50540. Collected in Cameroon.
- PI 651202. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14927; NSL 87947; PURDUE NO 49126.
- PI 651203. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
D-130; IS 17351; JATS-63Bobe_ady; NSL 91929.
- PI 651204. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14553; ILLINOIS NO 2485; NSL 92449; HD-156.
- PI 651205. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 14735; ILLINOIS NO 2621; NSL 92482; HD-208.

PI 651206. *Sorghum bicolor* (L.) Moench subsp. bicolor
IS 14837; NSL 93986; PURDUE NO 49065. Collected in Cameroon.

PI 651207. *Sorghum bicolor* (L.) Moench subsp. bicolor
ILLINOIS NO 780; NSL 94114; HD-259.

PI 651208. *Sorghum bicolor* (L.) Moench subsp. bicolor
ILLINOIS NO 1615; NSL 94171; HD-384.

The following were donated by Antonio Sotomayor-Rios, USDA, ARS, National Germplasm Repository, Tropical Agric. Research Station, Mayaguez, Puerto Rico. Received 1979.

PI 651209. *Sorghum bicolor* (L.) Moench subsp. bicolor
IS 12916; NSL 103276; PR 12577.

PI 651210. *Sorghum bicolor* (L.) Moench subsp. bicolor
IS 11671; NSL 121970; 68I 5984.

PI 651211. *Sorghum bicolor* (L.) Moench subsp. bicolor
IS 14773; NSL 174430; HD-240. Collected in United States.

The following were donated by Jeff Dahlberg, USDA, ARS, Tropical Agric. Research Station, 2200 Ave. Pedro Albizu-Campos, Mayaguez, Puerto Rico. Received 11/1993.

PI 651212. *Sorghum bicolor* (L.) Moench subsp. bicolor
JATS-56Mashila; D-124; NSL 284103. Collected in Ethiopia.

The following were collected by Sergey Shuvalov, N.I. Vavilov Research Institute of Plant Industry, Foreign Relations, 42-44, Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Sergei Bulyntsev, N.I. Vavilov Institute for Plant Industry, 44 Bolshaya Morskaya Street, Department of Leguminous Crops, St. Petersburg, Leningrad 190000, Russian Federation; Ken Street, ICARDA, Aleppo, Syria; Zebuniso Muminshoeva, Tajik Agricultural Academy, Tajikistan; Ivan Maltsev, Botanical Institute, Uzbekistan. Received 11/15/2004.

PI 651213. *Hordeum vulgare* L. subsp. vulgare
Landrace. TJK04-21; NSGC 17464. Collected 07/15/2004 in Tajikistan. Latitude 37° 59' 48" N. Longitude 68° 17' 25" E. Elevation 870 m. Village Taylanabad on road S to Esanboy settlement. All material taken from threshing site - material mixed - varieties and species.

PI 651214. *Hordeum vulgare* L. subsp. vulgare
Landrace. TJK04-139; NSGC 17465. Collected 07/18/2004 in Tajikistan. Latitude 37° 45' 20" N. Longitude 69° 50' 16" E. Elevation 1098 m. Sarchasma village a few km from site 22. Materials taken from farm stores. Pissum, chickpea, lentil and wheat -grown in dry site.

PI 651215. *Hordeum vulgare* L. subsp. vulgare
Landrace. TJK04-165; NSGC 17466. Collected 07/19/2004 in Tajikistan. Latitude 37° 56' 48" N. Longitude 70° 11' 34" E. Elevation 852

m. Youghuk village - 8 km N of Kmirmandzhoy village on Pyange river.
Threshing ground at village.

PI 651216. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-185; NSGC 17467. Collected 07/19/2004 in Tajikistan.
Latitude 38° 1' 36" N. Longitude 70° 12' 55" E. Elevation 1074
m. Dashtidzum village 5.6 km NE of Korjdara village. Threshed farm store
material - dry cultivation.

PI 651217. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-193; NSGC 17468. Collected 07/20/2004 in Tajikistan.
Latitude 37° 53' 50" N. Longitude 70° 1' 44" E. Elevation 1962
m. 6 km NW of Shurobad on the road to Muminobad village. Dagistan state
farm. Weedy cultivated wheat field - stoney loam.

PI 651218. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-260; NSGC 17469. Collected 07/21/2004 in Tajikistan.
Latitude 38° 11' 19" N. Longitude 70° 4' 2" E. Elevation 1407 m.
Gesh village 12 km NW of Lenningrad township. Collected from fields
adjacent to village - dry land farming.

PI 651219. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-318; NSGC 17470. Collected 07/23/2004 in Tajikistan.
Latitude 38° 27' 24" N. Longitude 70° 3' 23" E. Elevation 1796
m. Marzori-Sultan village 16 km NE of Khavaling on the Marzori river.
Chickpea and wheat fields and margins.

PI 651220. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-341; NSGC 17471. Collected 07/23/2004 in Tajikistan.
Latitude 38° 20' 55" N. Longitude 69° 34' 35" E. Elevation 1542
m. Hudzhamitoboni village 20 km from Baldzmuwon town, Khatlon. Farm
store - local varieties.

PI 651221. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-342; NSGC 472; NSGC 17472. Collected 07/23/2004 in
Tajikistan. Latitude 38° 20' 55" N. Longitude 69° 34' 35" E.
Elevation 1542 m. Hudzhamitoboni village 20 km from Baldzmuwon town,
Khatlon. Farm store - local varieties.

PI 651222. *Hordeum vulgare* L. subsp. *vulgare*

Landrace. TJK04-410; NSGC 17473. Collected 07/26/2004 in Tajikistan.
Latitude 38° 36' 57" N. Longitude 68° 46' 57" E. Elevation 910
m. Dushanbe food bazaar. Market samples - local material.

PI 651223. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.

Wild. TJK04-102; NSGC 17474. Collected 07/17/2004 in Tajikistan.
Latitude 38° 9' 39" N. Longitude 69° 34' 43" E. Elevation 1035
m. Fields of Oftobruya village 7 km from Chilcha village. Non irrigated
flax seed fields.

PI 651224. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.

Wild. TJK04-124; NSGC 17476. Collected 07/18/2004 in Tajikistan.
Latitude 37° 45' 22" N. Longitude 69° 48' 43" E. Elevation 1130
m. Aprox 5 km NE of Margobi - and 5 km NE of Garab-Dara village in the
Sarchashma group. SE facing slope (16 - 30%) - very dry.

- PI 651225. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-108; NSGC 17478. Collected 07/18/2004 in Tajikistan.
 Latitude 37° 58' 47" N. Longitude 69° 34' 37" E. Elevation 611
 m. Tanobchi village 15 km on from Dzhorubkul village heading towards
 Mumenabad. Threshing site.
- PI 651226. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-166; NSGC 17479. Collected 07/19/2004 in Tajikistan.
 Latitude 37° 56' 48" N. Longitude 70° 11' 34" E. Elevation 852
 m. Youghuk village - 8 km N of Kmirmandzhoy village on Pyange river .
 Threshing ground at village.
- PI 651227. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-259; NSGC 17480. Collected 07/21/2004 in Tajikistan.
 Latitude 38° 11' 19" N. Longitude 70° 4' 2" E. Elevation 1407 m.
 Gesh village 12 km NW of Leningrad township. Collected from fields
 adjacent to village - dry land farming.
- PI 651228. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-2; NSGC 17481. Collected 07/15/2004 in Tajikistan.
 Latitude 38° 22' 41" N. Longitude 68° 42' 29" E. Elevation 842
 m. Old state farm (Khosilot) on the road about - 21 km S of Dushanbe on
 road to Esanboy. Unirrigated former state farm growing wheat, cotton and
 barely-now private.
- PI 651229. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-58; NSGC 17482. Collected 07/17/2004 in Tajikistan.
 Latitude 38° 1' 41" N. Longitude 69° 10' 13" E. Elevation 784 m.
 Pasingach village - 53 NE of Kuzgantyube town. Farm store.
- PI 651230. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-74; NSGC 17483. Collected 07/17/2004 in Tajikistan.
 Latitude 38° 8' 40" N. Longitude 69° 26' 35" E. Elevation 751 m.
 Next to Garghara village. Threshing site.
- PI 651231. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-75; NSGC 17484. Collected 07/17/2004 in Tajikistan.
 Latitude 38° 8' 40" N. Longitude 69° 26' 35" E. Elevation 751 m.
 Next to Garghara village. Threshing site.
- PI 651232. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-111; NSGC 17485. Collected 07/18/2004 in Tajikistan.
 Latitude 37° 58' 47" N. Longitude 69° 34' 37" E. Elevation 611
 m. Tanobchi village 15 km on from Dzhorubkul village heading towards
 Mumenabad. Threshing site.
- PI 651233. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-152; NSGC 17486. Collected 07/19/2004 in Tajikistan.
 Latitude 37° 53' 30" N. Longitude 70° 10' 4" E. Elevation 804 m.
 Kmirmandzhoy E of village on Pyange river -27 km NE of Shurobad. Farm
 stores.
- PI 651234. *Hordeum vulgare* L. subsp. *vulgare***
 Landrace. TJK04-211; NSGC 17487. Collected 07/20/2004 in Tajikistan.
 Latitude 37° 53' 50" N. Longitude 70° 1' 44" E. Elevation 1920
 m. 12 km NE of Shurobad on the way to Muminobad. Cultivated weedy wheat
 fields containing volunteer chickpea - sandy loam.

PI 651235. *Hordeum vulgare* L. subsp. *vulgare*
Landrace. TJK04-394; NSGC 17488. Collected 07/25/2004 in Tajikistan.
Latitude 38° 41' 32" N. Longitude 69° 19' 7" E. Elevation 1486
m. 7 km from Ramit heading up mountain rd to Lashkharf settlement. Small
weedy cultivated wheat field - very steep.

PI 651236. *Hordeum vulgare* L. subsp. *vulgare*
Landrace. TJK04-421; NSGC 17489. Collected 07/26/2004 in Tajikistan.
Latitude 39° 2' 39" N. Longitude 68° 49' 27" E. Elevation 2100
m. Zidee village - 65 up the Varzob river valley from the Dushanbe
quarantine office. Farm stores.

The following were collected by Richard M. Hannan, USDA, ARS, Washington
State University, Regional Plant Introduction Station, Pullman, Washington
99164-6402, United States. Received 08/08/2003.

PI 651237. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM02-014; NSGC 17567. Collected 05/28/2002 in Turkmenistan.
Latitude 38° 25' 44" N. Longitude 56° 24' 30" E. Elevation 394 m.

PI 651238. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM12-086; NSGC 17580. Collected 05/29/2002 in Turkmenistan.
Latitude 38° 22' 18" N. Longitude 56° 34' 39" E. Elevation 882
m. Abandoned collective farm.

PI 651239. *Hordeum vulgare* L. subsp. *vulgare*
Wild. TKM14-118; NSGC 17593. Collected 05/30/2002 in Turkmenistan.
Latitude 38° 46' 17" N. Longitude 56° 17' 39" E. Elevation 389 m.

PI 651240. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM17-134; NSGC 17596. Collected 05/31/2002 in Turkmenistan.
Latitude 39° 14' 26" N. Longitude 56° 6' 31" E. Elevation 69 m.

PI 651241. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM17-135; NSGC 17597. Collected 05/31/2002 in Turkmenistan.
Latitude 39° 14' 26" N. Longitude 56° 6' 31" E. Elevation 69 m.
Soil pH 7.8 - few plants.

PI 651242. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM18-138; NSGC 17598. Collected 05/31/2002 in Turkmenistan.
Latitude 39° 14' 55" N. Longitude 55° 37' 31" E. Elevation 68 m.

PI 651243. *Hordeum vulgare* L. subsp. *vulgare*
Cultivated. TKM27-184; NSGC 17608. Collected 06/03/2002 in Turkmenistan.
Latitude 37° 39' 20" N. Longitude 54° 44' 48" E. Elevation 42 m.

PI 651244. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM29-203; NSGC 17611. Collected 06/03/2002 in Turkmenistan.
Latitude 38° 4' 12" N. Longitude 55° 17' 21" E. Elevation 108 m.

PI 651245. *Hordeum vulgare* subsp. *spontaneum* (K. Koch) Thell.
Wild. TKM42-369; NSGC 17628. Collected 06/09/2002 in Turkmenistan.
Latitude 37° 46' 9" N. Longitude 58° 39' 4" E. Elevation 487 m.

- PI 651246. *Hordeum vulgare* subsp. *spontaneum*** (K. Koch) Thell.
Wild. TKM44-382; NSGC 17633. Collected 06/09/2002 in Turkmenistan.
Latitude 37° 53' 48" N. Longitude 58° 32' 54" E. Elevation 248 m.
- PI 651247. *Hordeum vulgare* subsp. *spontaneum*** (K. Koch) Thell.
Wild. TKM45-390; NSGC 17635. Collected 06/12/2002 in Turkmenistan.
Latitude 35° 49' 55" N. Longitude 61° 27' 32" E. Elevation 733 m.
- PI 651248. *Hordeum vulgare* subsp. *spontaneum*** (K. Koch) Thell.
Wild. TKM47-403; NSGC 17636. Collected 06/13/2002 in Turkmenistan.
Latitude 35° 47' 11" N. Longitude 61° 27' 46" E. Elevation 756 m.

The following were developed by Warren K. Pope, Camas Wheat Breeding, 1206 E. F St., Moscow, Idaho 83843, United States. Donated by Wayne L. McProud, Plant Breeders 1, 851 East 7th Street, Moscow, Idaho 83843, United States. Received 11/28/2005.

- PI 651249. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-488; Moscow02-25; NSGC 17696. Pedigree - (A - 5006)/B. In the pedigree "A" is PI178383/Cheyenne//3*Tendoy; "B" is Rex/Rio//5*Cheyenne/3/Rio; "5006" is CItr 17248.
- PI 651250. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Increase 74; 2003-117; Tammany03-460; NSGC 17697. Pedigree - 19/2*Tendoy etc.
- PI 651251. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-63; Culdesac02-135; NSGC 17698. Pedigree - 30/Ark//Complex = WA4765/Burt//PI178383/3/9342.
- PI 651252. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-5; Tammany03-37; NSGC 17699. Pedigree - Ark//Joel/Increase 6. In the pedigree "Joel" is 55-19//(((5011/7*Burt)/(Burt/PI178383))//192335).
- PI 651253. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-28; Tammany03-121; NSGC 17700. Pedigree - Ark//Weston/Alecedo.
- PI 651254. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-289; Moscow03-855; NSGC 17701. Pedigree - AWA 82096/Promontory.
- PI 651255. *Triticum aestivum* L. subsp. *aestivum***
Breeding. AWA 82096-1; 2002-146; Culdesac02-676; NSGC 17702. Pedigree - A/WA4765. In the pedigree "A" is PI178383/Cheyenne//3*Tendoy.
- PI 651256. *Triticum aestivum* L. subsp. *aestivum***
Breeding. AWA 82097-1; 2002-145; Culdesac02-675; NSGC 17703. Pedigree - A/WA4765. In the pedigree "A" is PI178383/Cheyenne//3*Tendoy.
- PI 651257. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-36; Culdesac02-85; NSGC 17704. Pedigree - AWA/Eltan = A/WA4765//Eltan.

- PI 651258. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Bare 5; 2003-332; Culdesac03-30026; NSGC 17705. Pedigree - A - 5006/Ark//55-19/3/MT3528.
- PI 651259. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-94; Increase 12; Camas 12; Culdesac02-538; NSGC 17706. Pedigree - Selection 1/Weston = Weston/Lovrin 24//Weston.
- PI 651260. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Increase 12 Winter Hardy Selection; 2003-510; StJohn03-22; NSGC 17707. Pedigree - Selection 1/Weston = Weston/Lovrin 24//Weston.
- PI 651261. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-7; Tammany03-67; NSGC 17708. Pedigree - Increase 12//Troy/Weston.
- PI 651262. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-1; Tammany03-1; NSGC 17709. Pedigree - Increase 12/Ark.
- PI 651263. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-10; Tammany03-10; NSGC 17710. Pedigree - Increase 12/Eltan.
- PI 651264. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-3; Tammany03-13; NSGC 17711. Pedigree - Increase 12/Promontory.
- PI 651265. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-22; Tammany03-115; NSGC 17712. Pedigree - Increase 12/Weston.
- PI 651266. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Increase 25-1; 2002-104; Culdesac02-563; NSGC 17713. Pedigree - 55-19/(A - 5006). In the pedigree "55-19" is CItr 17734; "A" is PI178383/Cheyenne//3*Tendoy; "5006" is CItr 17248.
- PI 651267. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Increase 25-2; 2002-612; Lloyd02-18-31; NSGC 17714. Pedigree - 55-19/(A - 5006). In the pedigree "55-19" is CItr 17734; "A" is PI178383/Cheyenne//3*Tendoy; "5006" is CItr 17248.
- PI 651268. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Increase 6; 2002-496; Moscow02-33; NSGC 17715. Pedigree - MT3528/Weston.
- PI 651269. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-248; Moscow03-778; NSGC 17716. Pedigree - Increase 8//Troy/Weston.
- PI 651270. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-245; Moscow03-772; NSGC 17717. Pedigree - Increase 8//Troy/Weston/3/Troy/Linne-A.
- PI 651271. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-242; Moscow03-768; NSGC 17718. Pedigree - Increase 8//Troy/Weston/3/Weston/Increase 25.

- PI 651272. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Increase 9; 2003-328; Culdesac03-30012; NSGC 17719.
- PI 651273. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-498; Increase 77; Increase 9; Moscow02-498; NSGC 17720.
- PI 651274. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-250; Moscow03-781; NSGC 17721. Pedigree - Increase 9/Increase 25//Troy/Linne-A.
- PI 651275. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-253; Moscow03-253; NSGC 17722. Pedigree - Increase 9/Increase 25//Weston/Increase 25.
- PI 651276. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-65; Culdesac02-137; NSGC 17723. Pedigree - Joel/Increase 6.
- PI 651277. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-8; Tammany03-73; NSGC 17724. Pedigree - Mac-1/Lovrin 24.
- PI 651278. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2004-51; Lloyd04-51; NSGC 17725. Pedigree - Troy/Linne-A.
- PI 651279. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 301R; 2003-502; StJohn03-4; NSGC 17726. Pedigree - Weston/Increase 25.
- PI 651280. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 302R; 2003-503; StJohn03-5; NSGC 17727. Pedigree - Weston/Increase 25.
- PI 651281. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 303R; 2003-504; StJohn03-6; NSGC 17728. Pedigree - Weston Erect selection.
- PI 651282. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 304R; 2003-505; StJohn03-7; NSGC 17729. Pedigree - Joel/Increase 6.
- PI 651283. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 305R; 2003-506; StJohn03-13; NSGC 17730. Pedigree - 30/Ark//Complex.
- PI 651284. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 306R; 2003-507; StJohn03-14; NSGC 17731. Pedigree - Increase 8//Troy/Weston.
- PI 651285. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 307R; 2003-378; StJohn03-15; NSGC 17732. Pedigree - Selection 1/Ark.
- PI 651286. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 308R; 2003-379; StJohn03-16; NSGC 17733. Pedigree - Selection 1/Ark.

- PI 651287. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 309R; 2003-511; StJohn03-23; NSGC 17734. Pedigree - Troy/30-19.
- PI 651288. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 310R; 2003-512; StJohn03-24; NSGC 17735. Pedigree - Troy/Linne-A.
- PI 651289. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 311R; 2003-513; StJohn03-25; NSGC 17736. Pedigree - 19/2* Tendoy etc.
- PI 651290. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 312R; 2003-514; StJohn03-26; NSGC 17737. Pedigree - (A - 5006)/B.
- PI 651291. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 313R; 2003-387; StJohn03-27; NSGC 17738. Pedigree - rogue in Lovrin 24.
- PI 651292. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 314R; 2003-389; StJohn03-33; NSGC 17739. Pedigree - rogue in Weston Erect.
- PI 651293. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 315R; 2003-516; StJohn03-34; NSGC 17740. Pedigree - rogue in Weston Erect.
- PI 651294. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 316R; 2003-517; StJohn03-37; NSGC 17741. Pedigree - Weston Erect selection.
- PI 651295. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pope 5R; 2003-391; StJohn03-36; NSGC 17742. Pedigree - Joel/Increase 6.
- PI 651296. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-42; Tammany03-146; NSGC 17743. Pedigree - Promontory/Increase 12.
- PI 651297. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Selection 1; 2003-145; Moscow03-273; NSGC 17744. Pedigree - Weston/Lovrin 24.
- PI 651298. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-76; Culdesac02-155; NSGC 17745. Pedigree - Selection 1/Ark.
- PI 651299. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-152; Culdesac02-684; NSGC 17746. Pedigree - Troy/(19 - Linne-A).
- PI 651300. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-73; Culdesac02-145; NSGC 17747. Pedigree - Troy/30-19.
- PI 651301. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-547; Moscow02-306; NSGC 17748. Pedigree - Troy/Increase 6.

- PI 651302. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Weston Erect; 2002-32; Culdesac02-81; NSGC 17749. Pedigree - Weston selection.
- PI 651303. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-215; Moscow03-727; NSGC 17750. Pedigree - Weston Erect//Increase 9/Increase 25.
- PI 651304. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-212; Moscow03-724; NSGC 17751. Pedigree - Weston Erect//Troy/Linne-A.
- PI 651305. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-6; Tammany03-61; NSGC 17752. Pedigree - Weston/(A - 5006 - B).
- PI 651306. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2002-2; Culdesac02-11; NSGC 17753. Pedigree - Weston/Increase 25.
- PI 651307. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-159; Moscow03-506; NSGC 17754. Pedigree - Weston//Lovrin 24 Selection 1.
- PI 651308. *Triticum aestivum* L. subsp. *aestivum***
Breeding. 2003-160; Moscow03-507; NSGC 17755. Pedigree - Weston/Lovrin 24 selection 4.

The following were developed by Monsanto Company, St. Louis, Missouri 63167, United States. Received 08/31/2007.

- PI 651309 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4127789". PVP 200700393.
- PI 651310 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4210110". PVP 200700394.
- PI 651311 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4253854". PVP 200700395.
- PI 651312 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4201139". PVP 200700396.
- PI 651313 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4523081". PVP 200700415.
- PI 651314 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4483789". PVP 200700416.
- PI 651315 PVPO. *Glycine max* (L.) Merr.**
Cultivar. "D4328762". PVP 200700418.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 09/19/2007.

PI 651316 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHB4D". PVP 200700446.

The following were donated by Greg Houseal, University of Northern Iowa, Iowa Ecotype Project, Native Roadside Vegetation Center, Cedar Falls, Iowa 50614-0294, United States. Received 12/17/2002.

PI 651317. *Pycnanthemum virginianum* (L.) T. Durand & B. D. Jacks. ex B. L. Rob. & Fernald

Cultivated. *P. virginianum* Pyvi Zone 1; CPYC 113; Pyvi Zone 1 'Northern Iowa'. Pedigree - Open pollinated cultivated F1 from the wild in Iowa. Enclosed, please find 5 envelopes of *Pycnanthemum* species from the Iowa Ecotype Project collection. As indicated, this seed is the first generation progeny of multiple accessions collected from remnant populations in Iowa. Approximately 100 plants are grown from each original collection, and planted into seed nursery plots. Accessions from within the same project zone are grown in the same plot, in discrete rows, but isolated by approximately one-fourth mile from accessions originating from other project zones.

PI 651318. *Pycnanthemum virginianum* (L.) T. Durand & B. D. Jacks. ex B. L. Rob. & Fernald

Cultivated. *P. virginianum* Pyvi Zone 2; CPYC 114; Pyvi Zone 2 'Central Iowa'. Pedigree - Open pollinated cultivated F1 from the wild in Iowa.

PI 651319. *Pycnanthemum virginianum* (L.) T. Durand & B. D. Jacks. ex B. L. Rob. & Fernald

Cultivated. *P. virginianum* Pyvi Zone 3; CPYC 115; Pyvi Zone 3 'Southern Iowa'. Pedigree - Open pollinated cultivated F1 from the wild in Iowa.

PI 651320. *Pycnanthemum pilosum* Nutt.

Cultivated. *P. pilosum* Pypi Zone 3; CPYC 116; Pypi Zone 3 'Southern Iowa'. Pedigree - Open pollinated cultivated F1 from the wild in Iowa.

PI 651321. *Pycnanthemum tenuifolium* Schrad.

Cultivated. *P. tenuifolium* Pyte Zone 3; CPYC 117; Pyte Zone 3 'Southern Iowa'. Pedigree - Open pollinated cultivated F1 from the wild in Iowa.

The following were developed by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 651322. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Breeding. MER. 45-45.

PI 651323. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Breeding. MER. 47-3.

PI 651324. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Breeding. MER. 50-1. Pedigree - Collier (MN 45) x MN 624.

PI 651325. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Breeding. MER. 56-12. Pedigree - C.P. Special #2 x MN 1060.

PI 651326. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Breeding. MER. 56-15. Pedigree - off type Tracy #9.

- PI 651327. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 60-2. Pedigree - PI 154844 (MN 1500) x PI 152967 (MN 1056).
- PI 651328. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 61-1. Pedigree - MN 1054 x MN 1056.
- PI 651329. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 61-11. Pedigree - (MN 2754 x Wiley) x (MN 48 x MN 1056).
- PI 651330. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 63-3. Pedigree - Honey x MN 960.
- PI 651331. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 63-4. Pedigree - (Mer. 45-45 x MN 1056) x (MN 1054 x MN 1060).
- PI 651332. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 63-7. Pedigree - (MN 960 x Mer. 50-1) x (Mer. 50-2 x MN 960).
- PI 651333. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 64-6. Pedigree - (Mer. 45-45 x MN 1056) x (MN 1054 x MN 1060).
- PI 651334. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 64-7. Pedigree - (Collier 706-C x MN 1054) x (Collier 706-C x MN 9).
- PI 651335. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 67-1. Pedigree - Brawley x Rio.
- PI 651336. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 67-6. Pedigree - (Missouri Gray Top x MN 1054) x (MN 1090 x MN 105).
- PI 651337. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 67-9. Pedigree - (Wiley x C.P. Special) x (MN 1054 x Mer. 51-2).
- PI 651338. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 67-12. Pedigree - Rex x Sart.
- PI 651339. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 67-14. Pedigree - Mer. 50-1 x Rio.
- PI 651340. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 67-18. Pedigree - Honey x MN 960.
- PI 651341. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 68-3. Pedigree - Mer. 50-1 x Rio.
- PI 651342. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 68-7. Pedigree - (Brawley x Rio) x Collier.

- PI 651343. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 68-8. Pedigree - (Brawley x Rio) x Collier.
- PI 651344. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-1. Pedigree - (Brawley x Rio) x Collier.
- PI 651345. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-3. Pedigree - (Brawley x Rio) x Rio.
- PI 651346. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-4. Pedigree - (Mer. 50-1 x Brawley) x Rio.
- PI 651347. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-5. Pedigree - Mer. 56-12 x Sart.
- PI 651348. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-6. Pedigree - Mer. 55-10 x Mer. 56-12.
- PI 651349. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-7. Pedigree - Mer. 56-12 x MN 960.
- PI 651350. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-8. Pedigree - Rio x Mer. 56-12.
- PI 651351. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-10. Pedigree - Rio x (Brawley x Rio).
- PI 651352. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-11. Pedigree - Mer. 57-1 x (Brawley x Rio).
- PI 651353. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 69-15. Pedigree - (Mer. 50-1 x Brawley) x Rio.
- PI 651354. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-1. Pedigree - Williams x Sart.
- PI 651355. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-2. Pedigree - Williams x Sart.
- PI 651356. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-4. Pedigree - Mer. 61-8 x Mer. 56-12.
- PI 651357. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-6. Pedigree - Rex x MN 960.
- PI 651358. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-7. Pedigree - (Brawley x Rio) x MN 960.
- PI 651359. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-8. Pedigree - (Brawley x Rio) x MN 960.
- PI 651360. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-10. Pedigree - Mer. 57-1 x (Brawley x Rio).
- PI 651361. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-12. Pedigree - (Mer. 50-1 x Brawley) x Rio.

- PI 651362. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-14. Pedigree - (Mer. 50-1 x Brawley) x MN 960.
- PI 651363. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 70-15. Pedigree - (Mer. 50-1 x Rex) x Rio.
- PI 651364. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 71-2. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651365. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 71-3. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651366. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 71-4. Pedigree - Sart x (Brawley x Sart).
- PI 651367. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 71-5. Pedigree - Rio x Mer. 56-12.
- PI 651368. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 71-6. Pedigree - Mer. 50-1 x MN 960.
- PI 651369. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-2. Pedigree - (Brawley x Rio) x Rio.
- PI 651370. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-3. Pedigree - (Brawley x Rio) x Rio.
- PI 651371. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-4. Pedigree - (Brawley x Rio) x Rio OP.
- PI 651372. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-5. Pedigree - (Brawley x Rio) x Rio OP.
- PI 651373. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-6. Pedigree - (Mer. 50-1 x Brawley) x (Brawley x Rio).
- PI 651374. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-7. Pedigree - (Mer. 50-1 x Brawley) x (Brawley x Rio).
- PI 651375. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 72-8. Pedigree - (Mer. 50-1 x Rex) x Mer. 57-1.
- PI 651376. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-1. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651377. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-2. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651378. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-3. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651379. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-4. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651380. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-5. Pedigree - Mer. 61-8 x (Brawley x Rio).

- PI 651381. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-6. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651382. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-7. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651383. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-8. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651384. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-9. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651385. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-10. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651386. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-11. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651387. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-12. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651388. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-13. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651389. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-14. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651390. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 73-15. Pedigree - Rio x Mer. 56-12.
- PI 651391. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-1. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651392. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-2. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651393. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-4. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651394. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-5. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651395. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-6. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651396. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-7. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651397. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-8. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651398. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-10. Pedigree - Mer. 61-8 x (Brawley x Rio).
- PI 651399. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 74-11. Pedigree - Rio x Mer. 56-12.

- PI 651400. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-1. Pedigree - Brawley x Brandes.
- PI 651401. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-2. Pedigree - Rio x Brandes.
- PI 651402. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-3. Pedigree - Rio x Brandes.
- PI 651403. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-4. Pedigree - Mer. 50-1 x Brandes.
- PI 651404. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-5. Pedigree - Mer. 64-7 x Brandes.
- PI 651405. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-6. Pedigree - Mer. 64-7 x Brandes.
- PI 651406. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-7. Pedigree - Mer. 64-7 x Brandes.
- PI 651407. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-8. Pedigree - Mer. 64-7 x Sart.
- PI 651408. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-9. Pedigree - Mer. 64-7 x Mer. 64-6.
- PI 651409. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-11. Pedigree - MN 1048 x Mer. 64-7.
- PI 651410. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-12. Pedigree - Mer. 64-6 x Sart.
- PI 651411. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 75-13. Pedigree - MN 1048 x Mer. 50-1.
- PI 651412. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-1. Pedigree - Collier x Brandes.
- PI 651413. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-2. Pedigree - Mer. 50-1 x Brandes.
- PI 651414. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-3. Pedigree - Mer. 50-1 x Brandes.
- PI 651415. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-4. Pedigree - Mer. 60-2 x Brandes.
- PI 651416. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-5. Pedigree - Mer. 60-2 x Brandes.
- PI 651417. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-7. Pedigree - Collier x Sart.
- PI 651418. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-8. Pedigree - Mer. 64-7 x Sart.

- PI 651419. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-9. Pedigree - Mer. 64-7 x Mer. 64-6.
- PI 651420. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 76-10. Pedigree - MN 1048 x Mer. 64-7.
- PI 651421. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-1. Pedigree - Dale x Brandes.
- PI 651422. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-2. Pedigree - Dale x Brandes.
- PI 651423. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-3. Pedigree - Mer. 60-2 x Dale.
- PI 651424. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-4. Pedigree - Mer. 61-11 x Dale.
- PI 651425. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-5. Pedigree - Mer. 61-11 x Mer. 60-2.
- PI 651426. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-6. Pedigree - Mer. 61-11 x Brandes.
- PI 651427. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-7. Pedigree - Mer. 61-11 x Brandes.
- PI 651428. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 77-8. Pedigree - MN 960 x Rio.
- PI 651429. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-1. Pedigree - Dale x Mer. 60-2.
- PI 651430. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-2. Pedigree - Mer. 60-2 x Dale.
- PI 651431. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-3. Pedigree - Mer. 60-2 x Dale.
- PI 651432. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-4. Pedigree - Dale x Mer. 61-11.
- PI 651433. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-5. Pedigree - Mer. 60-2 x Mer. 61-11.
- PI 651434. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-6. Pedigree - Mer. 61-11 x Mer. 60-2.
- PI 651435. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-7. Pedigree - Mer. 61-11 x Mer. 60-2.
- PI 651436. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-8. Pedigree - Mer. 61-11 x Brandes.
- PI 651437. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-9. Pedigree - Mer. 61-11 x Brandes.

- PI 651438. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-10. Pedigree - Mer. 61-11 x Brandes.
- PI 651439. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-11. Pedigree - (Wiley x Dale) x (MN 1048 x Mer. 60-2).
- PI 651440. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-12. Pedigree - MN 1500 x Brandes.
- PI 651441. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 78-13. Pedigree - (Mer. 64-7 x MN 960) x (Rio x Mer. 64-6).
- PI 651442. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 79-1. Pedigree - MN 4490 x Theis.
- PI 651443. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 79-2. Pedigree - MN 4423 x Roma.
- PI 651444. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-1. Pedigree - Mer. 60-2 x MN 4508.
- PI 651445. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-2. Pedigree - MN 4490 x Dale.
- PI 651446. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-3. Pedigree - MN 4004 x Theis.
- PI 651447. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-4. Pedigree - MN 4004 x Theis.
- PI 651448. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-5. Pedigree - MN 4004 x Theis.
- PI 651449. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-6. Pedigree - MN 4004 x Theis.
- PI 651450. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-7. Pedigree - Mer. 61-11 x MN 4418.
- PI 651451. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-8. Pedigree - Roma x MN 4508.
- PI 651452. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-9. Pedigree - Roma x MN 4508.
- PI 651453. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-10. Pedigree - Rio x MN 4004.
- PI 651454. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-11. Pedigree - Rio x MN 4004.
- PI 651455. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-12. Pedigree - Rio x MN 4004.
- PI 651456. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 80-13. Pedigree - MN 4512 x Theis.

- PI 651457. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-1. Pedigree - MN 4004 x Mer. 61-11.
- PI 651458. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-3. Pedigree - MN 4004 x Mer. 61-11.
- PI 651459. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-4. Pedigree - MN 4004 x Mer. 61-11.
- PI 651460. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-5. Pedigree - Mer. 61-11 x MN 4508.
- PI 651461. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-6. Pedigree - Ramada x MN 4514.
- PI 651462. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-7. Pedigree - MN 4578 x Roma.
- PI 651463. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-8. Pedigree - (Brawley x Rio) x (MN 1048 x Mer. 64-7).
- PI 651464. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-9. Pedigree - (Mer. 64-7 x MN 960) x (Rio x Mer. 50-1).
- PI 651465. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-10. Pedigree - Sugar Drip x Theis.
- PI 651466. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-11. Pedigree - MN 4004 x Ramada.
- PI 651467. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 81-12. Pedigree - MN 4004 x Ramada.
- PI 651468. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-1. Pedigree - Theis x Sugar Drip.
- PI 651469. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-2. Pedigree - Theis x Sugar Drip.
- PI 651470. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-3. Pedigree - Sugar Drip x Theis.
- PI 651471. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-4. Pedigree - Theis x Sugar Drip.
- PI 651472. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-5. Pedigree - Mer. 71-3 x Mer. 67-18.
- PI 651473. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-6. Pedigree - Mer. 71-3 x Mer. 67-18.
- PI 651474. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-7. Pedigree - Mer. 71-3 x Mer. 67-18.
- PI 651475. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-8. Pedigree - Mer. 71-3 x Mer. 67-18.

- PI 651476. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-9. Pedigree - Mer. 67-18 x Mer. 71-3.
- PI 651477. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-10. Pedigree - Mer. 71-3 x Mer. 64-7.
- PI 651478. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-11. Pedigree - Mer. 67-18 x Mer. 71-6.
- PI 651479. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-12. Pedigree - Mer. 67-18 x Mer. 71-6.
- PI 651480. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-13. Pedigree - Mer. 61-11 x MN 4490.
- PI 651481. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-14. Pedigree - Mer. 61-11 x MN 4509.
- PI 651482. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-15. Pedigree - Roma x MN 4418.
- PI 651483. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-16. Pedigree - MN 4008 x Ramada.
- PI 651484. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-17. Pedigree - MN 4004 x Roma.
- PI 651485. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-18. Pedigree - MN 4004 x Roma.
- PI 651486. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-19. Pedigree - MN 4004 x Roma.
- PI 651487. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-20. Pedigree - MN 4423 x Ramada.
- PI 651488. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-21. Pedigree - MN 4423 x Ramada.
- PI 651489. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-22. Pedigree - MN 4423 x Ramada.
- PI 651490. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Breeding. MER. 82-23. Pedigree - MN 4423 x Brandes.

The following were donated by Ronny R. Duncan, University of Georgia, Georgia Agricultural Exp. Station, Department of Crop and Soil Sciences, Griffin, Georgia 30223-1797, United States. Received 1984.

- PI 651491. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
"BAILEY"; MER. 71-7; NSL 187557. CV-123. Pedigree - Selected from F2 progeny of cross 'Wiley' x 'Tracy'. Info. from Crop Sci. 24(5):997 (1984) -- high resistance foliar anthracnose & red stalk rot. Good resistance downy mildew & head smut. Susceptible maize dwarf mosaic virus. Moderately susceptible rust. Susceptible gray leaf spot & zonate

leaf spot. Resistant injury from insecticide methyl parathion. Panicle erect. Semi- compact. Glumes dark brown & cover approx. 1/2 of caryopsis. Seed color reddish brown. Seed elliptically shaped. Contain no pigmented testa. Midseason maturity. Adapted elev. above 500 m. Cultivated.

The following were donated by H. Walker, Foundation Seed, Texas Agr. Exp. Station, College Station, Texas 77843, United States. Received 1984.

PI 651492. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

"COWLEY"; MER. 75-10; NSL 189405. CV-124. Pedigree - Selected from an F2 progeny of cross Mer. 64-7 x Mer. 64- 6. Info. from Crop Sci. 25(1):200 (1985) -- used sucrose & biomass prod. Panicle erect. Compact to semicompact. Elliptic. Panicle branches arise in whorls from 8 nodes. Pubescence on dark glumes. Semideciduous except edges. Indurate glumes w/sharp apex. Nonpersistent in threshed seed. Seed med. to large. Light colored. Ovate. Dimpled. Wht pericarp. Brn testa. Endosperm chalky w/med. to thick corneous layer. Culms juicy & sweet. Coleptile green. Resist. leaf anthrac., stalk red rot, rough leaf spot, head smut & downy mildew. Late maturity.

The following were donated by D. M. Broadhead, U.S. Sugar Crops Field Station, Rt. 13 Box 14, Meridan, Mississippi 39301, United States. Received 1980.

PI 651493. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

"RAMADA"; MER. 65-2; NSL 107377. CV-118. Pedigree - Selected from progeny of cross [Mer. 45-45 x P.I. 152967 (MN 1056)] x [P.I. 152965 (MN 1054) x P.I. 152971 (MN 1060)]. Info. from Crop Sci. 20(5):672 (1980) -- sugar-type. Panicles erect. Compact & ellipsoid. Thin, straw- colored glumes. Kernel color light. Pericarp white and pearly. No testa. Seeds medium to large (18 to 30 mg). Slightly flattened. Endosperm contains large amount corneous starch. Stalks upright. Green beneath waxy bloom. Photoperiod sensitive. Resistant lodging, downy mildew, rust, leaf anthracnose and stalk red rot. Potential companion crop sugarcane production. Adapted Texas. Matures 110-150 days. Cultivated.

The following were donated by Mississippi State University, Mississippi Agr. Exp. Sta., State College, Mississippi, United States. Received 1968.

PI 651494. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

"BRANDES"; MER. 59-1; IS 18521; NSL 29336. CV-116. Pedigree - Selected from progeny of cross between 'Collier 706-C' and PI 154844 (MN 1500). Info. from Crop Sci. 14(3):494 (1974) -- sirup-type. Med. length & semi-compact to irreg. compact panicle. Reddish- brown glumes w/acute apices. Chartaceuos margins & base glume hirsute. Main body sparsely hirsute w/many hairs deciduous. Lemma awnless. Small ellipsoid seeds. Pointed embryo end. Endosperm corneous. Matures 120 - 140 days. Lodging resistant. Excellent root system. Soft pliable, erect stalks w/heavy waxy bloom. Resistant leaf anthracnose, rust, downy mildew and maize dwarf mosaic. Susceptible injury from many insecticides. Cultivated.

PI 651495. Sorghum bicolor (L.) Moench **subsp. bicolor**

"DALE"; MER. 64-12; NSL 74333. CV-114. Pedigree - Selection from progeny of 4th backcross between Tracy and MN960 with Tracy as recurrent parent. Info. from Mississippi Farm Research 33(3):1 & 8 (1970). Mid-season sweet sorghum. Used for syrup production. Resistant leaf anthracnose and stalk red rot. Tolerant cotton insecticides. Medium length panicle. Erect and compact. Cylindroid shape. Glumes cover 1/3 of seed. Reddish brown to blackish. Tufts of hyaline pubescence at base, apex & margins. Seeds small & thresh free. Vary from obovoid to globose. Seed light to dark reddish brown. Endosperm starchy. Med. to thick corneous layer. Chalky white center. Susceptible lodging. Cultivated.

The following were donated by USDA, ARS, Plant Science Research Division, Beltsville, Maryland 20705, United States. Received 1965.

PI 651496. Sorghum bicolor (L.) Moench **subsp. bicolor**

"RIO"; MER. 55-1; NSL 40230. CV-113. Pedigree - Selected from progeny of cross between Rex (MN 23) and PI 152959 (MN 1048). Info. from Crop Sci. 12(5):716 (1972) -- matures 105 - 130 days. Panicles 20 - 30 cm long. Semi-compact. Irregular shape. Lemma awnless. Seeds medium size. White chalky seedcoat over brown testa. Endosperm corneous. High resistance leaf anthracnose and rust. Tolerant cotton insecticides. Potential use as supplemental sugar crop for southern U.S. Cultivated.

The following were developed by D. M. Broadhead, U.S. Sugar Crops Field Station, Rt. 13 Box 14, Meridan, Mississippi 39301, United States; K.C. Freeman; O.H. Coleman; N. Zummo, Mississippi Agriculture and Forestry Exp. Sta., Mississippi State University, Dept. of Agronomy, Mississippi State, Mississippi 39762, United States. Donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 07/06/1939.

PI 651497. Sorghum bicolor (L.) Moench **subsp. bicolor**

Cultivar. "Theis"; MER. 67-10; CSR 216. CV-117. Pedigree - Selected from F2 progeny of the cross between Wiley/C.P. Special and PI 152965 (MN 1054)/Mer. 51-2 (White African)/PI 139466 (Mn 660). Sirup-type sweet sorghum.

The following were developed by Yulin Jia, USDA-ARS, Dale Bumpers National Rice Res. Ctr., 2890 Hwy 130 East, Stuttgart, Arkansas 72160, United States. Received 10/02/2007.

PI 651498 MAP. Oryza sativa L.

Cultivar. Pureline. "RU9101001". Pedigree - RU9101001 was developed by UA RREC from the cross Bonnet73 /CI9837//PI265116/5/ Vegold /CI9556// Dawn /3/ Starbonnet / Taducan /4/ L-201 . PI 651498 MAP, RU9101001, is one of the parents of RU9101001/Katy Mapping Population. The second parent is PI 527707, Katy, newly assigned PI 651499 MAP. RU9101001 is a long grain experimental line that is extremely early in maturity and has seedling cold tolerance.

PI 651499 MAP. Oryza sativa L.

Cultivar. Pureline. "KATY". Pedigree - Bonnet 73/CI9722//Starbonnet/Tetep/3/Lebonnet. PI 651499 MAP, is a new PI assignment of PI 527707 representing one of the parents of

RU9101001/Katy Mapping Population. The second parent is PI 651498 MAP, RU9101001. Katy is a mid-season, long-grain U.S. cultivar that has excellent resistance to sheath blight disease (*Rhizoctonia solani*) and possesses the major blast resistance genes Pi-ta, Pi-ta2, and Pi-ks.

The following were developed by Mark A. Brick, Colorado State University, Department of Soil and Crop Sciences, Room C113, Fort Collins, Colorado 80521, United States; J.B. Ogg, Colorado State University, Dept. of Soil and Crop Sciences, Fort Collins, Colorado 80523, United States; Shree P. Singh, University of Idaho, Kimberly Research & Extension Ctr., 3793 North 3600 East, Kimberly, Idaho 83341-5076, United States; J.J. Johnson, Colorado State University, Dept. of Soil and Crop Sciences, Fort Collins, Colorado 80523, United States; Marcial Pastor-Corrales, USDA, ARS, Microbiology & Plant Pathology Laboratory, Building 011A, Room 252, BARC-West, Beltsville, Maryland 20705-2350, United States; Howard F. Schwartz, Colorado State University, Department of Plant Pathology, C 205 Plant Science Building-BSPM, Fort Collins, Colorado 80523-1177, United States. Received 09/26/2007.

PI 651500. *Phaseolus vulgaris* L.

Breeding. Pureline. CO46348. GP-275. Pedigree - Othello/Wisc(MDR)147. Drought tolerant, pinto bean germplasm that takes advantage of full-growing season (95 to 98d), has high yield potential, excellent pinto seed quality, adaptation to northern latitudes in the USA and resistance to rust caused by *Uromyces appendiculatus*. Derived from a single F5 plant selection made in Fort Collins, Colorado in 1994. From this plant, 20 seeds were planted in the greenhouse at Fort Collins to produce seed for single plant rows in 1995. Seed from 12 single plant rows was bulked to form the initial seed stocks. Subsequent increases were made in Fruita, Colorado from this seed. Mean seed yield across three locations in Colorado in 1998 was 2491 kg ha⁻¹. Mean seed weight was 36 g per 100 seed.

The following were developed by J.W. Hoy, Louisiana State University, Agric. Ctr., Plant Pathology & Crop Physiology Dept., Baton Rouge, Louisiana 70803-2109, United States; T.E. Reagan, Louisiana State University, Agric. Ctr., Entomology Dept., Baton Rouge, Louisiana 70803-2109, United States; Kenneth Gravois, Louisiana State University, Sugar Research Station, 5755 LSU Ag. Road, St. Gabriel, Louisiana 70776, United States; Collins Kimbeng, Louisiana State Univ., Agronomy Dept., 104 M B Sturgis Hall, Baton Rouge, Louisiana 70803, United States; G.L. Hawkins, Louisiana State University Agricultural Center, Sugar Research Station, 5755 LSU Ag road, St. Gabriel, Louisiana 70776, United States; K.P. Bischoff, LSU Agricultural Center, Sugar Research Station, 5755 LSU Ag Road, St. Gabriel, Louisiana 70776, United States; C.M. LaBorde, LSU Agricultural Center, Sugar Research Station, 5755 LSU Ag Road, St. Gabriel, Louisiana 70776, United States. Received 10/03/2007.

PI 651501. *Saccharum* sp.

Cultivar. "L 79-1002". CV-132. Pedigree - CP 52-68/Tainan. Complex hybrid of *Saccharum officinarum*, *S. barberi*, *S. spontaneum*, and *S. sinense*. Released for an emerging biofuels industry because of its high fiber content (25.7%), cane yield and vigor. Has high population of small diameter stalks that are predominately green in color. Superior ratooning ability and very erect growth habit. Resistant to Sugarcane mosaic and Sorghum mosaic viruses. Exhibited moderate susceptibility to

smut (caused by *Ustilago scitaminea*), resistance to brown rust (caused by *Puccinia melanocephala*) and resistance to leaf scald (caused by *Xanthomonas albilineans*). The effect of yellow leaf and orange rust (*Puccinia kuehnii*) on the yield is unknown. Exhibited significant yield loss in ratoon crops from ratoon stunting disease (caused by *Clavibacter xyli* subsp. *xyli*). Resistant to the sugarcane borer (caused by *Diatraea saccharalis*) insect pest of sugarcane.

The following were developed by Luther Talbert, Montana State University, Department of Plant Sciences, Bozeman, Montana 59717, United States; Dale R. Clark, WestBred, LLC, 8111 Timberline Drive, Bozeman, Montana 59718-8184, United States; Susan P. Lanning, Montana State University, Plant Sciences & Plant Pathology Department, Leon Johnson Hall, 324A, Bozeman, Montana 59717, United States; Jamie Sherman, Montana State University, Plant Sciences Department, Leon Johnson Hall, Bozeman, Montana 59717, United States.
Received 09/28/2007.

PI 651502. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS2. GP-840. Pedigree - Hank*7/Glupro. Sister line to 06IFAFS3 and homozygous for the markers indicating presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Hank, which has red kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 154 g kg⁻¹. Grain yield: 4329 kg ha⁻¹. Kernel wt: 36.8 mg. 30 d from heading to glume senescence.

PI 651503. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS3. GP-841. Pedigree - Hank*7/Glupro. Sister line to 06IFAFS2 and is homozygous for the markers indicating a lack of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Hank, which has red kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 156 g kg⁻¹. Grain yield: 4020 kg ha⁻¹. Kernel wt: 36.7 mg. 30.3 d to heading to glume senescence.

PI 651504. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS16. GP-842. Pedigree - Hank*7/Glupro. Sister line to 06IFAFS17; homozygous for the markers indicating the presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Hank, which has red kernels, semi-dwarf growth habit and light tan chaff. Grain protein: 154 g kg⁻¹. Grain yield: 4020 kg ha⁻¹. Kernel wt.: 37.5 mg. 30.0 d from heading to glume senescence.

PI 651505. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS17. GP-843. Pedigree - Hank*7/Glupro. Sister line to 06IFAFS16; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Hank, which has red kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 151 g kg⁻¹. Grain yield: 4489 kg ha⁻¹. Kernel wt.: 37.1 mg. 30.3 d from heading to glume senescence.

PI 651506. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS26. GP-844. Pedigree - McNeal*7/Glupro. Sister line to 06IFAFS27; homozygous for the markers indicating the

presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to McNeal (PI 574642), which has red kernels, semi-dwarf growth habit, and red-brown chaff. Grain protein: 166 g kg⁻¹. Grain yield: 3196 kg ha⁻¹. Kernel wt.: 29.7 mg. 26.7 d from heading to glume senescence.

PI 651507. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS27. GP-845. Pedigree - McNeal*7/Glupro. Sister line to 06IFAFS26; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to McNeal (PI 574642), which has red kernels, semi-dwarf growth habit, and red-brown chaff. Grain protein: 150 g kg⁻¹. Grain yield: 3598 kg ha⁻¹. Kernel wt.: 31.2 mg. 28.0 d from heading to glume senescence.

PI 651508. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS36. GP-846. Pedigree - McNeal*7/Glupro. Sister line to 06IFAFS37; homozygous for the markers indicating the presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to McNeal (PI 574642), which has red kernels, semi-dwarf growth habit, and red-brown chaff. Grain protein: 161 g kg⁻¹. Grain yield: 4120 kg ha⁻¹. Kernel wt.: 31.9 mg. 27.3 d from heading to glume senescence.

PI 651509. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS37. GP-847. Pedigree - McNeal*7/Glupro. Sister line to 06IFAFS36; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to McNeal (PI 574642), which has red kernels, semi-dwarf growth habit, and red-brown chaff. Grain protein: 153 g kg⁻¹. Grain yield: 4435 kg ha⁻¹. Kernel wt.: 34.4 mg. 28.0 d from heading to glume senescence.

PI 651510. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS44. GP-848. Pedigree - Choteau*7/Glupro. Sister line to 06IFAFS45; homozygous for the markers indicating the presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Choteau (PI 633974), which has red kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 169 g kg⁻¹. Grain yield: 3578 kg ha⁻¹. Kernel wt.: 29.9 mg. 28.7 d from heading to glume senescence.

PI 651511. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS45. GP-849. Pedigree - Choteau*7/Glupro. Sister line to 06IFAFS44; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Choteau (PI 633974), which has red kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 157 g kg⁻¹. Grain yield: 3899 kg ha⁻¹. Kernel wt.: 32.9 mg. 29.7 d from heading to glume senescence.

PI 651512. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS48. GP-850. Pedigree - Choteau*7/Glupro. Sister line to 06IFAFS49; homozygous for the markers indicating the presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Choteau (PI 633974), which has red kernels, semi-dwarf growth habit, and

light tan chaff. Grain protein: 167 g kg⁻¹. Grain yield: 3953 kg ha⁻¹. Kernel wt.: 31.3 mg. 28.0 d from heading to glume senescence.

PI 651513. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS49. GP-851. Pedigree - Choteau*7/Glupro. Sister line to 06IFAFS48; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Choteau (PI 633974), which has red kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 163 g kg⁻¹; Grain yield: 3477 kg ha⁻¹. Kernel wt.: 31.5 mg. 28.7 d from heading to glume senescence.

PI 651514. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS223. GP-852. Pedigree - Explorer*7/Glupro. Sister line to 06IFAFS227; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Explorer (PI 619086), which has white kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 152 g kg⁻¹. Grain yield: 4308 kg ha⁻¹. Kernel wt.: 30.9 mg. 32.0 d from heading to glume senescence.

PI 651515. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS227. GP-853. Pedigree - Explorer*7/Glupro. Sister line to 06IFAFS223; homozygous for the markers indicating the presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Explorer (PI 619086), which has white kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 164 g kg⁻¹. Grain yield: 4248 kg ha⁻¹. Kernel wt.: 27.1 mg. 30.3 d from heading to glume senescence.

PI 651516. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS225. GP-854. Pedigree - Explorer*7/Glupro. Sister line to 06IFAFS233; homozygous for the markers indicating the absence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Explorer (PI 619086), which has white kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 153 g kg⁻¹. Grain yield: 4362 kg ha⁻¹. Kernel wt.: 30.1 mg. 32.0 d from heading to glume senescence.

PI 651517. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. 06IFAFS233. GP-855. Pedigree - Explorer*7/Glupro. Sister line to 06IFAFS225; homozygous for the markers indicating the presence of the Gpc-B1 allele introgressed from *T. dicoccoides* ssp. *dicoccoides* for high grain protein content. Similar in appearance to Explorer (PI 619086), which has white kernels, semi-dwarf growth habit, and light tan chaff. Grain protein: 166 g kg⁻¹. Grain yield: 3919 kg ha⁻¹. Kernel wt.: 28.4 mg. 31.3 d from heading to glume senescence.

The following were developed by Monsanto Company, St. Louis, Missouri 63167, United States. Received 10/01/2007.

PI 651518 PVPO. *Glycine max* (L.) Merr.

Cultivar. "D4422957". PVP 200700417.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 09/28/2007.

PI 651519 PVPO. Phaseolus vulgaris L.

Cultivar. "NASH". PVP 20070414.

PI 651520 PVPO. Phaseolus vulgaris L.

Cultivar. "DUKE". PVP 200700424.

The following were developed by Gary Bachman, Tennessee Technological University, Cookeville, Tennessee, United States; Edgar Davis, Tennessee Technological University, Cookeville, Tennessee, United States. Donated by Sandra Reed, U.S. National Arboretum, Floral and Nursery Plants Research Unit, 472 Cadillac Lane, McMinnville, Tennessee 37110, United States. Received 2005.

PI 651521. Callicarpa dichotoma (Lour.) K. Koch

Cultivar. "Duet"; NA 72235. Pedigree - Duet is a variegated sport of *Callicarpa dichotoma* var. *albafructus*. Duet was selected for its variegated foliage. Leaves are medium green with distinct yellow margins. It is the first stable variegated plant found in the genus. Like other *Callicarpa*, its disease and insect tolerant foliage make it an ideal plant for a low maintenance landscape. It is a small, rounded shrub that has grown 1 meter by 1 meter in 4 years in Tennessee. Produces clusters of small white fruit in late summer <p>Hardy in USDA zones 5-8, performs best in light shade. Readily propagated with softwood cuttings using 4000 ppm KIBA, with rooting in 4 weeks. Non invasive. Well suited to background plantings, specimen plant, hedge or screen, or mass planted.<p> Duet has been evaluated in AL, AR, CN, FL, GA, IL, IN, KY, MD, MA, MO, NJ, NC, OH, OK, OR, TN, TX, VA.

The following were developed by Robert T. Lewellen, USDA, ARS, Crop Improvement and Protection Research, 1639 E. Alisal St., Salinas, California 93905, United States. Received 10/10/2007.

PI 651522. Beta vulgaris L.

Breeding. Pureline. C812-41. Pedigree - C812-41 is increase of one S1 family from C890-2/3 (PI 593702) . Plants from C890-2/3 were randomly selfed and the S1 progenies evaluated for resistance to RB-BNYVV. One progeny called 3812-41 was selected for resistance to RB-BNYVV and increased to produce 6812-41. Plants were increased in 2007 as 7812-41 from which C812-41 was released. C812-41 has germplasm from WB41 (PI 546384) and/or WB42 (PI 546385). Resistance from WB 41 and WB 42 was backcrossed into C37 to create C79-2 (PI 593661) and C79-3 (PI 593662). Resistance to rhizomania from C79-2 and C79-3 was backcrossed into C790 to produce lines C890-2 and C890-3, which were then combined to produce line C890-2/3. C812-41 is a narrowly based, self-fertile (SfSf) line that segregates at a high frequency for monogermity ($M_{:mm}$), O-type, and resistance to resistance-breaking strains of Beet necrotic yellow vein virus (RB-BNYVV), the cause of rhizomania in sugarbeet. It is homozygous for red hypocotyls (RR) and at maturity plants often have red striped petioles. It segregates for genetic male sterility (*alal*). The canopy of C812-41 is small and compact with small narrow leaves that are bright green. C812-41 is moderately resistant to powdery mildew caused by *Erysiphe betae*. It had the same curly top rating in the BSDF nursery

at Kimberly, ID as moderately curly-top resistant, monogerm inbreds used in USH11. In a trial at Salinas naturally infected with leaf spot caused by *Cercospora beticola*, it showed tolerance. C812-41 has not been tested for reaction to other diseases. It has not been tested for combining ability for components of sugar yield. In a greenhouse test in cones with RB-BNYVV soil from Imperial Valley, ELISA values for 6 week old plants were measured. In this completely randomized test with 24 plants for each cultivar, the mean ELISA values were 1.9, 2.2, 2.3, 2.7, 2.8, and 3.0 with LSD(.05) = 0.56 for cultivars Angelina (Rz1+Rz2), BetaG017R (Rz2), C812-41, C37 (rz1rz1), Roberta (rz1rz1), and Beta4430R (Rz1), respectively. Six out of the 24 plants for C812-41 (version 6812-41) had an ELISA value greater than 3.0.

PI 651523. *Beta vulgaris* L.

Breeding. Pureline. C812-41CMS. Pedigree - C812-41CMS is the cytoplasmic male sterile counterpart to its maintainer, C812-41. CMS source C790-15CMS was crossed to version 3812-41. That F1 was backcrossed to version 6812-41 to produce 7812-41CMS released as C812-41. C812-41CMS is the cytoplasmic male sterile counter part of C812-41.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 10/04/2007.

PI 651524 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHEME". PVP 200700429.

PI 651525 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHENN". PVP 200700430.

The following were collected by Alfonso Del Rio, University of Wisconsin, Department of Horticulture, 1575 Linden Drive, Madison, Wisconsin 53706, United States; John Bamberg, USDA, ARS, Potato Introduction Station, Peninsula Experiment Station, Sturgeon Bay, Wisconsin 54235, United States. Received 09/16/2007.

PI 651526. *Solanum stoloniferum* Schltdl. & Bouche

Wild. BdR 159; TEMP 4. Collected 09/16/2007 in Texas, United States. Latitude 31° 55' 52" N. Longitude 104° 52' 47" W. Elevation 2588 m. Culberson County. Guadalupe mts. North slope of Bush Mountain on Bush trail. Along trail between summit and where trail passes lookout to W with cliff face to the NW. Under Gambel oak and brush shade in dark leaf mulch soil and rocks. About 100 plants, most spindly, up to 10 cm, no flowers, fruit rare, mature tubers shallow between leaf cover and soil. Collected 7 fruit (590 original seeds), and leaves for DNA; photos. Vicinity Burgess 2255 [1974].

PI 651527. *Solanum stoloniferum* Schltdl. & Bouche

Wild. BdR 160; TEMP 5. Collected 09/16/2007 in Texas, United States. Latitude 31° 56' 53" N. Longitude 104° 52' 44" W. Elevation 2469 m. Culberson County. Guadalupe mts. Very close to jct of Bush and Blue Ridge trails. Under only one large juniper in a broad grassy meadow. About 12 plants up to 10 cm in dark soil under needle mulch, no flowers, one fruit. Collected 1 fruit (62 original seeds) and leaves for DNA; photos.

PI 651528. *Solanum stoloniferum* Schlttdl. & Bouche
Wild. BdR 161; TEMP 6. Collected 09/17/2007 in Texas, United States.
Latitude 31° 56' 53" N. Longitude 104° 50' 44" W. Elevation 2667
m. Culberson County. Guadalupe mts. About 250 ft NW from
Tejas/Bowl/Bush trail jct. Under only one juniper about 20ft N side of
trail. Ten plants in needle mulch up to 10 cm, no flowers or fruit,
Collected 3 tubers, 1 plant, leaves for DNA; photos.

PI 651529. *Solanum jamesii* Torr.
Wild. BdR 162; TEMP 7. Collected 09/19/2007 in New Mexico, United States.
Latitude 32° 5' 48" N. Longitude 104° 45' 59" W. Elevation
1890 m. Eddy County. S of Carlsbad on 62 about 7 miles to CR408 = Dark
Canyon Road then S on 137 past Queen 3 miles to gravel 504 about 4 miles
to Klondike Gap road 69. At 1.6 miles S on Klondike Gap road. At base
of N-facing cliffs that run beside stream where road turns E. Red sand
in shade of junipers very close to cliff face. About 15 healthy, light
green plants to 20 cm. No flowers or fruit. Collected 5 tubers and 6
plants; photos. Vicinity Powell and Sikes 1374 [1965].

Unknown source. Received 10/16/2007.

PI 651530. *Zea mays* L. subsp. *mays*
Breeding. Partinbred. GEMN-0088; GEMS-0088; 04GEM00768; Ames 29188.
Pedigree - AR03056:N09-182-001-B-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651531. *Zea mays* L. subsp. *mays*
Breeding. Partinbred. GEMS-0091; 04GEM00771; Ames 29189. Pedigree -
CHIS740:S1411a-783-002-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651532. *Zea mays* L. subsp. *mays*
Breeding. Partinbred. GEMS-0092; Ames 29199. Pedigree -
CUBA164:S2012-444-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651533. *Zea mays* L. subsp. *mays*
Breeding. Partinbred. GEMS-0093; 04GEM00774; Ames 29190. Pedigree -
CUBA164:S2012-966-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651534. *Zea mays* L. subsp. *mays*
Breeding. Partinbred. GEMN-0097; GEMS-0097; 04GEM00778; Ames 29191.
Pedigree - FS8B(T):N11a-087-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651535. Zea mays L. subsp. mays

Breeding. Partinbred. GEMN-0098; GEMS-0098; 04GEM00779; Ames 29192.
Pedigree - FS8B(T):N11a-110-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651536. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0100; 04GEM00781; Ames 29193. Pedigree -
UR11003:S0302-937-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651537. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0110; GEMN-0110; Ames 29195. Pedigree -
BARBGP2:N08a18-332-001-B-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651538. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0111; GEMN-0111; Ames 29196. Pedigree -
CH05015:N1204-057-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651539. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0112; GEMN-0112; Ames 29197. Pedigree -
CH05015:N1502-086-001-B-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651540. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0113; Ames 29198. Pedigree -
CHIS775:S1911b-120-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651541. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0115; Ames 29201. Pedigree -
DKB844:S1601-073-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651542. Zea mays L. subsp. mays

Breeding. Partinbred. GEMS-0116; Ames 29200. Pedigree -
DKB844:S1601-003-002-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651543. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. GEMS-0117; GEMN-0117; Ames 29202. Pedigree -
DREP150:N2011d-624-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651544. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. GEMS-0118; Ames 29203. Pedigree -
UR11003:S0302-1011-001-B-B-SIB.

Unknown source. Received 10/16/2007.

PI 651545. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. GEMS-0174; GEMN-0174; Ames 29194. Pedigree -
AR17056:N2025-574-001-B-B-SIB.

The following were collected by R. Buttner, Genebank For Fruit, Dorfplatz 2, Dresden, Saxony D-01326, Germany. Received 10/02/1996.

PI 651546. *Fragaria vesca* L.

Wild. *F. vesca* Nr. 9 'Scheenkopf'; CFRA 1509. Collected 1994 in Thuringia, Germany. Latitude 51° 0' N. Longitude 11° 0' E. Elevation 940 m. landscape: ridge of Thuringia mountains. Primary rocks, slightly sour humus soil over silicate gravel. Deforested area. Pedigree - selection of wild *F. vesca* Thuringia, Germany.

The following were developed by Chad Finn, USDA, ARS, NW Center for Small Fruits Research, 3420 NW Orchard Street, Corvallis, Oregon 97339, United States. Received 06/09/2003.

PI 651547. *Fragaria x ananassa* Duchesne ex Rozier

Cultivar. "Tillamook"; CFRA 1819. Pedigree - Cuesta x Puget Reliance. Tillamook, a June-bearing strawberry (*Fragaria x ananassa* Duch.), produces higher yields than 'Totem' and 'Puget Reliance'. Whereas fruit yield often decreases 40-50% from first to second harvest season in trials at Oregon State University North Willamette Research and Extension Center, Tillamook's yield in 2000-2001 only decreased 25%. Tillamook produces fruit that can average 30% larger than 'Totem' and 'Puget Reliance'. The ripe fruit are visible in the canopy and easy to pick. The large fruit size and fruit visibility increase picker efficiency. The fruit have a bright-red external color similar to 'Totem'. The internal color is not as deep red nor as uniformly red as 'Redcrest'. The fruit is very firm and has a very good fresh flavor. While the fruit were not evaluated extensively in storage trials, they hold up well in short term refrigeration and have a less tender skin than most of the Pacific Northwest cultivars. The fruit ripening season overlaps with 'Puget Reliance' and 'Totem'. Plants of Tillamook are vigorous and hold up well into the second harvest season suggesting some virus tolerance. In one low lying location, the plants appeared weak due to their wet location, but they were more vigorous than 'Totem'. Tillamook has good processing characteristics. When compared to 'Totem',

it caps as well, and, has similar soluble solids, titratable acidity, and pH levels. In consumer panels, the color was noted to be lighter than 'Totem' but the fruit had a better appearance and flavor. Tillamook plants for propagation have tested negative for tomato ringspot, strawberry mild yellow edge and tobacco streak viruses by ELISA and have indexed negative on grafting to *F. vesca* and *F. virginiana*.

The following were developed by Francis J. Lawrence, USDA/ARS/NCGR-Corvallis, 33447 Peoria Road, Corvallis, Oregon 97333, United States. Donated by Chad Finn, USDA, ARS, NW Center for Small Fruits Research, 3420 NW Orchard Street, Corvallis, Oregon 97339, United States. Received 06/09/2003.

PI 651548. *Fragaria x ananassa* Duchesne ex Rozier

Breeding. ORUS 1267-236; CFRA 1820. Pedigree - Redcrest x ORUS 869-13(WSU 1623 x Redgem). ORUS 1267-236 was nearly a cultivar. High yields; higher than 'Totem'. Excellent processing quality including: excellent internal and external color, high Brix, high titratable acidity, low pH, low drip loss and excellent flavor. Uniform fruit shape. Good size fruit; similar to 'Totem'. Earlier ripening than its 'Redcrest' parent. No particular disease problems although once lost part of a row to black root rot complex. -Chad Finn, 2003.

PI 651549. *Fragaria x ananassa* Duchesne ex Rozier

Breeding. ORUS 1239R-21; CFRA 1821. Pedigree - Sumas x ORUS 973-1(Olympus x OSC 4681[OSC 3624 x Totem]). ORUS 1239R-21, very early (7-10 days before Totem) and very high yielding (greater than Totem). Too soft/tender skinned for fresh market. Medium fruit size. Excellent flavor and processing characteristics. Very vigorous plant with virus tolerance. -Chad Finn, 2003.

The following were collected by Douglas Cook, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Alex Cook, 255 Irving Road, Eugene, Oregon 97404, United States. Donated by Douglas Cook, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 07/07/2005.

PI 651550. *Fragaria vesca* L.

Wild. DC2005-1; CFRA 1877. Collected 06/29/2005 in Idaho, United States. Pedigree - Collected from the wild in Idaho.

The following were donated by Catherine I. Wright, Alaska Plant Materials Center, HCO2, Box 7440, Palmer, Alaska 99645, United States. Received 11/17/2005.

PI 651551. *Fragaria orientalis* Losinsk.

Cultivated. CFRA 1878; Eater. Pedigree - Selection of wild strawberry from Siberia.

The following were collected by Douglas Cook, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 07/10/2006.

PI 651552. *Fragaria vesca* L.

Wild. CFRA 1886. Collected 07/04/2006 in California, United States.

The following were collected by Thomas Davis, University of New Hampshire, College of Life Science and Agriculture, Plant Biology/Genetics, Durham, New Hampshire 03824-3597, United States; Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Kevin M. Folta, University of Florida, Plant Molecular and Cellular Biology Program, Horticultural Sciences Department, Gainesville, Florida 32611, United States; Monika Hofer, Bundesanstalt für Züchtungsforschung an Kulturpflanzen, Institut für Obstzüchtung, Pillnitzer Platz 3a, Dresden, Saxony 01326, Germany; Philippe Roudeillac, 22 rue Rolland F-33000, Bordeaux, Gironde 01326, France. Donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 07/10/2006.

PI 651553. *Fragaria virginiana* subsp. *platypetala* (Rydb.) Staudt

Wild. *F. virginiana* subsp. *platypetala* Fitton; CFRA 1887. Collected 07/08/2006 in Oregon, United States. The collection of two wild Oregon strawberry plants on 8 July 2006, to commemorate the Expert Committee Meeting to develop a global strategy for strawberry conservation.

PI 651554. *Fragaria chiloensis* subsp. *pacifica* Staudt

Wild. *F. chiloensis* subsp. *pacifica* Ona Beach; CFRA 1888. Collected 07/08/2006 in Oregon, United States. The collection of two wild Oregon strawberry plants on 8 July 2006, to commemorate the Expert Committee Meeting to develop a global strategy for strawberry conservation.

The following were collected by Andrey Sabitov, N.I. Vavilov All-Russian Res. Inst. of Plant Industry, Far East Experiment Station, Vavilov Str. 9, Vladivostok, Primorye 690025, Russian Federation. Received 08/28/2006.

PI 651555. *Fragaria* hybrid

Wild. K9; CFRA 1889; *F. sp.* Kuybyshevskiy Bay. Collected 2003 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2003 at Kuybyshevskiy Bay on Iturup Island.

PI 651556. *Fragaria* hybrid

Wild. CFRA 1890; *F. sp.* Khomsik City. Collected 2005 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2005 at Khomsik City on Sakhalin Island.

PI 651557. *Fragaria* hybrid

Wild. K-2229; CFRA 1891; *F. sp.* Ujno-Sakhalinsk City. Collected 2005 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2005 at Khomsik City on Sakhalin Island.

PI 651558. *Fragaria* hybrid

Wild. CFRA 1892; *F. sp.* Ogonki Village 1. Collected 2005 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2005 at Ujno-Sakhalinsk City on Sakhalin Island.

PI 651559. *Fragaria hybrid*

Wild. N2; CFRA 1893; *F. sp.* Ptichie Lake 1. Collected 2005 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2005 near the Lutoga River, 5 km from Ogonki Village, on Sakhalin Island.

PI 651560. *Fragaria hybrid*

Wild. CFRA 1894; *F. sp.* Lutoga River. Collected 2005 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2005 on Sakhalin Island.

PI 651561. *Fragaria iinumae* Makino

Wild. CFRA 1895; *F. iinumae* Ogonki Village 2. Collected 2003 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2005 along the Lutoga River on Sakhalin Island.

PI 651562. *Fragaria nipponica* Makino

Wild. N1; K-8750; *F. nipponica* Ptichie Lake 2; CFRA 1896. Collected 2005 in Sakhalin, Russian Federation. Parent plant raised from seed collected in 2003 at Ogonki Village on Sakhalin Island.

The following were donated by USDA, ARS, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/18/2006.

PI 651563. *Fragaria x ananassa* Duchesne ex Rozier

Cultivar. CFRA 1902; Gorella open pollinated.

The following were donated by Daniel James Sargent, East Malling Research, New Road, Kent, England ME19 6BJ, United Kingdom. Received 11/22/2006.

PI 651564. *Fragaria viridis* Weston

Breeding. *Fragaria viridis* 901; CFRA 1903.

PI 651565. *Fragaria viridis* Weston

Breeding. *Fragaria viridis* 902; CFRA 1904.

PI 651566. *Fragaria viridis* Weston

Breeding. *Fragaria viridis* 907; CFRA 1905.

The following were donated by Thomas Davis, University of New Hampshire, College of Life Science and Agriculture, Plant Biology/Genetics, Durham, New Hampshire 03824-3597, United States. Received 04/25/2007.

PI 651567. *Fragaria tibetica* Staudt & Dickore

Cultivar. CFRA 1907.

PI 651568. *Fragaria daltoniana* J. Gay

Cultivar. CFRA 1909.

PI 651569. *Fragaria bucharica* Losinsk.

Cultivar. CFRA 1910.

PI 651570. *Fragaria pentaphylla* Losinsk.

Cultivar. CFRA 1913.

Unknown source. Received 06/11/2007.

PI 651571. *Fragaria virginiana* Mill. subsp. *virginiana*
Wild. CFRA 1914. Collected 06/01/2007 in North Carolina, United States.

Unknown source. Received 06/11/2007.

PI 651572. *Fragaria virginiana* Mill. subsp. *virginiana*
Wild. CFRA 1915. Collected 06/04/2007 in South Carolina, United States.

Unknown source. Received 06/11/2007.

PI 651573. *Fragaria vesca* subsp. *americana* (Porter) Staudt
Wild. CFRA 1916. Collected 06/04/2007 in South Carolina, United States.

Unknown source. Received 06/11/2007.

PI 651574. *Fragaria virginiana* subsp. *grayana* (Vilm. ex J. Gay) Staudt
Wild. CFRA 1917. Collected 06/08/2007 in Alabama, United States.

Unknown source. Received 06/11/2007.

PI 651575. *Fragaria virginiana* Mill. subsp. *virginiana*
Wild. CFRA 1918. Collected 06/05/2007 in Georgia, United States.

Unknown source. Received 06/11/2007.

PI 651576. *Fragaria vesca* subsp. *americana* (Porter) Staudt
Wild. CFRA 1919. Collected 06/05/2007 in Georgia, United States.

Unknown source. Received 06/11/2007.

PI 651577. *Fragaria x ananassa* Duchesne ex Rozier
Wild. CFRA 1920. Collected 06/08/2007 in Alabama, United States.

Unknown source. Received 06/11/2007.

PI 651578. *Fragaria virginiana* Mill. subsp. *virginiana*
Wild. CFRA 1921. Collected 06/05/2007 in Georgia, United States.

Unknown source. Received 07/15/2007.

PI 651579. *Fragaria vesca* L.
Wild. CFRA 1922. Collected 07/10/2007 in Nebraska, United States.

Unknown source. Received 07/15/2007.

PI 651580. *Fragaria virginiana* Mill.

Wild. CFRA 1923. Collected 07/10/2007 in South Dakota, United States.

Unknown source. Received 07/15/2007.

PI 651581. *Fragaria virginiana* Mill.

Wild. CFRA 1924. Collected 07/11/2007 in South Dakota, United States.

The following were developed by D.J. Bing, AAFC Lacombe Research Centre, 6000 C&E Trail, Lacombe, Alberta T4L 1W1, Canada. Received 08/21/2007.

PI 651582. *Pisum sativum* L.

Cultivar. Pureline. "AGASSIZ". Pedigree - MP1392/Grande. Agassiz is a semi-leafless field pea (*Pisum sativum* L.) cultivar with yellow cotyledons, medium seed size, early to medium maturity. It is resistance to powdery mildew caused by *Erysiphe pisi* DC. var *pisi*.. Agassiz has high yield potential and good lodging resistance.

PI 651583. *Pisum sativum* L.

Cultivar. Pureline. "THUNDERBIRD". Pedigree - Carneval/MP1566. Thunderbird is a semi-leafless field pea (*Pisum sativum* L.) cultivar with yellow cotyledons, medium seed size and medium maturity. It is resistance to powdery mildew caused by *Erysiphe pisi* DC. var *pisi*.. Thunderbird has high yield potential and good lodging resistance.

The following were developed by Ken Kofoid, Kansas State University, KSU Agricultural Research Center, 1232 240th Avenue, Hays, Kansas 67601-9228, United States. Received 10/22/2007.

PI 651584. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. KS 121. Pedigree - Selection from random mating population KP14BRC4(S1)-35. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (95 cm) that flowers in 76 d. Has red seed with black glumes that are awned and purple plant color.

PI 651585. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. KS 122. Pedigree - Selected from random mating population KP14BRC4(S1)-128. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (75 cm) that flowers in 74 d. Has red seed with black glumes that are awned and purple plant color.

PI 651586. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. KS 123. Pedigree - Selection from random mating population KP14BRC4(S1)-11. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (80 cm) that flowers in 75 d. Has white seed with black glumes that are awned and purple plant color.

- PI 651587. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 124. Pedigree - Selection from random mating population KP14BRC4(S1)-168. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (70 cm) that flowers in 66 d. Has red seed with black glumes that are awned and purple plant color.
- PI 651588. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 125. Pedigree - Selection from random mating population KP14BRC4(S1)-57. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (80 cm) that flowers in 71 d. Has white seed with mahogany glumes that are awnless and purple plant color.
- PI 651589. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 126. Pedigree - Selection from random mating population KP14BRC4(S1)-124. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (90 cm) that flowers in 69 d. Has red seed with black glumes that are awnless and purple plant color.
- PI 651590. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 127. Pedigree - Selection from random mating population KP14BRC4(S1)-84. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (95 cm) that flowers in 78 d. Has red seed with straw colored glumes that are awnless and purple plant color.
- PI 651591. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 128. Pedigree - Selection from random mating population KP14BRC4(S1)-113. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (105 cm) that flowers in 56 d. Has red seed with black glumes that are awned and purple plant color.
- PI 651592. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 129. Pedigree - Selection from random mating population KP14BRC4(S1)-51. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (80 cm) that flowers in 73 d. Has red seed with mahogany glumes that are awnless and purple plant color.
- PI 651593. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. KS 130. Pedigree - Selection from random mating population KP14BRC4(S1)-50. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (85 cm) that flowers in 82 d. Has red seed with black glumes that are awnless and purple plant color.

PI 651594. Sorghum bicolor (L.) Moench **subsp. bicolor**

Breeding. Pureline. KS 131. Pedigree - Selection from random mating population KP14BRC4(S1)-138. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (90 cm) that flowers in 73 d. Has red seed with black glumes that are awnless and purple plant color.

PI 651595. Sorghum bicolor (L.) Moench **subsp. bicolor**

Breeding. Pureline. KS 132. Pedigree - Selection from random mating population KP14BRC4(S1)-179. Tolerant to greenbug (*Schizaphis graminum*) feeding. The line was selected after 4 cycles of recurrent selection for reduced chlorophyll loss due to greenbug feeding. Is a 3 dwarf plant (115 cm) that flowers in 65 d. Has red seed with black glumes that are awned and purple plant color.

The following were developed by Agriculture Canada, Lethbridge Research Station, Lethbridge, Alberta T1J 4B1, Canada. Received 10/25/2007.

PI 651596 PVPO. Solanum tuberosum L.

Cultivar. "AC GLACIER CHIP". PVP 200100043.

The following were developed by Colorado Certified Potato Growers' Assn., Inc., Center, Colorado 81125, United States. Received 10/19/2007.

PI 651597 PVPO. Solanum tuberosum L.

Cultivar. "KEYSTONE RUSSET". PVP 200100101.

PI 651598 PVPO. Solanum tuberosum L.

Cultivar. "SILVERTON RUSSET". PVP 200100102.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 10/23/2007.

PI 651599 PVPO. Citrullus lanatus (Thunb.) Matsum. & Nakai

Cultivar. "4XMSAS". PVP 200800012.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 11/02/2007.

PI 651600 PVPO. Phaseolus vulgaris L.

Cultivar. "BANGA". PVP 200800017.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 10/22/2007.

PI 651601 PVPO. Zea mays L. **subsp. mays**

Cultivar. "PHD62". PVP 200700447.

PI 651602 PVPO. Zea mays L. **subsp. mays**

Cultivar. "PH93G". PVP 200800013.

PI 651603 PVPO. Zea mays L. subsp. mays
Cultivar. "PHBBK". PVP 200800014.

PI 651604 PVPO. Zea mays L. subsp. mays
Cultivar. "PHCKR". PVP 200800015.

PI 651605 PVPO. Zea mays L. subsp. mays
Cultivar. "PHDTD". PVP 200800016.

The following were developed by Honda Motor Co. Ltd., Tokyo, Japan. Received 10/16/2007.

PI 651606 PVPO. Oryza sativa L.
Cultivar. "KOSHIHIKARI H 3". PVP 200700374.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 10/18/2007.

PI 651607 PVPO. Gossypium hirsutum L.
Cultivar. "PM 2141 B2RF". PVP 200700412.

PI 651608 PVPO. Gossypium hirsutum L.
Cultivar. "DP 161 B2RF". PVP 200700413.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 10/18/2007.

PI 651609 PVPO. Lactuca sativa L.
Cultivar. "PINOCHLE". PVP 200700445.

The following were developed by Jajo Genetics, Baton Rouge, Louisiana, United States. Received 10/18/2007.

PI 651610 PVPO. Gossypium hirsutum L.
Cultivar. "JAJO 8192". PVP 200700448.

PI 651611 PVPO. Gossypium hirsutum L.
Cultivar. "JAJO 8200". PVP 200700449.

The following were developed by Plant Breeders 1, Inc., Moscow, Idaho, United States. Received 10/18/2007.

PI 651612 PVPO. Triticum aestivum L. subsp. aestivum
Cultivar. "SOUNDER". PVP 200700450.

The following were developed by Texas Agricultural Experiment Station, Texas, United States. Received 10/18/2007.

PI 651613 PVPO. Avena sativa L.
Cultivar. Pureline. "TAMO 606"; TX96D093; X466-1-B5. PVP 200700451.
Pedigree - Citation//Obree*2/Avena fatua.

The following were developed by Orsetti Seed Company, Inc., Hollister, California, United States. Received 10/18/2007.

PI 651614 PVPO. *Lactuca sativa* L.
Cultivar. "UNISUN". PVP 200700454.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 10/18/2007.

PI 651615 PVPO. *Lactuca sativa* L.
Cultivar. "HEADHUNTER". PVP 200700455.

The following were developed by Jorge Dubcovsky, University of California, Department of Plant Sciences, One Shields Avenue, Davis, California 95616-8515, United States; WestBred LLC, Bozeman, Montana, United States. Received 10/18/2007.

PI 651616 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "EXPRESSO". PVP 200800002. Pedigree - YR15 and YR17 genes backcrossed into Express. Hard red spring wheat.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 10/18/2007.

PI 651617 PVPO. *Lactuca sativa* L.
Cultivar. "MAGOSA". PVP 200800003.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 11/13/2007.

PI 651618 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHDWD". PVP 200800018.

PI 651619 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHF4R". PVP 200800019.

PI 651620 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHH54". PVP 200800020.

The following were donated by Neil Bell, Oregon State University, North Willamette Experiment Station, Aurora, Oregon, United States. Received 03/12/1999.

PI 651621. *Actinidia callosa* var. *henryi* Maxim.
Wild. *A. callosa* var. *henryi*; CACT 144. Collected in Himachal Pradesh, India. Pedigree - Collected from the wild in Himachal Pradesh, India.

The following were donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 11/05/2003.

PI 651622. *Fragaria x ananassa* Duchesne ex Rozier
Cultivar. 2003-KH1; Long Stem Strawberry 2; San Juan Open Pollinated;
CFRA 1830. Pedigree - San Jaun Open Pollinated.

The following were collected by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Ed Stover, USDA, ARS, National Germplasm Repository, University of California, Davis, California 95616-8607, United States; Giorgi Arabuli, State Museum of Georgia, Tbilisi, Georgia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/26/2006.

PI 651623. *Pyrus salicifolia* Pall.
Wild. GE-2006-154; Wild Willow-leaf Pear; *P. salicifolia* GE-2006-154;
CPYR 2893. Collected 09/30/2006 in Georgia. Near village of Salkunet,
on hillside to the south of the Mtkvari River. Fruit from about 6 trees.

The following were collected by James Oliphant, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 09/03/2005.

PI 651624. *Vaccinium myrtillus* L.
Wild. CVAC 1684; *V. myrtillus* Babyfoot. Collected 09/03/2005 in Oregon,
United States. Pedigree - Collected from the wild in Oregon.

The following were collected by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Paul Lyrene, University of Florida, Department of Fruit Crops, 2135 Fifield Hall, Gainesville, Florida 32611, United States. Donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 05/30/2006.

PI 651625. *Vaccinium virgatum* Aiton
Wild. CVAC 1696. Collected 05/23/2006 in Florida, United States. F1
seedling from plantation of *V. virgatum* (*V. ashei*) that was transplanted
from Crestwell, Florida, in the 1920s. the plantation is now overgrown
with pine woods.

PI 651626. *Vaccinium darrowii* Camp
Wild. CVAC 1700. Collected 05/23/2006 in Florida, United States.

PI 651627. *Vaccinium hybrid*
Wild. CVAC 1716. Collected 05/26/2006 in Florida, United States.

PI 651628. *Vaccinium darrowii* Camp
Wild. CVAC 1720. Collected 05/26/2006 in Florida, United States.
Eastern edge of Lake Wales Ridge region. Housing developments
encroaching into natural areas.

PI 651629. Vaccinium darrowii Camp
Wild. CVAC 1734. Collected 05/27/2006 in Florida, United States.

Unknown source. Received 06/18/2007.

PI 651630. Vaccinium darrowii Camp
Wild. V. darrowii Florida - bulk composite; CVAC 1788. Collected in Florida, United States.

Unknown source. Received 02/16/1983.

PI 651631. Zea mays L. subsp. mays
Cultivated. Population. Ames 2357; PRV 2. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651632. Zea mays L. subsp. mays
Cultivated. Population. Ames 2358; PRV 3. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651633. Zea mays L. subsp. mays
Cultivated. Population. Ames 2359; PRV 5. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651634. Zea mays L. subsp. mays
Cultivated. Population. Ames 2360; PRV 6. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651635. Zea mays L. subsp. mays
Cultivated. Population. Ames 2361; PRV 7. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651636. Zea mays L. subsp. mays
Cultivated. Population. Ames 2362; PRV 8. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651637. Zea mays L. subsp. mays
Cultivated. Population. Ames 2363; PRV 9. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651638. Zea mays L. subsp. mays

Cultivated. Population. Ames 2364; PRV 10. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651639. Zea mays L. subsp. mays

Cultivated. Population. Ames 2365; PRV 11. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651640. Zea mays L. subsp. mays

Cultivated. Population. Ames 2366; PRV 12. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651641. Zea mays L. subsp. mays

Cultivated. Population. Ames 2367; PRV 13. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651642. Zea mays L. subsp. mays

Cultivated. Population. Ames 2368; PRV 15. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651643. Zea mays L. subsp. mays

Cultivated. Population. Ames 2369; PRV 16. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651644. Zea mays L. subsp. mays

Cultivated. Population. Ames 2370; PRV 17. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651645. Zea mays L. subsp. mays

Cultivated. Population. Ames 1905; PRV 18. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651646. Zea mays L. subsp. mays

Cultivated. Population. Ames 2371; PRV 19. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651647. Zea mays L. subsp. mays

Cultivated. Population. Ames 2372; PRV 20. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651648. Zea mays L. subsp. mays

Cultivated. Population. Ames 2373; PRV 21. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651649. Zea mays L. subsp. mays

Cultivated. Population. Ames 1917; PRV 23. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651650. Zea mays L. subsp. mays

Cultivated. Population. Ames 1918; PRV 25. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651651. Zea mays L. subsp. mays

Cultivated. Population. Ames 2374; PRV 26. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651652. Zea mays L. subsp. mays

Cultivated. Population. Ames 2375; PRV 27. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651653. Zea mays L. subsp. mays

Cultivated. Population. Ames 1919; PRV 28. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651654. Zea mays L. subsp. mays

Cultivated. Population. Ames 1920; PRV 29. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651655. Zea mays L. subsp. mays

Cultivated. Population. Ames 1937; PRV 30. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651656. Zea mays L. subsp. mays

Cultivated. Population. Ames 2376; PRV 33. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651657. Zea mays L. subsp. mays

Cultivated. Population. Ames 2377; PRV 34. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651658. Zea mays L. subsp. mays

Cultivated. Population. Ames 2378; PRV 35. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651659. Zea mays L. subsp. mays

Cultivated. Population. Ames 1927; PRV 37. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651660. Zea mays L. subsp. mays

Cultivated. Population. Ames 1939; PRV 38. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651661. Zea mays L. subsp. mays

Cultivated. Population. Ames 1928; PRV 39. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651662. Zea mays L. subsp. mays

Cultivated. Population. Ames 2379; PRV 40. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651663. Zea mays L. subsp. mays

Cultivated. Population. Ames 2380; PRV 41. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651664. Zea mays L. subsp. mays

Cultivated. Population. Ames 2381; PRV 43. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651665. Zea mays L. subsp. mays

Cultivated. Population. Ames 2382; PRV 44. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651666. Zea mays L. subsp. mays

Cultivated. Population. Ames 2383; PRV 45. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651667. Zea mays L. subsp. mays

Cultivated. Population. Ames 2384; PRV 48. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651668. Zea mays L. subsp. mays

Cultivated. Population. Ames 2385; PRV 55. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651669. Zea mays L. subsp. mays

Cultivated. Population. Ames 2386; PRV 57. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651670. Zea mays L. subsp. mays

Cultivated. Population. Ames 2387; PRV 61. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651671. Zea mays L. subsp. mays

Cultivated. Population. Ames 1929; PRV 62. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651672. Zea mays L. subsp. mays

Cultivated. Population. Ames 1930; PRV 63. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651673. Zea mays L. subsp. mays

Cultivated. Population. Ames 2388; PRV 64. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651674. Zea mays L. subsp. mays

Cultivated. Population. Ames 2389; PRV 65. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651675. Zea mays L. subsp. mays

Cultivated. Population. Ames 1931; PRV 66. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651676. Zea mays L. subsp. mays

Cultivated. Population. Ames 2390; PRV 68. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651677. Zea mays L. subsp. mays

Cultivated. Population. Ames 2391; PRV 70. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651678. Zea mays L. subsp. mays

Cultivated. Population. Ames 2392; PRV 71. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651679. Zea mays L. subsp. mays

Cultivated. Population. Ames 2393; PRV 72. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651680. Zea mays L. subsp. mays

Cultivated. Population. Ames 2394; PRV 73. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651681. Zea mays L. subsp. mays

Cultivated. Population. Ames 1932; PRV 74. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651682. Zea mays L. subsp. mays

Cultivated. Population. Ames 2395; PRV 75. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651683. Zea mays L. subsp. mays

Cultivated. Population. Ames 2396; PRV 76. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651684. Zea mays L. subsp. mays

Cultivated. Population. Ames 2397; PRV 78. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651685. Zea mays L. subsp. mays

Cultivated. Population. Ames 2398; PRV 80. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651686. Zea mays L. subsp. mays

Cultivated. Population. Ames 2399; PRV 81. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651687. Zea mays L. subsp. mays

Cultivated. Population. Ames 2400; PRV 82. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651688. Zea mays L. subsp. mays

Cultivated. Population. Ames 2401; PRV 85. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651689. Zea mays L. subsp. mays

Cultivated. Population. Ames 2402; PRV 86. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651690. Zea mays L. subsp. mays

Cultivated. Population. Ames 2403; PRV 87. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651691. Zea mays L. subsp. mays

Cultivated. Population. Ames 2404; PRV 88. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651692. Zea mays L. subsp. mays

Cultivated. Population. Ames 2405; PRV 89. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651693. Zea mays L. subsp. mays

Cultivated. Population. Ames 2406; PRV 90. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651694. Zea mays L. subsp. mays

Cultivated. Population. Ames 2407; PRV 91. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651695. Zea mays L. subsp. mays

Cultivated. Population. Ames 2408; PRV 92. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651696. Zea mays L. subsp. mays

Cultivated. Population. Ames 2409; PRV 93. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651697. Zea mays L. subsp. mays

Cultivated. Population. Ames 2410; PRV 95. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651698. Zea mays L. subsp. mays

Cultivated. Population. Ames 2411; PRV 96. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651699. Zea mays L. subsp. mays

Cultivated. Population. Ames 2412; PRV 98. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651700. Zea mays L. subsp. mays

Cultivated. Population. Ames 1940; PRV 99. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651701. Zea mays L. subsp. mays

Cultivated. Population. Ames 1933; PRV 100. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651702. Zea mays L. subsp. mays

Cultivated. Population. Ames 1934; PRV 101. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651703. Zea mays L. subsp. mays

Cultivated. Population. Ames 2413; PRV 102. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651704. Zea mays L. subsp. mays

Cultivated. Population. Ames 1935; PRV 103. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651705. Zea mays L. subsp. mays

Cultivated. Population. Ames 2414; PRV 105. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651706. Zea mays L. subsp. mays

Cultivated. Population. Ames 2415; PRV 106. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651707. Zea mays L. subsp. mays

Cultivated. Population. Ames 2416; PRV 108. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651708. Zea mays L. subsp. mays

Cultivated. Population. Ames 2417; PRV 109. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651709. Zea mays L. subsp. mays

Cultivated. Population. Ames 1936; PRV 110. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651710. Zea mays L. subsp. mays

Cultivated. Population. Ames 2418; PRV 112. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651711. Zea mays L. subsp. mays

Cultivated. Population. Ames 2419; PRV 113. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651712. Zea mays L. subsp. mays

Cultivated. Population. Ames 2420; PRV 114. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651713. Zea mays L. subsp. mays

Cultivated. Population. Ames 2421; PRV 115. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651714. Zea mays L. subsp. mays

Cultivated. Population. Ames 2422; PRV 116. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651715. Zea mays L. subsp. mays

Cultivated. Population. Ames 2423; PRV 117. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651716. Zea mays L. subsp. mays

Cultivated. Population. Ames 2424; PRV 118. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651717. Zea mays L. subsp. mays

Cultivated. Population. Ames 2425; PRV 119. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651718. Zea mays L. subsp. mays

Cultivated. Population. Ames 2426; PRV 120. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651719. Zea mays L. subsp. mays

Cultivated. Population. Ames 2427; PRV 121. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651720. Zea mays L. subsp. mays

Cultivated. Population. Ames 2428; PRV 122. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651721. Zea mays L. subsp. mays

Cultivated. Population. Ames 2429; PRV 123. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651722. Zea mays L. subsp. mays

Cultivated. Population. Ames 2430; PRV 124. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651723. Zea mays L. subsp. mays

Cultivated. Population. Ames 2431; PRV 125. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651724. Zea mays L. subsp. mays

Cultivated. Population. Ames 2432; PRV 128. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651725. Zea mays L. subsp. mays

Cultivated. Population. Ames 2433; PRV 130. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651726. Zea mays L. subsp. mays

Cultivated. Population. Ames 2434; PRV 131. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651727. Zea mays L. subsp. mays

Cultivated. Population. Ames 2435; PRV 132. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651728. Zea mays L. subsp. mays

Cultivated. Population. Ames 2436; PRV 133. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651729. Zea mays L. subsp. mays

Cultivated. Population. Ames 2437; PRV 134. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651730. Zea mays L. subsp. mays

Cultivated. Population. Ames 2438; PRV 136. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651731. Zea mays L. subsp. mays

Cultivated. Population. Ames 2439; PRV 137. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651732. Zea mays L. subsp. mays

Cultivated. Population. Ames 2440; PRV 138. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651733. Zea mays L. subsp. mays

Cultivated. Population. Ames 2441; PRV 140. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651734. Zea mays L. subsp. mays

Cultivated. Population. Ames 2442; PRV 146. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651735. Zea mays L. subsp. mays

Cultivated. Population. Ames 2443; PRV 147. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651736. Zea mays L. subsp. mays

Cultivated. Population. Ames 2444; PRV 148. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651737. Zea mays L. subsp. mays

Cultivated. Population. Ames 2445; PRV 149. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651738. Zea mays L. subsp. mays

Cultivated. Population. Ames 2446; PRV 150. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651739. Zea mays L. subsp. mays

Cultivated. Population. Ames 2447; PRV 151. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651740. Zea mays L. subsp. mays

Cultivated. Population. Ames 2448; PRV 153. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651741. Zea mays L. subsp. mays

Cultivated. Population. Ames 2449; PRV 155. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651742. Zea mays L. subsp. mays

Cultivated. Population. Ames 2450; PRV 156. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651743. Zea mays L. subsp. mays

Cultivated. Population. Ames 2451; PRV 157. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651744. Zea mays L. subsp. mays

Cultivated. Population. Ames 2452; PRV 158. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651745. Zea mays L. subsp. mays

Cultivated. Population. Ames 1921; PRV 161. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651746. Zea mays L. subsp. mays

Cultivated. Population. Ames 2453; PRV 162. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651747. Zea mays L. subsp. mays

Cultivated. Population. Ames 1922; PRV 163. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651748. Zea mays L. subsp. mays

Cultivated. Population. Ames 2454; PRV 165. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651749. Zea mays L. subsp. mays

Cultivated. Population. Ames 2455; PRV 167. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651750. Zea mays L. subsp. mays

Cultivated. Population. Ames 2456; PRV 170. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651751. Zea mays L. subsp. mays

Cultivated. Population. Ames 1923; PRV 171. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651752. Zea mays L. subsp. mays

Cultivated. Population. Ames 2457; PRV 172. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651753. Zea mays L. subsp. mays

Cultivated. Population. Ames 2458; PRV 173. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651754. Zea mays L. subsp. mays

Cultivated. Population. Ames 2459; PRV 174. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651755. Zea mays L. subsp. mays

Cultivated. Population. Ames 2460; PRV 175. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651756. Zea mays L. subsp. mays

Cultivated. Population. Ames 2461; PRV 176. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651757. Zea mays L. subsp. mays

Cultivated. Population. Ames 2462; PRV 177. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651758. Zea mays L. subsp. mays

Cultivated. Population. Ames 2463; PRV 178. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651759. Zea mays L. subsp. mays

Cultivated. Population. Ames 2464; PRV 179. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651760. Zea mays L. subsp. mays

Cultivated. Population. Ames 2465; PRV 180. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651761. Zea mays L. subsp. mays

Cultivated. Population. Ames 1924; PRV 183. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651762. Zea mays L. subsp. mays

Cultivated. Population. Ames 1925; PRV 184. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651763. Zea mays L. subsp. mays

Cultivated. Population. Ames 2466; PRV 186. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651764. Zea mays L. subsp. mays

Cultivated. Population. Ames 2467; PRV 187. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651765. Zea mays L. subsp. mays

Cultivated. Population. Ames 2468; PRV 188. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651766. Zea mays L. subsp. mays

Cultivated. Population. Ames 2469; PRV 189. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651767. Zea mays L. subsp. mays

Cultivated. Population. Ames 2470; PRV 190. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651768. Zea mays L. subsp. mays

Cultivated. Population. Ames 1926; PRV 191. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651769. Zea mays L. subsp. mays

Cultivated. Population. Ames 2471; PRV 192. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651770. Zea mays L. subsp. mays

Cultivated. Population. Ames 2472; PRV 194. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651771. Zea mays L. subsp. mays

Cultivated. Population. Ames 2473; PRV 195. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651772. Zea mays L. subsp. mays

Cultivated. Population. Ames 2474; PRV 196. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651773. Zea mays L. subsp. mays

Cultivated. Population. Ames 2475; PRV 197. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651774. Zea mays L. subsp. mays

Cultivated. Population. Ames 2476; PRV 199. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651775. Zea mays L. subsp. mays

Cultivated. Population. Ames 2477; PRV 200. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651776. Zea mays L. subsp. mays

Cultivated. Population. Ames 2478; PRV 202. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651777. Zea mays L. subsp. mays

Cultivated. Population. Ames 2479; PRV 203. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651778. Zea mays L. subsp. mays

Cultivated. Population. Ames 2480; PRV 204. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651779. Zea mays L. subsp. mays

Cultivated. Population. Ames 2481; PRV 205. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651780. Zea mays L. subsp. mays

Cultivated. Population. Ames 2482; PRV 206. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651781. Zea mays L. subsp. mays

Cultivated. Population. Ames 2483; PRV 207. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651782. Zea mays L. subsp. mays

Cultivated. Population. Ames 2484; PRV 208. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651783. Zea mays L. subsp. mays

Cultivated. Population. Ames 2485; PRV 209. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651784. Zea mays L. subsp. mays

Cultivated. Population. Ames 2486; PRV 210. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651785. Zea mays L. subsp. mays

Cultivated. Population. Ames 2487; PRV 211. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651786. Zea mays L. subsp. mays

Cultivated. Population. Ames 2489; PRV 213. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651787. Zea mays L. subsp. mays

Cultivated. Population. Ames 1906; PRV 214. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651788. Zea mays L. subsp. mays

Cultivated. Population. Ames 1907; PRV 216. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651789. Zea mays L. subsp. mays

Cultivated. Population. Ames 1908; PRV 217. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651790. Zea mays L. subsp. mays

Cultivated. Population. Ames 2490; PRV 219. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651791. Zea mays L. subsp. mays

Cultivated. Population. Ames 1909; PRV 220. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651792. Zea mays L. subsp. mays

Cultivated. Population. Ames 1910; PRV 221. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651793. Zea mays L. subsp. mays

Cultivated. Population. Ames 1911; PRV 223. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651794. Zea mays L. subsp. mays

Cultivated. Population. Ames 1912; PRV 224. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651795. Zea mays L. subsp. mays

Cultivated. Population. Ames 1913; PRV 225. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651796. Zea mays L. subsp. mays

Cultivated. Population. Ames 2491; PRV 228. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651797. Zea mays L. subsp. mays

Cultivated. Population. Ames 1914; PRV 230. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651798. Zea mays L. subsp. mays

Cultivated. Population. Ames 2492; PRV 231. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651799. Zea mays L. subsp. mays

Cultivated. Population. Ames 2493; PRV 232. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651800. Zea mays L. subsp. mays

Cultivated. Population. Ames 1915; PRV 233. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651801. Zea mays L. subsp. mays

Cultivated. Population. Ames 2495; PRV 235. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651802. Zea mays L. subsp. mays

Cultivated. Population. Ames 2496; PRV 236. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651803. Zea mays L. subsp. mays

Cultivated. Population. Ames 2497; PRV 238. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651804. Zea mays L. subsp. mays

Cultivated. Population. Ames 2498; PRV 239. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651805. Zea mays L. subsp. mays

Cultivated. Population. Ames 2499; PRV 240. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651806. Zea mays L. subsp. mays

Cultivated. Population. Ames 2500; PRV 241. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651807. Zea mays L. subsp. mays

Cultivated. Population. Ames 2501; PRV 242. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651808. Zea mays L. subsp. mays

Cultivated. Population. Ames 2502; PRV 243. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651809. Zea mays L. subsp. mays

Cultivated. Population. Ames 2503; PRV 244. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651810. Zea mays L. subsp. mays

Cultivated. Population. Ames 2504; PRV 245. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651811. Zea mays L. subsp. mays

Cultivated. Population. Ames 2505; PRV 248. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651812. Zea mays L. subsp. mays

Cultivated. Population. Ames 2506; PRV 249. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651813. Zea mays L. subsp. mays

Cultivated. Population. Ames 2507; PRV 250. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651814. Zea mays L. subsp. mays

Cultivated. Population. Ames 2508; PRV 251. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651815. Zea mays L. subsp. mays

Cultivated. Population. Ames 2509; PRV 252. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651816. Zea mays L. subsp. mays

Cultivated. Population. Ames 2510; PRV 253. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651817. Zea mays L. subsp. mays

Cultivated. Population. Ames 2511; PRV 254. Collected in Portugal.

Unknown source. Received 05/15/1980.

PI 651818. Zea mays L. subsp. mays

Cultivated. Population. Ames 1916; PRV 255. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651819. Zea mays L. subsp. mays

Cultivated. Population. Ames 2512; PRV 256. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651820. Zea mays L. subsp. mays

Cultivated. Population. Ames 2513; PRV 257. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651821. Zea mays L. subsp. mays

Cultivated. Population. Ames 2514; PRV 258. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651822. Zea mays L. subsp. mays

Cultivated. Population. Ames 2515; PRV 259. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651823. Zea mays L. subsp. mays

Cultivated. Population. Ames 2516; PRV 260. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651824. Zea mays L. subsp. mays

Cultivated. Population. Ames 2517; PRV 261. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651825. Zea mays L. subsp. mays

Cultivated. Population. Ames 2518; PRV 263. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651826. Zea mays L. subsp. mays

Cultivated. Population. Ames 2519; PRV 264. Collected in Portugal.

Unknown source. Received 02/16/1983.

PI 651827. *Zea mays* L. subsp. *mays*

Cultivated. Population. Ames 2520; PRV 265. Collected in Portugal.

The following were developed by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 11/19/2007.

PI 651828 PVPO. *Solanum tuberosum* L.

Cultivar. "TX1523-1Ru/Y". PVP 200200202.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 11/14/2007.

PI 651829 PVPO. *Citrullus lanatus* (Thunb.) Matsum. & Nakai

Cultivar. "4XHDML6". PVP 200800025.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 11/19/2007.

PI 651830 PVPO. *Cucumis sativus* L.

Cultivar. "APD147-5002Gy". PVP 200800027.

PI 651831 PVPO. *Cucumis sativus* L.

Cultivar. "APD147-5007Gy". PVP 200800028.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 11/16/2007.

PI 651832 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHF3P". PVP 200800029.

The following were developed by Alliance One International, Inc., Raleigh, North Carolina, United States. Received 11/21/2007.

PI 651833 PVPO. *Nicotiana tabacum* L.

Cultivar. "AOB 175". PVP 200800007.

PI 651834 PVPO. *Nicotiana tabacum* L.

Cultivar. "AOB 174". PVP 200800008.

PI 651835 PVPO. *Nicotiana tabacum* L.

Cultivar. "AOB 171". PVP 200800009.

PI 651836 PVPO. *Nicotiana tabacum* L.

Cultivar. "AOB 176". PVP 200800010.

The following were developed by Pure Seed Testing, Inc., United States. Received 11/21/2007.

PI 651837 PVPO. Festuca rubra subsp. commutata Gaudin
Cultivar. "TREAZURE II". PVP 200800011.

The following were developed by New Mexico Agric. Exp. Station, New Mexico, United States. Received 11/21/2007.

PI 651838 PVPO. Allium cepa L.
Cultivar. "NuMex Mirage". PVP 200800024.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 11/21/2007.

PI 651839 PVPO. Lactuca sativa L.
Cultivar. "CYCLOPS". PVP 200800026.

The following were developed by Margaret Pooler, USDA, ARS, U.S. National Arboretum, 3501 New York Avenue, NE, Washington, District of Columbia 20002, United States. Received 11/28/2007.

PI 651840. Viburnum macrocephalum f. keteleeri (Carriere) Rehder
Cultivar. 12 feet high and 7 feet wide in 16 years in Washington D.C.; abundant large white inflorescences in early spring.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Giorgi Arabuli, State Museum of Georgia, Tbilisi, Georgia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/26/2004.

PI 651841. Humulus lupulus L. **var. lupulus**
Wild. GE-2004-017; CHUM 1448. Collected 09/23/2004 in Georgia. Pedigree - Collected from the wild in the country of Georgia.

PI 651842. Humulus lupulus L. **var. lupulus**
Wild. GE-2004-107; CHUM 1450. Collected 10/04/2004 in Ajaria, Georgia. Pedigree - Collected from the wild in the country of Georgia.

The following were collected by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Ed Stover, USDA, ARS, National Germplasm Repository, University of California, Davis, California 95616-8607, United States; Giorgi Arabuli, State Museum of Georgia, Tbilisi, Georgia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/06/2006.

PI 651843. *Humulus lupulus* L. var. *lupulus*

Wild. GE-2006-145; CHUM 1457; *H. lupulus* var. *lupulus* GE-2006-145.
Collected 09/30/2006 in Georgia. Kartli, Ksani River Gorge near
Ksovrisi. Along garden fence. Weedy plants growing on fence along road.

The following were collected by Giovanni Figliuolo, University of Basilicata,
Via N. Sauro, 85, Potenza, Basilicata 85100, Italy. Received 04/1998.

PI 651844. *Mentha pulegium* L.

Cultivated. W6 20657; *M. pulegium* 11. Collected 1997 in Basilicata,
Italy. Pedigree - Collected from the wild in Italy. Climate:
Eu-Mediterranean. 750 m above sea level. Use: aromatic. Perennial.

Unknown source. Received 07/15/2007.

PI 651845. *Rubus argutus* Link

Wild. HDF-2007-072; *R. argutus* HDF-2007-072; CRUB 2384. Collected
07/07/2007 in Kansas, United States.

Unknown source. Received 07/15/2007.

PI 651846. *Rubus occidentalis* L.

Wild. HDF-2007-083; *R. occidentalis* HDF-2007-083; CRUB 2390. Collected
07/08/2007 in Kansas, United States.

Unknown source. Received 07/15/2007.

PI 651847. *Rubus occidentalis* L.

Wild. HDF-2007-122; *R. occidentalis* HDF-2007-122; CRUB 2414. Collected
07/13/2007 in Minnesota, United States.

Unknown source. Received 07/30/2007.

PI 651848. *Rubus occidentalis* L.

Wild. 138; ORUS 3802; *R. occidentalis* Kentucky ORUS 3802; CRUB 2431.
Collected in Kentucky, United States.

Unknown source. Received 07/30/2007.

PI 651849. *Rubus occidentalis* L.

Wild. 143; ORUS 3815; *R. occidentalis* Maine ORUS 3815; CRUB 2441.
Collected in Maine, United States.

Unknown source. Received 07/30/2007.

PI 651850. *Rubus occidentalis* L.

Wild. ORUS 3824; 137; *R. occidentalis* Maine ORUS 3824; CRUB 2448.
Collected 07/05/2006 in Minnesota, United States.

Unknown source. Received 07/30/2007.

PI 651851. *Rubus occidentalis* L.

Wild. 97; ORUS 3827; *R. occidentalis* Minnesota ORUS 3827; CRUB 2451.
Collected 07/01/2006 in Minnesota, United States.

Unknown source. Received 07/30/2007.

PI 651852. *Rubus occidentalis* L.

Wild. 1; ORUS 3830; *R. occidentalis* Missouri ORUS 3830; CRUB 2454.
Collected 06/06/2006 in Missouri, United States.

The following were developed by C. Corley Holbrook, USDA, ARS, Georgia Coastal Plain Exp. Sta., P.O. Box 748, Tifton, Georgia 31793, United States; Patricia Timper, Nematodes, Weeds & Crops, Research Unit, USDA-ARS, P.O. Box 748, Tifton, Georgia 31793, United States; Albert Culbreath, The University of Georgia, Coastal Plain Experiment Station, P. O. Box 748, Tifton, Georgia 31793, United States; Craig K. Kvien, University of Georgia, Coastal Plain Experiment Station, National Environmentally Sound Production Ag. Lab, Tifton, Georgia 31793, United States. Received 12/06/2007.

PI 651853. *Arachis hypogaea* L.

Cultivar. Pureline. "TIFGUARD"; 724-19-15. CV-101. Pedigree - Originated from a cross of C-99R (Gorbet and Shokes, 2002) and COAN (Simpson and Starr, 2001). The original population was advanced to the F4 using single seed descent. Individual F4 plants were harvested and the population was subjected to selection pressure for yield, grade, and for resistance to the peanut root-knot nematode and tomato spotted wilt for the next three generations. Runner market-type in seed and pod size. It has a spreading runner growth habit with an erect mainstem that is prominent throughout the growing season, and at harvest. It has a high level of resistance to the peanut root-knot nematode [*Meloidogyne arenaria* (Neal) Chitwood race 1] and tomato spotted wilt virus (TSWV). It is a medium maturity class peanut, with about 135 days needed for optimal maturity. C724-19-15 has a tan testa (seed coat) with percent meat comparable to other runner cultivars. Will be the first peanut cultivar with high levels of resistance to both the peanut root-knot nematode and TSWV. When tested in fields without nematode pressure C724-19-15 exhibits pod yield that is at least equivalent to other currently grown peanut cultivars. When grown in fields with nematode pressure, had significantly higher pod yield than Georgia Green. Grade variables were similar to other common peanut cultivars. Seed size and size distribution were similar to other large seeded runner-type cultivars. Has normal (not high) oleic acid content and has chemical quality and flavor attributes similar to other runner-type cultivars.

The following were developed by F.M. Bourland, University of Arkansas, Northeast Research and Ext. Center, P.O. Box 48, Keiser, Arkansas 72351, United States; D.C. Jones, Cotton Incorporated, 6399 Weston Parkway, Cary, North Carolina 27513, United States. Received 12/06/2007.

PI 651854. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9608ne. GP-888; REST 651854. Pedigree - MD51ne/Miscot 8712. Morphological traits similar to SG105 (check

cultivar) except that Arkot 9608ne displays nectariless (absence of leaf and floral nectaries). Over 14 replicated field tests in Arkansas, yielded about 5% less than SG 105. Compared to SG 105, Arkot 9608ne tended to lower seed index, lint index, fibers per seed, and fiber elongation; similar open bolls percentage, micronaire, length uniformity; and higher plant height, lint percentage, seed per acre, fiber length, and fiber strength. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum*] was equal to known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] was greater than SG 105. The nectariless trait should provide additional resistance to tarnished plant bug not measured in these tests.

PI 651855. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot JJ46. GP-890; REST 651855. Pedigree - SG 125/HyPerformer HS46. Morphological traits (including leaf pubescence and marginal bract trichome density) similar to SG105 (check cultivar). Over 12 replicated field tests in Arkansas, Arkot JJ46 yielded about 6% less than the average yields of SG 105 and PSC 355. Compared to SG 105, Arkot JJ46 tended to have longer fiber length and taller plant height, similar open boll percentage, seed per acre, lint percentage, and seed index, lint index, fibers per seed, length uniformity, and strength; and lower micronaire. Susceptible to *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum*] was equal to known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] was intermediate between SG 105 and PSC 355. Resistance to *Verticillium* wilt (caused by *Verticillium dahliae*) were equal to SG 105 and PSC 355.

PI 651856. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9610. GP-891; REST 651856. Pedigree - SG 404/Miscot 8606. Morphological traits (including leaf pubescence and marginal bract trichome density) similar to SG105 (check cultivar). Over 14 replicated field tests in Arkansas, yielded about 1% less than the average yields of SG 105 and PSC 355. Compared to SG 105, tended to produce longer fiber length, taller plants and similar open bolls percentage, seed per acre, lint percentage, seed index, lint index, fibers per seed, micronaire, length uniformity, and strength. Resistance to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum*] was equal to known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] and to *Verticillium* wilt (caused by *Verticillium dahliae*) were equal to SG 105.

PI 651857. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9620. GP-892; REST 651857. Pedigree - Arkot 8712//F1 (Miscot T8-27/Miscot 7913-51)/F1 (H1330/Miscot 7803-52). Morphological traits (including leaf pubescence and marginal bract trichome density) similar to SG105 (check cultivar). Over 14 replicated field tests in Arkansas, yielded about 4% less than the average yields of SG 105 and PSC 355. Compared to SG 105, tended to have longer fiber length, taller plant height and higher open boll percentage; similar lint percentage, seed index, lint index, fibers per seed, micronaire, length uniformity, and strength; and lower seed per acre. Resistance to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by

Fusarium oxysporum] was equal to known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] was greater than SG 105 and equal to PSC 355. Resistance to Verticillium wilt (caused by *Verticillium dahliae*) were equal to SG 105 and PSC 355.

The following were developed by F.M. Bourland, University of Arkansas, Northeast Research and Ext. Center, P.O. Box 48, Keiser, Arkansas 72351, United States. Received 12/06/2007.

PI 651858. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9623. GP-908; REST 651858. Pedigree - DES 119 sl ne/Arkot 8712. Morphological traits are similar to SG105 (check cultivar), except Arkot 9623 has a slightly more pubescent leaf. Over 14 replicated field tests in Arkansas, yielded about 4% more than the average yields of SG 105 and PSC 355. Compared to SG 105, tended to produce higher open boll percentage and seed per acre; similar plant height, lint percentage, lint index, fibers per seed, micronaire and length uniformity; and lower seed index, fiber length and strength. Resistance to all U.S. races of *Xanthomonas campestris* ps. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum*] is equal to known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] is greater than resistance of SG 105 and equal to PSC 355. Resistance to Verticillium wilt (caused by *Verticillium dahliae*) is equal to SG 105 and PSC 355.

PI 651859. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9625. GP-909; REST 651859. Pedigree - ST 474/Arkot 8712. Morphological traits similar to SG105 (check cultivar), except leaf pubescence is intermediate between SG105 and PSC 355. Over 14 replicated field tests in Arkansas, yielded the same as the average yields of SG 105 and PSC 355. Compared to SG 105, tended to produce higher open boll percentage, seed index, lint index, and fibers per seed; similar lint percentage, micronaire, fiber length and length uniformity and lower plant height, seed per acre and fiber strength. Resistance to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum*] is intermediate between known resistant and susceptible check. Resistance to tarnished plant bug [*Lygus lineolaris*] is intermediate to the resistance of SG 105 and PSC 355. Less resistant to Verticillium wilt (caused by *Verticillium dahliae*) than SG 105 or PSC 355.

The following were developed by Graham J. Scoles, University of Saskatchewan, Dept. of Crop Science & Plant Ecology, 51 Campus Drive, Saskatoon, Saskatchewan S7N 5A8, Canada; Brian G. Rosznagel, University of Saskatchewan, Crop Development Centre, 51 Campus Drive, Saskatoon, Saskatchewan S7N 5A8, Canada; Tom Zatorski, University of Saskatchewan, Crop Development Centre, Feed Barley & Oat Program, Saskatoon, Saskatchewan S7N 5A8, Canada; W.D. Voth, University of Saskatchewan, Crop Development Centre, Dept. of Plant Sciences, Saskatoon, Saskatchewan S7N 5A8, Canada; W.G. Legge, Agriculture and Agri-Food Canada, Brandon Research Centre, P.O. Box 1000A, Brandon, Manitoba R7A 5Y3, Canada; J.R. Tucker, Agriculture and Agri-Food Canada, Brandon Research Centre, P.O. Box 1000A, Brandon, Manitoba R7A 5Y3, Canada; A. Tekauz, Agriculture and Agri-Food Canada, Cereal Research Centre, 195 Dafoe

Road, Winnipeg, Manitoba R3T 2M9, Canada; M. Savard, Agriculture and Agri-Food Canada, Eastern Cereal and Oilseed Research Centre, 960 Carling Avenue, Ottawa, Ontario K1A 0C6, Canada. Received 11/29/2007.

PI 651860. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "CDC MINDON". CV-337; REST 651860. Pedigree - TR339 x TR251. Released 2007. CDC Mindon (CFIA (Canadian) Reg. No. 6224, Canadian PBR Appl. No. 07-5903) is a two-rowed spring feed barley (*Hordeum vulgare* L.) developed at the Crop Development Centre (CDC), University of Saskatchewan, Saskatoon, Saskatchewan, with extensive collaboration at the Fusarium Head Blight (FHB) (*Fusarium graminearum*) /deoxynivalenol (DON) screening stage by Agriculture and Agri-Food Canada (AAFC), Brandon Research Centre, Brandon, Manitoba, and Eastern Cereal and Oilseed Research Centre (ECORC), Ottawa, Ontario. CDC Mindon was tested in CDC yield trials as SB00106 in 2000 2003 and in the Western Canadian Cooperative Two-Row Barley Registration trial as TR04378 during 2004 and 2005. CDC Mindon was registered for production in western Canada as it has demonstrated good agronomic performance combined with good kernel quality and, of greater significance, enhanced resistance to FHB and lower DON accumulation in combination with tolerance to spot blotch (*Cochliobolus sativus*). CDC Mindon is also resistant to the barley smuts.

The following were developed by James L. Brewbaker, University of Hawaii at Manoa, Department of Tropical Plant and Soil Science, St. John 209, Honolulu, Hawaii 96822, United States. Received 12/06/2007.

PI 651861. *Leucaena hybrid*

Cultivar. Population. "KX2-Hawaii"; DUPLICATE OF PI 647963. Pedigree - Derived from the interspecific hybrid made in 1976 between *Leucaena leucocephala* cv. K8 (PI 263695) and *L. pallida* cv. K376. Hybridization was followed by 5 cycles of recurrent mass selection for self-sterility, for tolerance of the psyllid insect, *Heteropsylla cubana* Crawford and for forage yield. Arboreal tropical legume to a height of 15m that was bred largely as a forage crop, to be browsed or harvested periodically (8-16 wks). Distinguished from the parent species by leaf and leaflet morphology, flower head size and color, and pod and seed size. For each of the 5 cycles of selection, ~ 1500 trees were planted and coppiced repeatedly over a period of 2-3 years, selecting the outstanding 100+ trees as seed parents. Is resistant to the psyllid, to which its *L. leucocephala* parent is susceptible, and grows vigorously under cold temperatures that dwarf the *L. leucocephala* parent. Forage yields are treble those of the *L. pallida*, a highland Mexican species (also $2n=104$) chosen for its resistance to the psyllid, tolerance of cold weather, and its self-sterility. The population is derived from seed orchards in which only self-sterile trees are retained, but due to segregation of S alleles there will be some self-fertile trees in the population. Orchardists are encouraged to rogue out self-fertile trees, to reduce seediness and potential invasiveness while improving fodder and wood yield.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 12/03/2007.

PI 651862 PVPO. *Citrullus lanatus* (Thunb.) Matsum. & Nakai
Cultivar. "90-4343ts". PVP 200800033.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 06/1998.

PI 651863. *Mentha pulegium* L.

Wild. S98-15; W6 20742. Collected 04/1998 in Cordoba, Spain. Elevation 150 m. Collected near Montilla in southern Spain. Pedigree - Collected from the wild in Spain. Called Poleo in Spanish. Plant used to make tea in Spain.

The following were collected by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 12/13/2004.

PI 651864. *Mentha arvensis* L.

Wild. *M. arvensis* Azores; KH-2004-03; CMEN 712. Collected 12/09/2004 in Azores, Portugal. Pedigree - Collected from the wild in the Azores, Portugal.

Unknown source. Received 05/24/2006.

PI 651865. *Mentha* sp.

Cultivated. CMEN 714. Collected in Hatay, Turkey. Latitude 36° 12' 47" N. Longitude 36° 11' 16" E. Elevation 0 m.

Unknown source. Received 05/24/2006.

PI 651866. *Mentha* sp.

Cultivated. CMEN 715. Collected in Tunceli, Turkey. Latitude 39° 10' 56" N. Longitude 39° 41' 16" E. Elevation 0 m.

Unknown source. Received 05/24/2006.

PI 651867. *Mentha* sp.

Cultivated. CMEN 716. Collected in Mus, Turkey. Latitude 38° 44' 26" N. Longitude 41° 37' 18" E. Elevation 0 m.

Unknown source. Received 05/24/2006.

PI 651868. *Mentha* sp.

Cultivated. CMEN 717. Collected in Van, Turkey. Latitude 38° 30' 48" N. Longitude 43° 27' 16" E. Elevation 0 m.

The following were collected by J. Scott Cameron, Washington State University, Research & Extension Unit, 1919 NE 78th St., Vancouver,

Washington 98665, United States. Developed by Washington State University, SW Washington Research Unit, 1919 NE 78th St., Vancouver, Washington 98665, United States. Received 02/25/1992.

PI 651869. *Rubus geoides* Sm.

Breeding. 2 FUT 3A; CRUB 1570. Collected 02/1992 in Chile. Pedigree - Selected from the wild from Chile. Collection information is forthcoming

The following were donated by Nanjing Botanical Garden, Mem. Sun Yat-Sen, Nanjing, Jiangsu, China. Received 11/02/1992.

PI 651870. *Rubus columellaris* Tutcher

Wild. CRUB 1706. Collected 09/22/1992 in Guizhou, China. Elevation 1770 m. Bijie County. Pedigree - Collected from the wild in China. Fruit orange red.

Unknown source. Received 05/25/2000.

PI 651871. *Rubus divaricatus* P. J. Mull.

Cultivated. CRUB 2116. Collected in Poznan, Poland. Latitude 52° 25' N. Longitude 16° 53' E. Elevation 70 m. Dendrological Garden, Ponznan.

Unknown source. Received 06/11/2007.

PI 651872. *Rubus flagellaris* Willd.

Wild. HDF-2007-020; *R. trivialis* HD-2007-020; CRUB 2365. Collected 06/04/2007 in South Carolina, United States.

Unknown source. Received 05/25/2000.

PI 651873. *Rubus lamprocaulos* G. Braun

Cultivated. CRUB 2118. Collected in Poznan, Poland. Latitude 52° 25' N. Longitude 16° 53' E. Elevation 70 m. Dendrological Garden, Ponznan.

Unknown source. Received 05/25/2000.

PI 651874. *Rubus schleicheri* Weihe ex Tratt.

Cultivated. CRUB 2122. Collected in Poznan, Poland. Latitude 52° 25' N. Longitude 16° 53' E. Elevation 70 m. Dendrological Garden, Ponznan.

Unknown source. Received 05/25/2000.

PI 651875. *Rubus seebergensis* Pfuhl ex Sprib.

Cultivated. CRUB 2123. Collected in Poznan, Poland. Latitude 52° 25' N. Longitude 16° 53' E. Elevation 70 m. Dendrological Garden, Ponznan.

Unknown source. Received 05/25/2000.

PI 651876. *Rubus wahlbergii* Arrh.

Cultivated. CRUB 2125. Collected in Poznan, Poland. Latitude 52° 25' N. Longitude 16° 53' E. Elevation 70 m. Dendrological Garden, Poznan.

The following were donated by Nanjing Botanical Garden, Mem. Sun Yat-Sen, Nanjing, Jiangsu, China. Received 11/02/1992.

PI 651877. *Rubus innominatus* S. Moore

Wild. CRUB 1698. Collected 09/15/1992 in Guizhou, China. Elevation 1510 m. Xishui County. Pedigree - Collected from the wild in China. Fruit orange red.

The following were developed by Dajue Li, Beijing Botanical Garden, Institute of Botany, Chinese Academy of Science, Beijing, Beijing, China; Richard C. Johnson, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 12/10/2007.

PI 651878. *Carthamus tinctorius* L.

Breeding. Pureline. WSRC01. GP-38. Pedigree - WSRC01, WSRC02, and WSRC03 (*Carthamus tinctorius* L.) were selected from PI 544006, PI 543995, and PI 544017, respectively. Two cycles of recurrent mass selection were completed on each of those original populations. Plots were established in the fall of 2002 for the first cycle and 2003 for the second cycle at Pullman WA (786 m elevation; 46.7247 N and 117.1355 W). Winter survival was the percentage of plants that emerged and survived to the spring count. Seed from surviving plants of PI 544006, PI 543995, and PI 544017 were harvested and bulked, and WSRC01, WSRC02, and WSRC03 produced after the second cycle of selection. Winter hardy safflower (*Carthamus tinctorius* L.) germplasm WSRC01, WSRC02, and WSRC03 originated from germplasm in the USDA-ARS national safflower germplasm collection at Pullman WA. The lines were derived from two cycles of mass selection. Plants of each original accession were fall planted at Pullman WA (786 m; 46.7247 N and 117.1355 W) and seed of surviving plants bulked for each cycle. Selection WSRC01 was derived from PI 544006 from Runan, in Zhumadian County, Henan, province, China, and WSRC02 was derived for PI 543995 originating from Jingxian County, Hebei Province, China. Original populations of WSRC01 and WSRC02 were observed to have a long rosette period under greenhouse conditions, typical of winter type safflower. The selection WSRC03 was derived from PI 544017 from Ruicheng County, Shanxi Province, China, and was reported to have winter hardiness by Professor Li Dajue working at the Beijing Botanical Garden. Seed oil for all the original populations is low, averaging 22%. All are linoleic fatty acid types with average values of 80% linoleic and 13.6% oleic fatty acids. All three original accessions had superior winter survival compared to spring type checks and other winter types. Spring type checks reportedly varying in cold tolerance did not survive winter conditions in eastern Washington locations. Variation within the original accessions was sufficient for successful mass selection. Selection increased winter survival and average of 5.2% for WSRC01, 25.8% for WSRC02 and 69.5% for WSRC03. Average winter survival for WSRC01 was 92%, for WSRC02 84% and for

WCRC03 67%. All lines are facultative, in the sense that seed is produced when either spring or fall planted. Anthesis and maturity for fall planted lines occurred from 14 to 16 days earlier than when spring planted. In Eastern Washington, maturity of fall planted material was late July to early August at lower elevation (206 m) and 14 to 18 days later at higher elevations (78).

PI 651879. *Carthamus tinctorius* L.

Breeding. Pureline. WSRC02. GP-39. Pedigree - WSRC01, WSRC02, and WSRC03 (*Carthamus tinctorius* L.) were selected from PI 544006, PI 543995, and PI 544017, respectively. Two cycles of recurrent mass selection were completed on each of those original populations. Plots were established in the fall of 2002 for the first cycle and 2003 for the second cycle at Pullman WA (786 m elevation; 46.7247 N and 117.1355 W). Winter survival was the percentage of plants that emerged and survived to the spring count. Seed from surviving plants of PI 544006, PI 543995, and PI 544017 were harvested and bulked, and WSRC01, WSRC02, and WSRC03 produced after the second cycle of selection. Winter hardy safflower (*Carthamus tinctorius* L.) germplasm WSRC01, WSRC02, and WSRC03 originated from germplasm in the USDA-ARS national safflower germplasm collection at Pullman WA. The lines were derived from two cycles of mass selection. Plants of each original accession were fall planted at Pullman WA (786 m; 46.7247 N and 117.1355 W) and seed of surviving plants bulked for each cycle. Selection WSRC01 was derived from PI 544006 from Runan, in Zhumadian County, Henan, province, China, and WSRC02 was derived for PI 543995 originating from Jingxian County, Hebei Province, China. Original populations of WSRC01 and WSRC02 were observed to have a long rosette period under greenhouse conditions, typical of winter type safflower. The selection WSRC03 was derived from PI 544017 from Ruicheng County, Shanxi Province, China, and was reported to have winter hardiness by Professor Li Dajue working at the Beijing Botanical Garden. Seed oil for all the original populations is low, averaging 22%. All are linoleic fatty acid types with average values of 80% linoleic and 13.6% oleic fatty acids. All three original accessions had superior winter survival compared to spring type checks and other winter types. Spring type checks reportedly varying in cold tolerance did not survive winter conditions in eastern Washington locations. Variation within the original accessions was sufficient for successful mass selection. Selection increased winter survival and average of 5.2% for WSRC01, 25.8% for WSRC02 and 69.5% for WSRC03. Average winter survival for WCRC01 was 92%, for WCRC02 84% and for WCRC03 67%. All lines are facultative, in the sense that seed is produced when either spring or fall planted. Anthesis and maturity for fall planted lines occurred from 14 to 16 days earlier than when spring planted. In Eastern Washington, maturity of fall planted material was late July to early August at lower elevation (206 m) and 14 to 18 days later at higher elevations (78).

PI 651880. *Carthamus tinctorius* L.

Breeding. Pureline. WSRC03. GP-40. Pedigree - WSRC01, WSRC02, and WSRC03 (*Carthamus tinctorius* L.) were selected from PI 544006, PI 543995, and PI 544017, respectively. Two cycles of recurrent mass selection were completed on each of those original populations. Plots were established in the fall of 2002 for the first cycle and 2003 for the second cycle at Pullman WA (786 m elevation; 46.7247 N and 117.1355 W). Winter survival was the percentage of plants that emerged and survived to the spring count. Seed from surviving plants of PI 544006, PI 543995, and PI

544017 were harvested and bulked, and WSRC01, WSRC02, and WSRC03 produced after the second cycle of selection. Winter hardy safflower (*Carthamus tinctorius* L.) germplasm WSRC01, WSRC02, and WSRC03 originated from germplasm in the USDA-ARS national safflower germplasm collection at Pullman WA. The lines were derived from two cycles of mass selection. Plants of each original accession were fall planted at Pullman WA (786 m; 46.7247 N and 117.1355 W) and seed of surviving plants bulked for each cycle. Selection WSRC01 was derived from PI 544006 from Runan, in Zhumadian County, Henan, province, China, and WSRC02 was derived for PI 543995 originating from Jingxian County, Hebei Province, China. Original populations of WSRC01 and WSRC02 were observed to have a long rosette period under greenhouse conditions, typical of winter type safflower. The selection WSRC03 was derived from PI 544017 from Ruicheng County, Shanxi Province, China, and was reported to have winter hardiness by Professor Li Dajue working at the Beijing Botanical Garden. Seed oil for all the original populations is low, averaging 22%. All are linoleic fatty acid types with average values of 80% linoleic and 13.6% oleic fatty acids. All three original accessions had superior winter survival compared to spring type checks and other winter types. Spring type checks reportedly varying in cold tolerance did not survive winter conditions in eastern Washington locations. Variation within the original accessions was sufficient for successful mass selection. Selection increased winter survival and average of 5.2% for WSRC01, 25.8% for WSRC02 and 69.5% for WSRC03. Average winter survival for WSRC01 was 92%, for WSRC02 84% and for WSRC03 67%. All lines are facultative, in the sense that seed is produced when either spring or fall planted. Anthesis and maturity for fall planted lines occurred from 14 to 16 days earlier than when spring planted. In Eastern Washington, maturity of fall planted material was late July to early August at lower elevation (206 m) and 14 to 18 days later at higher elevations (78).

The following were developed by Barry Glaz, USDA, ARS, Sugarcane Field Station, Canal Point, Florida 33438, United States; P.Y.P. Tai, USDA-ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States; Jimmie D. Miller, USDA, ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States; Jack C. Comstock, USDA, ARS, US Sugarcane Research Field Station, 12990 US Hwy 441 N, Canal Point, Florida 33438, United States; Robert A. Gilbert, University of Florida, EREC, 3200 East Palm Beach Road, Belle Glade, Florida 33430-8003, United States; S. Edme, USDA-ARS, Sugarcane Field Station, 12990 US Highway 441N., Canal Point, Florida 33438, United States; R. Wayne Davidson, Florida Sugar Cane League, Inc., P.O. Box 1208, Clewiston, Florida 33440, United States; Neil C. Glynn, USDA-ARS, Sugarcane Field Station, 12990 US Highway 441 N, Canal Point, Florida 33438, United States. Received 12/17/2007.

PI 651881. *Saccharum* sp.

Cultivar. "CP 00-1101". CV-130. Pedigree - Selected from a putative self-cross of CP 89-2143 made at Canal Point, FL in January 1999. Male grandparent was CP 81-1254; female grandparent was CP 72-2086. Great grandparents: CP 72-1210, CP 62-374 and CP 63-588, other unknown. Leaf sheaths of CP 00-1101 mostly smooth, some have short, stiff pubescence. Leaf sheaths are yellow/red (7.5 YR 7/2) (from Munsell Color Charts for Plant Tissues), often with reddish (5R 4/8) stripes on older leaves and mostly green/yellow (2.5 GY 8/4) on younger leaves. Ligules smooth, green yellow (2.5 GY 7/4) and yellow red (7.5 YR 8/2) at younger leaves

and yellow red (7.5 YT 8/4) in older leaves; some ligules had tufts of pubescence on edges. Auricles that were 1.2 to 2.5 cm in length were present on most leaves. After scraping off wax covering, dewlaps on the upper leaves of mature plants were yellow 5 Y 8/4) and their shape was "deltoid-level." The zig-zzg stalks of CP 00-1101 were covered with a moderate red (2.5 R 6/8) wax bloom. Stalk color was yellow (5 Y 8/6) where covered by the leaf sheath and was yellow 2.5 Y 5/2), a different shade of yellow nearer to the node (5 Y 8/4), and had small areas of green yellow (5 GY 7/8) where exposed to the sun. Internodes were cylindrical with no bud grooves. Small percentage of the internodes had large growth cracks. The buds were yellow (2.5 Y 8/4), round or oval, raised, and usually extended to a smooth, narrow collar that was the top of the root band and to a protruding, narrow collar that was the bottom of the root band. Buds also had a flat wing that extended along their top halves. Under natural conditions in Florida, CP 00-1101 usually does not flower. Has shown adequate resistance for commercial production in Florida to leaf scald [caused by *Xanthomonas albilineans*], Sugarcane mosaic virus strain E, brown rust (caused by *Puccinia melanociphala*), smut (caused by *Sporisorium scitamineum*), ratoon stunt (caused by *Leifsonia xyli*), and eye spot (caused by *Biopolaris sachari*). Susceptible to sugarcane yellow leaf virus.

The following were developed by Syngenta Seeds, Inc., Nampa, Idaho, United States. Received 12/10/2007.

PI 651882. *Lactuca sativa* L.
Cultivar. "BALMITA". PVP 200800035.

The following were developed by Agriculture Canada Res. Sta., St. Jean-Sur-Richel, Quebec, Canada. Donated by Agriculture and Agri-Food Canada, Lacombe, Alberta T4L 1W1, Canada. Received 12/10/2007.

PI 651883 PVPO. *Lactuca sativa* L.
Cultivar. "ESTIVAL". PVP 200800037.

The following were developed by Barry Glaz, USDA, ARS, Sugarcane Field Station, Canal Point, Florida 33438, United States; P.Y.P. Tai, USDA-ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States; Jimmie D. Miller, USDA, ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States; Jack C. Comstock, USDA, ARS, US Sugarcane Research Field Station, 12990 US Hwy 441 N, Canal Point, Florida 33438, United States; S. Edme, USDA-ARS, Sugarcane Field Station, 12990 US Highway 441N., Canal Point, Florida 33438, United States; Neil C. Glynn, USDA-ARS, Suarcane Field Station, 12990 US Highway 441 N, Canal Point, Florida 33438, United States; Jorge L. Juarez, Magdalena Sugar Mill, Lademocracia, Escuintla, Guatemala; Hector Orozco, Centro Guatemalteco de Invest y Capacitacion de la Cana de A, Km. 92.5 Crrertera al pacifico, St Lucia Cotzumalagua, Escuintla, Guatemala; Edgar Solarez, Magdalena Sugar Mill, La Democracia, Escuintla, Guatemala; Jose L. Queme de Leon, Centro Guatemalteco do invest y Capacitacion Cana de Azucar, Km. 92.5, Carretera al Pacifico, St Lucia Cotzumalagua, Escuintla, Guatemala; Werner Ovalle, Centro Guatemalteco de Invest Capacitacion Cana de Azucar, Km. 92.5, Carretera al Pacifico, St Lucia Cotzumalagua, Escuintla, Guatemala; Christopher W. Deren, University of Arkansas, Rice Research and Extension Center, 2962 Hwy 130 E,

Stuttgart, Arkansas 72160, United States. Donated by Mario Melgar, CENGICANA, 5ta Avenida 5-55 Zonal4, Edificio Europlaza, Torre 3, Nivel 18, Guatemala City, Guatemala. Received 03/20/2006.

PI 651884. *Saccharum* sp.

"CP 88-1165"; PI 651884; Q 44634. CV-131. Pedigree - A complex hybrid of *Saccharum* spp. selected from a cross of CL 61-620 x CP 81-1302 made at Canal Point, FL in January 1986. Grandparents were CP 48-120 x CL 54-1910 and CP 72-2079 x CP 71-1068. Leaf sheaths are green with red and purple spots. Leaf blades are smooth. A distinguishing feature is that three consecutive nodes near the top of the stalk often have leaves on the same side of the stalk. Ligules are generally present and are light brown and tend to grow straight and pointed. The same leaf sheath often has one large and one small auricle. The stalks have a moderate zig-zag nature and are similar in diameter to the stalks of CP 72-2086. Stalks are reddish where exposed to the sun and much of the stalk is generally exposed to the sun as both young and old leaf sheaths do not adhere tightly to the stalk. Often on the same side of the node as the bud, there is a groove the entire length of the internode. A large percentage of the internodes have growth cracks. The buds are reddish, similar in color to the internodes, round and pointed, and usually extend to the border of the growth rings. In Guatemala, CP 88-1165 usually flowers by early to mid November. Has shown adequate field resistance in Guatemala to smut (caused by *Sporisorium scitamineum*), leaf scald [caused by *Xanthomonas albilineans*], and brown rust (caused by *Puccinia melanocephala*). Susceptible to sugarcane yellow leaf virus in Guatemala. Has shown field resistance in Florida to eye spot (caused by *Bipolaris sacchari*), smut, and leaf scald. Was moderately susceptible to brown rust in Florida. During the years that CP 88-1165 was growing in Florida yield trials (1992-1995), mosaic and sugarcane yellow leaf virus were not infecting sugarcane fields so field reactions to these two diseases are unknown. In greenhouse inoculations, CP 88-1165 was not susceptible to mosaic in Florida.

The following were developed by USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States; Deer Lodge Valley Conservation District, Deer Lodge, Montana 59722, United States; Montana State University, Montana Agriculture Experimental Stations, Montana, United States. Donated by USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 01/02/2008.

PI 651885. *Poa secunda* J. Presl

Cultivated. Opportunity Germplasm Nevada Bluegrass; 9081633; W6 32865. Collected 1998 in Montana, United States. The original Opportunity Germplasm Nevada bluegrass (accession number 9081633) seed collection was made in 1998 near the Wisdom Junction along Highway 1, 1.5 km (0.93 miles) east of Anaconda, Montana. The collection site was severely contaminated with heavy metals from smelter fallout, surface wind and water transport, as well as historic overflow from the waste canal that supplied the Opportunity Sediment Ponds. Surface soil pH was 4.3. Opportunity Germplasm Nevada bluegrass originated in the upper in the upper Clark Fork River basin of western Montana where a native stand was found growing on acidic soil impacted by acid/heavy-metal contamination, resulting from historic copper smelter emissions, and currently by wind and surface water erosion. The testing of this selection has been limited to the immediate area of its origin and at the Bridger Plant

Materials Center in south-central Montana where it has performed well. Based on the performance data in the Stucky Ridge CEP, other non-reported field trials, and in its native range, Opportunity Germplasm Nevada bluegrass is best adapted to elevations of 2,000 to 6,000 feet, performing more favorably on lower elevation (valley) sites. This selection should prove well adapted for use on drastically disturbed acidic and heavy-metal impacted areas of low to mid-mountain elevations in the northern Rocky Mountain region, given soil amendment and other favorable climatic conditions. As a seed source found growing naturally in the northern Rocky Mountains, it is assumed this selection will perform well in other mountainous regions of the Intermountain West with similar environments and climates.

The following were donated by Bejo Zaden B.V., P.O. Box 9, Dorpsstraat 612, Noord-Scharwoude, North Holland 1722 ZG, Netherlands; Roy E. Sigafus, University of Kentucky, College of Agriculture, Department of Agronomy, Lexington, Kentucky 40546-0091, United States. Received 12/07/1984.

PI 651886. *Cichorium intybus* L.

Cultivar. "Augusto"; Ames 3210. Late spring planting, 95 days to maturity.

PI 651887. *Cichorium intybus* L.

Cultivar. "Cesare"; Ames 3211. Summer planting, 140 days to maturity.

PI 651888. *Cichorium intybus* L.

Cultivar. "Otello"; Ames 3212. Summer planting, 120 days to maturity.

PI 651889. *Cichorium intybus* L.

Cultivar. "Giulio"; Ames 3213. Late spring planting, 80 days to maturity.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651890. *Cichorium endivia* L.

Cultivated. "Ambio"; Ames 5913.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Royal Sluis, Postbox 22, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651891. *Cichorium endivia* L.

Cultivated. "Castello"; Ames 5914.

PI 651892. *Cichorium endivia* L.

Cultivated. "Corso"; Ames 5915.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Vilmorin S.A., P.O.B. 8, La Menitre, Beaufort-En-Vallee, Maine-et-Loire 49250, France. Received 06/05/1986.

PI 651893. *Cichorium endivia* L.

Cultivated. "De Louviers"; Ames 5916.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Royal Sluis, Postbox 22, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651894. *Cichorium endivia* L.

Cultivated. "De Meaux"; Ames 5917.

PI 651895. *Cichorium endivia* L.

Cultivated. "De Ruffec Rocco"; Ames 5918.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651896. *Cichorium endivia* L.

Cultivated. "D'Ete A Coeur Jaune"; Ames 5919.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651897. *Cichorium endivia* L.

Cultivated. "Elise"; Ames 5920.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651898. *Cichorium endivia* L.

Cultivated. "Fine De Louviers"; Ames 5921.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651899. *Cichorium endivia* L.

Cultivated. "Harvol"; Ames 5923.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Benedetto Sgaravatti, Italy. Received 06/05/1986.

PI 651900. Cichorium endivia L.

Cultivated. "Pancalieri"; Ames 5924.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651901. Cichorium endivia L.

Cultivated. "Pinkstar"; Ames 5925.

The following were donated by Asgrow Seed Company, Genecorp, Inc., United States; Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States. Received 06/05/1986.

PI 651902. Cichorium endivia L.

Cultivated. "Riccia Mantovana Estiva"; Ames 5926.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Benedetto Sgaravatti, Italy. Received 06/05/1986.

PI 651903. Cichorium endivia L.

Cultivated. "Ricciuta A Cuore Pieno"; Ames 5927.

The following were donated by Asgrow Seed Company, Genecorp, Inc., United States; Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States. Received 06/05/1986.

PI 651904. Cichorium endivia L.

Cultivated. "Rosabella"; Ames 5928.

The following were developed by Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States. Received 06/05/1986.

PI 651905. Cichorium endivia L.

Cultivated. "S & G 34A"; Ames 5929.

PI 651906. Cichorium endivia L.

Cultivated. "S & G 8452"; Ames 5930.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651907. Cichorium endivia L.

Cultivated. "St. Laurent"; Ames 5931.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Leen de Mos, P.O.B. 54, 'S-Gravenzando, South Holland 2690 AB, Netherlands. Received 06/05/1986.

PI 651908. Cichorium endivia L.

Cultivated. "Viva"; Ames 5932.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651909. Cichorium endivia L.

Cultivated. "Wallone"; Ames 5933.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Royal Sluis, Postbox 22, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651910. Cichorium endivia L.

Cultivated. "Wallone Frisan"; Ames 5934.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651911. Cichorium endivia L.

Cultivated. "Batavia Amelioree"; Ames 5935.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Benedetto Sgaravatti, Italy. Received 06/05/1986.

PI 651912. Cichorium endivia L.

Cultivated. "Bionda A Cuore Pieno"; Ames 5936.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Rijk Zwaan, Burgemeester Crezeelaan 40, P.O.B. 40, De Lier, South Holland 2678 ZG, Netherlands. Received 06/05/1986.

PI 651913. Cichorium endivia L.

Cultivated. "Breedblad Volhart"; Ames 5937.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651914. *Cichorium endivia* L.

Cultivated. "Breedblad Volhart Altijd Gele"; Ames 5938.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651915. *Cichorium endivia* L.

Cultivated. "Breedblad Volhart Winter"; Ames 5939.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Royal Sluis, Postbox 22, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651916. *Cichorium endivia* L.

Cultivated. "Breedblad Volhart Winter Brevo"; Ames 5940.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651917. *Cichorium endivia* L.

Cultivated. "En Cornet De La Loire"; Ames 5941.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651918. *Cichorium endivia* L.

Cultivated. "Florentiana"; Ames 5942.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651919. *Cichorium endivia* L.

Cultivar. "Geante Maraichere race Samy"; Ames 5943.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Benedetto Sgaravatti, Italy. Received 06/05/1986.

PI 651920. *Cichorium endivia* L.

Cultivated. "Gigante Degli Ortolani"; Ames 5944.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651921. *Cichorium endivia* L.

Cultivated. "Grosse Bouclee"; Ames 5945.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651922. *Cichorium endivia* L.

Cultivated. "Grosse Bouclee Grobo (No. 5)"; "Nummer Vijf"; Ames 5946. Escarole type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Terra, Germany. Received 06/05/1986.

PI 651923. *Cichorium endivia* L.

Cultivated. Ames 5947; Haubners Mecky Wez.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651924. *Cichorium endivia* L.

Cultivated. "Mantovano"; Ames 5949.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651925. *Cichorium endivia* L.

Cultivated. "Nummer Vijf"; Ames 5950.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651926. Cichorium endivia L.

Cultivated. "Nutro"; Ames 5951.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651927. Cichorium endivia L.

Cultivated. "Solera Perpignan"; Ames 5952.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651928. Cichorium intybus L.

Cultivated. "A Cafe Pont De Pierre"; Ames 5953.

PI 651929. Cichorium intybus L.

Cultivated. "Amelioree Blonde"; Ames 5954.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; DESSER?, 91220 BRETIGNY-SUR-ORGE. Received 06/05/1986.

PI 651930. Cichorium intybus L.

Cultivated. "All Season San Pasquale"; Ames 5955.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Vilmorin S.A., P.O.B. 8, La Menitre, Beaufort-En-Vallee, Maine-et-Loire 49250, France. Received 06/05/1986.

PI 651931. Cichorium intybus L.

Cultivated. "Amelioree Pain De Sucre"; Ames 5956.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651932. Cichorium intybus L.

Cultivated. "Amelioree Pain De Sucre Elmo"; Ames 5957.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Vilmorin S.A., P.O.B. 8, La Menitre, Beaufort-En-Vallee, Maine-et-Loire 49250, France. Received 06/05/1986.

PI 651933. *Cichorium intybus* L.

Cultivated. "Amere"; Ames 5959. Very diverse population.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651934. *Cichorium intybus* L.

Cultivated. "Barbe De Capucin"; Ames 5960.

PI 651935. *Cichorium intybus* L.

Cultivated. "Blanche De Milan"; Ames 5961.

PI 651936. *Cichorium intybus* L.

Cultivated. "Blonde De Mantova"; Ames 5962.

PI 651937. *Cichorium intybus* L.

Cultivated. "Catalogne race Delta"; Ames 5963.

PI 651938. *Cichorium intybus* L.

Cultivated. "Catalogne Gamma"; Ames 5965.

PI 651939. *Cichorium intybus* L.

Cultivated. "Catalogne Pugliese"; Ames 5966.

PI 651940. *Cichorium intybus* L.

Cultivated. "Chioggia race Marina"; Ames 5968.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651941. *Cichorium intybus* L.

Cultivated. "Deno"; Ames 5969.

PI 651942. *Cichorium intybus* L.

Cultivated. "Divolis"; Ames 5970.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651943. *Cichorium intybus* L.

Cultivated. "E 750"; Ames 5971.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

- PI 651944. *Cichorium intybus* L.**
Cultivated. "Fristo"; Ames 5972.
- PI 651945. *Cichorium intybus* L.**
Cultivated. "Fritardif"; Ames 5973.
- PI 651946. *Cichorium intybus* L.**
Cultivated. "Frivite"; Ames 5974.
- PI 651947. *Cichorium intybus* L.**
Cultivated. "Liber V.O."; Ames 5977.
- PI 651948. *Cichorium intybus* L.**
Cultivated. "Nadin"; Ames 5978.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

- PI 651949. *Cichorium intybus* L.**
Cultivated. "Rouge De Verona race Omega"; Ames 5979.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Vandenberg B.V., P.O.B. 25, Naaldwijk, South Holland 2670 AA, Netherlands. Received 06/05/1986.

- PI 651950. *Cichorium intybus* L.**
Cultivated. "Solex Early"; Ames 5980.
- PI 651951. *Cichorium intybus* L.**
Cultivated. "Solex Late"; Ames 5981.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Pakhuizen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

- PI 651952. *Cichorium intybus* L.**
Cultivated. "Aksenta"; Ames 5982.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Vandenberg B.V., P.O.B. 25, Naaldwijk, South Holland 2670 AA, Netherlands. Received 06/05/1986.

- PI 651953. *Cichorium intybus* L.**
Cultivated. "Solex Mid-Early"; Ames 5983.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Ziegler, Germany. Received 06/05/1986.

PI 651954. *Cichorium intybus* L.

Cultivated. "Zuckerhut"; Ames 5984.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Hild Samen, P.O. Box 1161, Marbach Am Neckar, Baden-Wurttemberg 71672, Germany. Received 06/05/1986.

PI 651955. *Cichorium intybus* L.

Cultivated. "Zuckerhut Stamm Hilmar"; Ames 5985.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Franchi Sementi, M. Pieragostino Franchi, Via San Bernardino 120, Bergamo, Lombardy 24100, Italy. Received 06/05/1986.

PI 651956. *Cichorium intybus* L.

Cultivated. "Palla-Rossa-Precoce"; Ames 5986.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Benedetto Sgaravatti, Italy. Received 06/05/1986.

PI 651957. *Cichorium intybus* L.

Cultivated. "Bianca Di Milano"; Ames 5987.

PI 651958. *Cichorium intybus* L.

Cultivated. "Catalogna Gigante De Chioggia"; Ames 5988.

PI 651959. *Cichorium intybus* L.

Cultivated. "Pan Di Zuccherero"; Ames 5989.

PI 651960. *Cichorium intybus* L.

Cultivated. "Spadona A Foglia Lunga Da Taglio"; Ames 5990.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Olter Sementi, Corso Venezia 93, Asti, Piedmont 14100, Italy. Received 06/05/1986.

PI 651961. *Cichorium intybus* L.

Cultivated. "Variegata Di Chioggia"; Ames 5991.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651962. *Cichorium intybus* L.
Cultivated. "Aline"; Ames 5993.

PI 651963. *Cichorium intybus* L.
Cultivated. "Demi-Hative No. 59"; Ames 5994.

PI 651964. *Cichorium intybus* L.
Cultivated. "Extra Hative No. 66"; Ames 5995.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Rijk Zwaan, Burgemeester Crezeelaan 40, P.O.B. 40, De Lier, South Holland 2678 ZG, Netherlands. Received 06/05/1986.

PI 651965. *Cichorium intybus* L.
Cultivated. "Extrema"; Ames 5997.

PI 651966. *Cichorium intybus* L.
Cultivated. "Firmato"; Ames 5998.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Royal Sluis, Postbox 22, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651967. *Cichorium intybus* L.
Cultivated. "Kwarosa"; Ames 5999. Witloof type.

PI 651968. *Cichorium intybus* L.
Cultivated. "Kwarto"; Ames 6000.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651969. *Cichorium intybus* L.
Cultivated. "Mitado"; Ames 6002.

PI 651970. *Cichorium intybus* L.
Cultivated. "Normato"; Ames 6003.

PI 651971. *Cichorium intybus* L.
Cultivated. "Philvo"; Ames 6004.

PI 651972. *Cichorium intybus* L.
Cultivated. "Plumato"; Ames 6005.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Rijk Zwaan, Burgemeester Crezeelaan 40, P.O.B. 40, De Lier, South Holland 2678 ZG, Netherlands. Received 06/05/1986.

PI 651973. *Cichorium intybus* L.

Cultivated. "Prezo"; Ames 6006.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651974. *Cichorium intybus* L.

Cultivated. "Producent"; Ames 6007.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Clause Semences Professionnelles, 24, boulevard Pierre Brossolette, Bretigny-Sur-Orge, Essonne 91220, France. Received 06/05/1986.

PI 651975. *Cichorium intybus* L.

Cultivated. "Tardive D'Anvers"; Ames 6010.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651976. *Cichorium intybus* L.

Cultivated. "Tardivo"; Ames 6011.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Royal Sluis, Postbox 22, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651977. *Cichorium intybus* L.

Cultivated. "Terosa"; Ames 6012.

PI 651978. *Cichorium intybus* L.

Cultivated. "Tertio"; Ames 6013.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651979. *Cichorium intybus* L.

Cultivated. "Tomiva"; Ames 6014.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Enza Zaden B.V., Postbox 7, Paktuinen 21, Enkhuizen, North Holland 1600 AA, Netherlands. Received 06/05/1986.

PI 651980. *Cichorium intybus* L.
Cultivated. "Vianda"; Ames 6016.

PI 651981. *Cichorium intybus* L.
Cultivated. "Videna"; Ames 6017.

PI 651982. *Cichorium intybus* L.
Cultivated. "Viproda"; Ames 6019.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nickerson-Zwaan B.V., P.O.B. 19, Gebroken Meeldijk 74, Barendrecht, South Holland 2990 AA, Netherlands. Received 06/05/1986.

PI 651983. *Cichorium endivia* L.
Cultivated. "Wivol"; "Avante Garde Winter"; Ames 6021. Escarole type.

PI 651984. *Cichorium intybus* L.
Cultivated. "Reine Bon"; "Hollandse Middee Vroeg"; Ames 6022. Chioggia type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nunhems Zaden B.V., P.O.B. 4005, Kasteel Nunhem, Haelen, Limburg 6080 AA, Netherlands. Received 06/05/1986.

PI 651985. *Cichorium intybus* L.
Cultivated. "Mitiva"; Ames 6023. Witloof type.

PI 651986. *Cichorium intybus* L.
Cultivated. "Premiva"; Ames 6024. Witloof type.

PI 651987. *Cichorium intybus* L.
Cultivated. "Renova"; Ames 6025. Witloof type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Bejo Zaden B.V., P.O. Box 50, Trambaan 1, Warmenhuizen, North Holland 1749 ZH, Netherlands. Received 06/05/1986.

PI 651988. *Cichorium endivia* L.
Cultivated. "Vivat"; "Number Five"; Ames 6026. Endive type.

PI 651989. *Cichorium endivia* L.
Cultivated. "Bossa"; "Geante Maraichere"; Ames 6027. Endive type.

PI 651990. *Cichorium intybus* L.
Cultivated. "Lubert"; Ames 6028. Witloof type.

PI 651991. *Cichorium intybus* L.
Cultivated. "Poncho"; Ames 6029. Chioggia type.

PI 651992. *Cichorium intybus* L.
Cultivated. "Scarpia"; Ames 6030. Chioggia type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Olter Sementi, Corso Venezia 93, Asti, Piedmont 14100, Italy. Received 06/05/1986.

- PI 651993. *Cichorium endivia* L.**
Cultivated. "Buby Kopf"; Ames 6031. Escarole type.
- PI 651994. *Cichorium endivia* L.**
Cultivated. "Fiorentina"; Ames 6032. Escarole type.
- PI 651995. *Cichorium intybus* L.**
Cultivated. "Bionda Di Trieste"; Ames 6033. Chioggia type.
- PI 651996. *Cichorium intybus* L.**
Cultivated. "Orchidea Rossa"; Ames 6034. Chioggia type.
- PI 651997. *Cichorium intybus* L.**
Cultivated. "Treviso"; Ames 6035. Witloof type.
- PI 651998. *Cichorium intybus* L.**
Cultivated. "Chiavari"; Ames 6036. Witloof type.
- PI 651999. *Cichorium intybus* L.**
Cultivated. "Soncino"; Ames 6037. Witloof type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Tezier Freres, 27 Avenue Gambetta, Boite Postale 223, Valence Sur-Rhone, Drome 26002, France. Received 06/05/1986.

- PI 652000. *Cichorium endivia* L.**
Cultivated. "Elysee"; "Grosse Bouclee"; Ames 6038. Escarloe type.
- PI 652001. *Cichorium endivia* L.**
Cultivated. "Dolly"; "Wallone"; Ames 6039. Endivia type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Carl Sperling & Co., Hamburger Strasse 35, Postfach 2640, Luneburg, Lower Saxony D-2120, Germany. Received 06/05/1986.

- PI 652002. *Cichorium endivia* L.**
Cultivated. "Bubi Kopf"; "Sperli Wivita"; Ames 6040. Endivia type.
- PI 652003. *Cichorium endivia* L.**
Cultivated. "Jeti"; Ames 6041. Endivia type.

The following were donated by Edward J. Ryder, USDA, ARS, Agricultural Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Nickerson-Zwaan B.V., P.O.B. 19, Gebroken Meeldijk 74, Barendrecht, South Holland 2990 AA, Netherlands. Received 06/05/1986.

PI 652004. *Cichorium intybus* L.

Cultivated. "Spectra"; Ames 6042. Witloof type.

PI 652005. *Cichorium intybus* L.

Cultivated. "Primus"; Ames 6044. Chioggia type.

The following were collected by D. Arndt, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 06/17/1991.

PI 652006. *Cichorium intybus* L.

Wild. Index Seminum 112; Ames 15711. Collected in Saxony-Anhalt, Germany . Latitude 51° 4' N. Longitude 12° 9' E. Zangenberg, Sachsen-Anhalt, Germany.

The following were donated by Instytut Hodowli i Aklimatyzacji Roslin, Ogród Botaniczny, Ul. Jezdziecka 5, Bydgoszcz, Bydgoszcz 85-687, Poland. Received 06/17/1991.

PI 652007. *Cichorium intybus* L.

Wild. Index Seminum 41; Ames 15747. Collected 06/17/1991 in Bydgoszcz, Poland. Latitude 53° 12' N. Longitude 18° 9' E. Strzelce Gorne, Bydgoszcz, Poland.

PI 652008. *Cichorium intybus* L.

Wild. Index Seminum 42; Ames 15748. Collected 06/17/1991 in Suwalki, Poland. Latitude 53° 44' N. Longitude 22° 45' E. Drenstwo, Suwalki, Poland.

The following were donated by Hortus Botanicus, Universitatis Mariae Curie-Sklodowska, Ul. Slawinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/16/1991.

PI 652009. *Cichorium intybus* L.

Wild. Index Seminum 2504; Ames 17778. Collected 08/16/1991 in Zamosc, Poland. Latitude 50° 47' N. Longitude 23° 57' E. Between Czumow and Hrubieszow.

The following were collected by William Waycott, Peto Seed Co., Arroyo Grande Research Station, 650 Leanna Drive, Arroyo Grande, California 93420, United States. Received 09/01/1994.

PI 652010. *Cichorium endivia* L.

Landrace. Ames 22231. Collected 1994 in Italy. *Indivia scarola ricca schiana* - Endive full, "schiana" (not in dictionary).

PI 652011. *Cichorium endivia* L.

Landrace. Ames 22232. Collected 1994 in Campania, Italy. Sant'Antimo, Napoli province, Campania. Santantuno *Endivia riccia* - Curled endive "Santantuno" (a place?).

PI 652012. *Cichorium endivia* L.

Landrace. Ames 22233. Collected 1994 in Italy. Scarola tardiva paparegna - Late endive "Papal Kingdom".

PI 652013. *Cichorium endivia* L.

Landrace. Ames 22234. Collected 1994 in Campania, Italy. Latitude 40° 50' N. Longitude 14° 15' E. Naples, Napoli province, Campania. Indivia scarola centro foglie - Middle-leaf endive.

PI 652014. *Cichorium endivia* L.

Landrace. Ames 22235. Collected 1994 in Italy. Indivia verde riccia, fine d'inverno (Tres fine maraichere) - Curled, green endive, winter's end (Very fine market-garden type).

The following were donated by Marcel Romaniuk, INRA, Centre de Recherches de Versailles, Route de Saint Cyr, Versailles, Yvelines F 78026, France. Received 06/08/1995.

PI 652015. *Cichorium intybus* L.

Cultivar. "Bea"; Ames 22469. Witloof hybrid variety (cobreeding INRA/CTIFL).

PI 652016. *Cichorium intybus* L.

Cultivar. "TONER"; Ames 22472. Witloof hybrid variety no longer commercialized.

PI 652017. *Cichorium intybus* L.

Cultivar. "TURBO"; Ames 22473. Witloof hybrid variety (cobreeding INRA/CTIFL).

PI 652018. *Cichorium intybus* L.

Cultivar. "ZOOM"; Ames 22474. Witloof hybrid variety (cobreeding INRA/CTIFL).

The following were collected by University de Neuchatel, Jardin Botanique, 22 Chemin di Chantemrie, Neuchatel, Neuchatel CH-2000, Switzerland. Donated by P. Kupfer, Jardin Botanique de l'Universite, Pertuis-du Sault 58, Neuchatel, Neuchatel CH-2000, Switzerland. Received 06/12/1995.

PI 652019. *Cichorium intybus* L.

Wild. Index Seminum 36; Ames 22476. Collected in Switzerland. Elevation 600 m. Foot of Jura Mountains.

The following were collected by Geza Kosa, A Magyar Tudomanyos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/15/1995.

PI 652020. *Cichorium intybus* L.

Wild. 76; Ames 22531. Collected 1995 in Hungary. Alder-ash moorland of "Turjanvidek", between OCSA and DABAS.

PI 652021. *Cichorium intybus* L.

Wild. 77; Ames 22532. Collected 1995 in Hungary. Irrigation-canal sides near BEKES.

PI 652022. *Cichorium intybus* L.

Wild. 78; Ames 22533. Collected 1995 in Hungary. Lake BALATON area, N coast. Xeric, thermophilous bush and oakwood near VOROSBERENY.

The following were collected by D. Arndt, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 08/03/1995.

PI 652023. *Cichorium intybus* L.

Wild. Index Seminum 80; Ames 22556. Collected 1994 in Saxony-Anhalt, Germany.

The following were donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 08/03/1995.

PI 652024. *Cichorium intybus* L.

Wild. Index Seminum 81; Ames 22557. Collected 1994 in Saxony-Anhalt, Germany.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Maria Fraszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland; Malgorzata Rozycka, Ogród Botaniczny, Uniwersytetu Marii Curie-Sklodowskiej, ul. Slawinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Sklodowska, UL. Slawinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/03/1995.

PI 652025. *Cichorium intybus* L.

Wild. Index Seminum 2950; Ames 22575. Collected 1993 in Lublin, Poland. Kazimierz n/Wisla, Pulawy.

The following were collected by Botanical Garden of Iran, Research Institute of Forests and Rangel, P.O. Box 13185-116, Tehran, Tehran, Iran. Received 10/01/1996.

PI 652026. *Cichorium intybus* L.

Wild. 103; Ames 23224. Collected 1996 in Mazandaran, Iran. Elevation 950 m. Chalus road, Dasht-e Nazir, Kandalus.

The following were collected by N.P. Vassiljev. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 01/16/1998.

PI 652027. *Cichorium intybus* L.

Wild. 2372; Ames 24128. Collected 1995 in Novgorod, Russian Federation.
Latitude 57° 50' N. Longitude 30° 40' E. Volotovskiy District.

The following were collected by K.G. Tkaczenko; I.A. Pautova. Donated by V.L. Komarov Botanical Institute, Russian Academy of Sciences, 2, Prof. Popov Street, St. Petersburg, Leningrad 197376, Russian Federation. Received 01/16/1998.

PI 652028. *Cichorium intybus* L.

Wild. 2418; Ames 24129. Collected 1995 in Krasnodar, Russian Federation.
Latitude 45° 1' 58" N. Longitude 35° 58' 37" E. In the vicinity
of Krasnodar.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 652029. *Cichorium endivia* subsp. *pumilum* (Jacq.) Cout.

Wild. 1587; NU 43174; Ames 24285. Collected 01/1998 in Pakistan.

PI 652030. *Cichorium intybus* L.

Wild. 190; NU 43730; Ames 24286. Collected 01/1998 in Former Serbia and Montenegro.

The following were donated by Pakistan Forest Institute, Peshawar, North-West Frontier, Pakistan; USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 652031. *Cichorium endivia* subsp. *pumilum* (Jacq.) Cout.

Uncertain. NU 60582; Ames 24290.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 652032. *Cichorium endivia* subsp. *pumilum* (Jacq.) Cout.

Wild. 1760; NU 46897; Ames 24291. Collected 01/1998 in Turkey. Wild type with top side of leaves hairy. (Curatorial comment, 2001).

The following were collected by Manuel Cardoso Alves, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal; Jaime Ventura Forte, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3049, Portugal. Donated by Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 06/02/1998.

PI 652033. *Cichorium intybus* L.

Wild. Index Seminum 365; Ames 24680. Collected 08/26/1997 in Coimbra, Portugal. Souzelas, in the vicinity of Coimbra.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maria Fraszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Malgorzata Rozycka, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maciej Kwiatkowski, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Ogród Botaniczny, Uniwersytet Marii-Curie Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Received 07/01/1998.

PI 652034. *Cichorium intybus* L.

Wild. Index Seminum 2228; Ames 24701. Collected 1997 in Chelm, Poland. Latitude 51° 1' N. Longitude 23° 40' E. Zmudz.

The following were donated by Alessandro Belardinelli, ESASEM, Via S. Biagio, 25, Casaleone, Veneto 37052, Italy. Received 01/12/1999.

PI 652035. *Cichorium intybus* L.

Cultivar. "Palla Rossa 2-Precoc"; Ames 24977. Matures 90 days from sowing. Flat, round, and bright red head weighing 250 grams. Suitable for autumn harvesting.

PI 652036. *Cichorium intybus* L.

Cultivar. "Palla Rossa 5-Preda"; Ames 24978. Matures 120 days from sowing. Early variety with very uniform and mid-vigor plant. Large and green outside leaves. Firm, round head weighing 300 grams. Bright deep red leaf with large and white veins. Suitable for autumn harvesting.

PI 652037. *Cichorium intybus* L.

Cultivar. "Rossa di Treviso-Trevor"; Ames 24979. Matures 120 days from sowing. Medium vigorous and compact plant producing large, elongated head weighing 200 grams. Bright red external leaves with pure white and large veins. Suitable for spring, late summer, and autumn harvesting.

PI 652038. *Cichorium intybus* L.

Cultivar. "Rossa di Verona Precoce-Toga"; Ames 24980. Matures 120 days from sowing. Mid-large, round-oval head weighing 150-200 grams. Bright red head with narrow and well marked veins. Particularly sweet flavor at ripening. Suitable for autumn harvesting.

PI 652039. *Cichorium intybus* L.

Cultivar. "Variegata Castelfranco di Lusiana-Lusiana"; Ames 24981. Matures 110 days from sowing. Round and light red head with white veins weighing 300 grams. Suitable for autumn harvesting.

PI 652040. *Cichorium intybus* L.

Cultivar. "Variegata di Chioggia Tarda"; Ames 24982. Matures 200 days from sowing. Flat, round, and red head with white veins weighing 350 grams. Suitable for winter harvesting.

The following were donated by Lucie Arbuthnot, RR 1, Box 2177 A, Sanford, Maine 04073, United States; FOUR, v. Altmann Sebastian, 8, Bolzano, Trentino-Alto Adige 39100, Italy. Received 08/31/1998.

PI 652041. *Cichorium intybus* L.

Cultivar. "Cicoria Bianca di Milano"; Ames 25007. "Sugarloaf" type.

The following were donated by Lucie Arbuthnot, RR 1, Box 2177 A, Sanford, Maine 04073, United States; Fratelli Ingegnoli, Corso Buenos Aires, 54, Milano, Lombardy 20124, Italy. Received 08/31/1998.

PI 652042. *Cichorium intybus* L.

Cultivar. "Cicoria di Chioggia a Palla Bianca"; Ames 25008. An amazing white "radicchio" type.

The following were donated by Lucie Arbuthnot, RR 1, Box 2177 A, Sanford, Maine 04073, United States; L'Ortolano, Semencoop, Cesena, Emilia-Romagna 47023, Italy. Received 08/31/1998.

PI 652043. *Cichorium intybus* L.

Cultivar. "Cicoria Mantovana"; Ames 25009. Green "radicchio" type.

PI 652044. *Cichorium intybus* L.

Cultivar. "Cicoria Pan di Zucchero"; Ames 25010. "Sugarloaf" type.

The following were donated by Lucie Arbuthnot, RR 1, Box 2177 A, Sanford, Maine 04073, United States; FOUR, v. Altmann Sebastian, 8, Bolzano, Trentino-Alto Adige 39100, Italy. Received 08/31/1998.

PI 652045. *Cichorium intybus* L.

Cultivar. "Cicoria Puntarelle a Foglia Frastagliata"; Ames 25011. "Dandelion" type.

PI 652046. *Cichorium intybus* L.

Cultivar. "Cicoria Variegata Castelfranco di Rusia"; Ames 25012. Variegated "radicchio" type.

PI 652047. *Cichorium intybus* L.

Cultivar. "Cicoria Variegata di Castelfranco"; Ames 25013. Variegated "radicchio" type.

The following were donated by Lucie Arbuthnot, RR 1, Box 2177 A, Sanford, Maine 04073, United States; Blumen, Italy. Received 08/31/1998.

PI 652048. *Cichorium intybus* L.

Cultivar. "Cicoria Variegata di Chioggia"; Ames 25014. Red "radicchio" type.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of

Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

PI 652049. *Cichorium endivia* L.

Landrace. S018; Ames 25695. Collected 07/27/1999 in Syria. Latitude 36° 11' 57" N. Longitude 37° 9' 10" E. Elevation 0 m. Bab Alfraj seed market, Aleppo. Similar to spinach, but narrow irregular leaf, and bitter so it must be cooked.

The following were collected by Armenio Da Costa Matos, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal; Antonio Agostinho Coutinho Salgado, Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000, Portugal. Donated by Jardim Botânico da Universidade de Coimbra, Arcos do Jardim, Coimbra, Coimbra 3000-393, Portugal. Received 04/27/2000.

PI 652050. *Cichorium intybus* L.

Wild. Index Seminum 365; Ames 26033. Collected 09/15/1999 in Coimbra, Portugal. Latitude 40° 6' N. Longitude 8° 20' W. Miranda do Corvo. Wild type, hairy leaf, really different. (Curatorial Comment, 2001).

The following were collected by Ewa Antoniewska, Arboretum i Zakład Fizjografii w Bolestraszczykach, Bolestraszyce-Zamek, skr. poczt. 471, Przemyśl, Przemyśl 37-700, Poland; Elzbieta Zygala, Arboretum i Zakład Fizjografii w Bolestraszczykach, Bolestraszyce-Zamek, skr. poczt. 471, Przemyśl, Przemyśl 37-700, Poland; Urszula Zablocka, Arboretum i Zakład Fizjografii w Bolestraszczykach, Bolestraszyce-Zamek, skr. poczt. 471, Przemyśl, Przemyśl 37-700, Poland. Donated by Arboretum i Zakład Fizjografii w Bolestraszczykach, Bolestraszyce-Zamek, skr. poczt. 471, Przemyśl, Przemyśl 37-700, Poland. Received 09/16/2003.

PI 652051. *Cichorium intybus* L.

Wild. Index Seminum 160; Ames 27287. Collected 08/22/2002 in Przemyśl, Poland. Latitude 49° 45' N. Longitude 22° 50' E. Luczyce, Opole Zach.

Unknown source. Received 07/23/1975.

PI 652052. *Ocimum americanum* var. *pilosum* (Willd.) A. J. Paton
B 49938; Ames 1679.

Unknown source. Received 01/22/1976.

PI 652053. *Ocimum basilicum* L.

B 51668; Ames 1700.

Unknown source. Received 03/16/1987.

PI 652054. *Ocimum basilicum* L.

Ames 7772; Mrs. Burns Lemon Basil; HB3. Collected 1987 in New Mexico, United States.

The following were collected by T.M. Koyama, New York Botanical Gardens, P.O. Box 366, Tuckahoe, New York 10707-0366, United States. Received 06/01/1987.

PI 652055. *Ocimum gratissimum* var. *macrophylla* Briq.

K-15956; Mii 13; Ames 7833. Collected 03/23/1986 in Sri Lanka.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanic Garden - Copenhagen, University of Copenhagen, Oster Farimagsgade 2B, Copenhagen, Copenhagen DK-1353, Denmark. Received 06/21/1996.

PI 652056. *Ocimum tenuiflorum* L.

Cultivated. OCI 21/93; D 1235; Ames 23154.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 652057. *Ocimum tenuiflorum* L.

Cultivated. OCI 82/87; D 4326; Albahaca morada; Ames 23155. Collected 02/17/1986 in Cuba. Oriente, Las Marias.

The following were donated by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 652058. *Ocimum americanum* L. var. *americanum*

Cultivated. OCI 121/95; D 4657; Ames 23156. Collected in Togo.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 652059. *Ocimum tenuiflorum* L.

Cultivated. OCI 155/95; D 4915; Ames 23157. Collected 1986 in Maldives. Kondey, Huvach Atoll.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 652060. *Ocimum americanum* L.

Wild. 1126; NU 43044; Ames 24443. Collected 01/1998 in Pakistan.

The following were donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States; S.M. Osmann Amu, Aligarh, India. Received 01/29/1998.

PI 652061. *Ocimum basilicum* L.
Uncertain. NU 62505; Ames 24444.

The following were collected by Robert E. Perdue, Crops Research Division - USDA-ARS, New Crops Research Branch, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by USDA, ARS-Midwest Area, National Center for Agricultural Utilization Research, 1815 North University Street, Peoria, Illinois 61604, United States. Received 01/29/1998.

PI 652062. *Ocimum americanum* L. var. *americanum*
Wild. PR27452; NU 61157; Ames 24446. Collected 01/1998 in Tanzania.

PI 652063. *Ocimum gratissimum* L. var. *gratissimum*
Wild. 9330; NU 48664; Ames 24447. Collected 01/1998 in Kenya.

PI 652064. *Ocimum gratissimum* L. var. *gratissimum*
Wild. PR27478; NU 61183; Ames 24448. Collected 01/1998 in Tanzania.

The following were donated by Alessandro Belardinelli, ESASEM, Via S. Biagio, 25, Casaleone, Veneto 37052, Italy. Received 01/12/1999.

PI 652065. *Ocimum basilicum* L.
Cultivar. "Genovese"; Ames 24983. Fast growing plant with medium-broad, dark and bright green leaf. Suitable for direct sowing and plant raising purpose. It is mint smell free.

The following were collected by Roberto Vieira, Purdue University, Horticulture Department, 1165 Horticulture Building, West Lafayette, Indiana 47907-1165, United States. Received 06/28/1999.

PI 652066. *Ocimum campechianum* Mill.
Wild. Vieira 897; BRA 175; Ames 25391. Collected 06/1999 in Maranhao, Brazil. Brejo. Open-pollinated increase from wild collected seed.

The following were collected by Pires. Donated by Roberto Vieira, Purdue University, Horticulture Department, 1165 Horticulture Building, West Lafayette, Indiana 47907-1165, United States. Received 06/28/1999.

PI 652067. *Ocimum gratissimum* L.
Wild. Pires 343; BRA 19; Ames 25392. Collected 06/1999 in Federal District, Brazil. Brasilia. Open-pollinated increase from wild collected seed.

PI 652068. *Ocimum gratissimum* L.
Wild. Pires 43; BRA 43; Ames 25393. Collected 06/1999 in Goias, Brazil. Goiania. Open-pollinated increase from wild collected seed.

The following were collected by Roberto Vieira, Purdue University, Horticulture Department, 1165 Horticulture Building, West Lafayette, Indiana 47907-1165, United States. Received 06/28/1999.

PI 652069. *Ocimum gratissimum* L.

Wild. Ot 28; BRA 159; Ames 25395. Collected 06/1999 in Federal District, Brazil. Brasilia. Open-pollinated increase from wild collected seed.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 09/1961.

PI 652070. *Ocimum basilicum* L.

NSL 6421; Sweet Basil.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 05/1962.

PI 652071. *Ocimum basilicum* L.

NSL 15586; Dark Opal. Pedigree - USDA, PI 182246 inbred. Released 1962. Breeder: University of Connecticut, Storrs. Parentage: USDA, PI 182246 inbred. Characteristics: compact bush, 12-15 inches high; used as culinary herb or ornamental plant. Similar: other purple basil. Adaptation: same as other basil. Seed Trade News vol. 76, no. 20. 1962

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652072. *Pastinaca sativa* L.

"Alba"; Ames 4378.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Asmer Garden Shops, Ltd., 144 Priorswood Road, Taunton, Somerset, England, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652073. *Pastinaca sativa* L.

"Albino"; Ames 4379.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652074. *Pastinaca sativa* L.

"Avonresister"; Ames 4380.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; S.E. Marshall & Co., Ltd., Wisbech, Cambridgeshire, England, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652075. *Pastinaca sativa* L.
"Cobham Improved Marrow"; Ames 4381.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652076. *Pastinaca sativa* L.
"Evesham"; Ames 4382.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Samuel Dobie & Son, Ltd., Llangollen, Wales, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652077. *Pastinaca sativa* L.
"Exhibition"; Ames 4383.

PI 652078. *Pastinaca sativa* L.
"Hollow Crown Improved"; Ames 4384.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652079. *Pastinaca sativa* L.
"Improved Marrow"; Ames 4385.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Samuel Dobie & Son, Ltd., Llangollen, Wales, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652080. *Pastinaca sativa* L.
"Intermediate Parsnip"; Ames 4386.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; J.W. Boyce, 67 Station Road, Soham, Ely, Cambridgeshire, England CB7 52D, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652081. *Pastinaca sativa* L.
"Lisbonnais"; Ames 4387.

PI 652082. *Pastinaca sativa* L.
"Offenham"; Ames 4388.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Glenn Drowns, Sand Hill Preservation Center, 1878 230th Street, Calamus, Iowa 52729, United States. Received 06/06/1985.

PI 652083. *Pastinaca sativa* L.
"The Student"; IA/DR-G; Ames 4389.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652084. *Pastinaca sativa* L.
"Viceroy"; Ames 4391.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; J.W. Boyce, 67 Station Road, Soham, Ely, Cambridgeshire, England CB7 52D, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652085. *Pastinaca sativa* L.
"White Gem"; Ames 4392.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Asmer Garden Shops, Ltd., 144 Priorswood Road, Taunton, Somerset, England, United Kingdom; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 06/06/1985.

PI 652086. *Pastinaca sativa* L.
Cultivated. "Unicorn Parsnip"; Ames 7483.

The following were collected by Richard Grem, RD #2, Box 264, Terryville, Connecticut 06786, United States. Donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States. Received 04/20/1987.

PI 652087. *Pastinaca sativa* L.
RG 3; Ames 7804. Collected 1986 in Connecticut, United States.

PI 652088. *Pastinaca sativa* L.
RG 5; Ames 7807. Collected 1985 in Connecticut, United States.

PI 652089. *Pastinaca sativa* L.
RG 7; Ames 7809. Collected 1985 in Connecticut, United States.

PI 652090. *Pastinaca sativa* L.
RG 8; Ames 7810. Collected 1985 in Connecticut, United States.

PI 652091. *Pastinaca sativa* L.
RG 9; Ames 7811. Collected 1985 in Connecticut, United States.

PI 652092. *Pastinaca sativa* L.

RG 10; Ames 7812. Collected 1985 in Connecticut, United States.

The following were donated by Ray Cerkauskas, Agriculture Canada, Vineland Research Station, Vineland Station, Ontario L0R 2E0, Canada; Vern Shattuck, University of Guelph, Horticultural Science Department, Guelph, Ontario N1G 2W1, Canada. Received 06/10/1991.

PI 652093. *Pastinaca sativa* L.

Ames 15709; UG-10. Pedigree - Originated from a seed population developed in 1986 by randomly intercrossing 10 selected 'Harris Model' and three 'Hollow Crown' plants. UG-10 is being released because it possesses resistance *Phoma complanata* and may be useful to commercial breeders or hobbyists in the development of muck-adapted hybrids or open-pollinated populations.

The following were collected by C. Lacombe; B. Lapalme; L. Dumont. Donated by Jardin Botanique de Montreal, 4101 Rue Sherbrooke Est, Montreal, Quebec H1X 2B2, Canada. Received 05/10/1993.

PI 652094. *Pastinaca sativa* L.

Wild. No. 046; Ames 21037. Collected 08/22/1992 in Quebec, Canada. Grondines, Portneuf.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Saxony D-04103, Germany. Received 08/26/1996.

PI 652095. *Pastinaca sativa* L.

38; Ames 23181. Collected 1995 in Saxony-Anhalt, Germany. Scheiplitz.

The following were donated by Dennis Sherwood, 40604 North Kenosha Road, Zion, Illinois 60099-9341, United States; Alzbeta Kovacova-Pecarova, Ceska 50, Kosice, East Slovakia 040 01, Slovakia. Received 12/04/1996.

PI 652096. *Pastinaca sativa* L.

Cultivated. "Dlouhy Bily"; Ames 23253. Delicate cinnamon aftertaste when eaten raw. Name means "long white". Offered for the first commercially in 1946.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/05/1997.

PI 652097. *Pastinaca sativa* L. *subsp. sativa*

Cultivated. PAS 18/87; Ames 23646. Collected 08/11/1974 in Central Slovakia, Slovakia. Latitude 49° 9' N. Longitude 19° 9' E. Southwest edge of a reservoir where the Orava stream enters. Vegetable garden.

PI 652098. *Pastinaca sativa* L. subsp. *sativa*

Cultivated. 328; PAS 22/84; PAS 22; Ames 23647. Collected 07/28/1982 in Georgia. Latitude 42° 38' 3" N. Longitude 42° 49' 55" E. Orbeli, east of Cageri (Rayon Cageri), southeast edge of Egrisskiy Khrebet mountains, Lechkhum region. From the 1981 seed supply of a farmer's wife. Marinated (pickled) roots eaten.

The following were collected by Karl Hammer, Inst. fur Pflanzengenetik und Kulturpflanzenforschung, (IPK), Genebank, Gatersleben, Saxony-Anhalt D-06466, Germany. Donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/05/1997.

PI 652099. *Pastinaca sativa* L. subsp. *sativa*

Cultivated. PAS 25/87; Ames 23648. Collected 11/22/1985 in Pyongyang, Korea, North. Latitude 38° 56' N. Longitude 125° 30' E. Ch'ongsan-ni, approximately 28 km southwest of Pyongyang, South Pyongyang District. Swine food, from a seed supply.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 05/09/1997.

PI 652100. *Pastinaca sativa* L.

Cultivar. "Bayonnet"; Ames 23711. Very long tapering roots.

PI 652101. *Pastinaca sativa* L.

Cultivar. "Cambridge Improved Marrow"; Ames 23712.

PI 652102. *Pastinaca sativa* L.

Cultivar. "E.W.K. Imperial"; Ames 23713.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Pinetree Garden Seeds, Route 1, Box 300, New Gloucester, Maine 04260, United States. Received 05/09/1997.

PI 652103. *Pastinaca sativa* L.

Cultivar. "Fullback"; Ames 23714. Smooth refined roots, 6 in. long X 3 in. at shoulder, does well in shallow soils, fine flavor and quality, develops early, productive in most soils.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Alex Heklar, Freemansburg, Pennsylvania, United States. Received 05/09/1997.

PI 652104. *Pastinaca sativa* L.

Cultivar. "Hungarian"; Ames 23715.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 05/09/1997.

PI 652105. *Pastinaca sativa* L.

Cultivar. "Imperial Crown"; Ames 23716.

The following were collected by Otto Kral, Wisconsin, United States. Donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Ann Gilson, 1111 Olympus Avenue, Port Angeles, Washington 98362, United States. Received 05/09/1997.

PI 652106. *Pastinaca sativa* L.

Cultivar. "Kral Russian"; Ames 23717. Collected in Wisconsin, United States. Surprisingly stumprooted, which would be handy in shallow soils; on the other hand, this appears susceptible to canker. Collected by Ann Gilson (formerly of Wisconsin) from the late Otto Kral, a neighbor.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; John Wyncoll, 27 Harwood Vale, Bolton, England BL2 3QU, United Kingdom. Received 05/09/1997.

PI 652107. *Pastinaca sativa* L.

Cultivar. "Lancer"; "White Spear"; Ames 23718. Very long slender roots, less crown, smooth. Refined Harris Model type, very sweet, easy to lift, excellent resistance to canker.

PI 652108. *Pastinaca sativa* L.

Cultivar. "New White Skin"; Ames 23719. Does not appear to be much whiter than any other parsnip, but the surface does seem smoother.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Seeds of Change, P.O. Box 15700, Sante Fe, New Mexico 87506, United States. Received 05/09/1997.

PI 652109. *Pastinaca sativa* L.

Cultivar. "Oatney"; Ames 23720. Long roots, good quality.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States; Ekkarthof, Switzerland; Nancy Arrowsmith, Arche Noah, c/o Seed Savers' Heritage Farm, 3076 North Winn Road, Decorah, Iowa 52101, United States. Received 05/09/1997.

PI 652110. *Pastinaca sativa* L.

Cultivar. "Turga"; Ames 23721. Hardy, robust, retains high germination rate for years. Medium long, smooth white tapering roots, sweet and flavorful, well selected for many years in Switzerland.

The following were collected by Jardin Botanique Universite Louis Pasteur, 28 Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/11/1998.

PI 652111. *Pastinaca sativa* L.

Wild. Index Seminum 15; Ames 24565. Collected 1998 in Bas-Rhin, France. Latitude 48° 46' N. Longitude 7° 59' E. Near Dalhunden.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States. Received 03/12/1999.

PI 652112. *Pastinaca sativa* L. subsp. *sativa*

Wild. PAS 19; SSE #19; Poldlugi Bialy; Ames 25200. Collected 1995 in Poland.

PI 652113. *Pastinaca sativa* L. subsp. *sativa*

Wild. 398; PAS 24; Ames 25201. Collected 1982 in Georgia. Latitude 42° 36' 59" N. Longitude 42° 39' 47" E. Chkumi, southwest of Cageri in a side valley of Cchenischkali (Rayon Cageri), Lechkhum region.

PI 652114. *Pastinaca sativa* L. subsp. *sativa*

Wild. 2310; PAS 31; Kachbani Niachuri (Hurensellerie); Ames 25202. Collected 1988 in Georgia. Latitude 41° 43' 10" N. Longitude 45° 25' 8" E. Tokhliarui, Rayon Sagaredzo, historical Province Kachetien.

PI 652115. *Pastinaca sativa* L. subsp. *sativa*

Uncertain. Ames 25203; Pistrick 69.

PI 652116. *Pastinaca sativa* L. subsp. *sativa*

Wild. SSE #15; Ames 25204. Collected 1995 in Romania. Romanian Botanical Garden. 3/4 inch top, 8 inch taper, and purple leaf ribbing.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 01/04/2000.

PI 652117. *Pastinaca sativa* L.

Cultivated. P128; POL 171956; Ames 25950. Collected 07/16/1999 in Chelm, Poland. Latitude 51° 23' 14" N. Longitude 23° 30' 33" E. Macoszyn Maly.

The following were donated by Northeast Regional PI Station, USDA, ARS Plant Genetic Resources Unit, 630 W. North Street, Geneva, New York 14456-0462, United States. Received 07/25/1983.

PI 652118. *Daucus carota* L.

Cultivated. "Nantaise (A Forcer)"; Ames 2863; G 16640. Collected 07/25/1983 in France.

PI 652119. *Daucus carota* L.

Cultivar. "Crimson Wonder"; Ames 2864; G 2220. Collected in France.

The following were collected by A. S. Barclay, USDA, ARS, Crops Research Division, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Donated by Tomya Wilson, Northern Regional Research Center, 1815 N University, Peoria, Illinois 61604, United States. Received 03/21/1986.

PI 652120. *Daucus carota* L.

1046; NU 42274; Ames 5000. Collected 08/1965 in Arkansas, United States.

The following were donated by Shinji Watanabe, National Inst. of Agrobiological Res., 2-1-2 Yatabe, Germplasm Storage Center, Tsukuba, Ibaraki 305, Japan. Received 02/09/1987.

PI 652121. *Daucus carota* L. subsp. *carota*

390301 00 0002; Shin Kurodane Gosun; Ames 7636.

PI 652122. *Daucus carota* L. subsp. *carota*

390301 00 0003; Sone; Ames 7637.

PI 652123. *Daucus carota* L. subsp. *carota*

390301 00 0006; US Harumaki Gosun; Ames 7638.

PI 652124. *Daucus carota* L. subsp. *carota*

"Tamahata Yonsun"; 390301 00 0007; Ames 7639.

PI 652125. *Daucus carota* L. subsp. *carota*

"Sankimaki Sanzun"; 390301 00 0008; 80851; Ames 7640.

PI 652126. *Daucus carota* L. subsp. *carota*

"Shinshuusenkou Oonaga"; 390301 00 0010; Ames 7641.

PI 652127. *Daucus carota* L. subsp. *carota*

"Tokinashi Gosun"; 390301 01 0001; Ames 7642.

PI 652128. *Daucus carota* L. subsp. *carota*

"Nakamura Senkou Futo"; 390301 01 0002; Ames 7643.

PI 652129. *Daucus carota* L. subsp. *carota*

"Manpukuji Senkou Oonaga"; 390301 00 0005; Ames 7644.

PI 652130. *Daucus carota* L. subsp. *carota*

"Senkou Sapporo Futo"; 390301 01 0003; Ames 7645.

PI 652131. *Daucus carota* subsp. *maximus* (Desf.) Ball

"Sapporo Futo"; 390301 01 0004; 80861; Ames 7646.

PI 652132. *Daucus carota* subsp. *maximus* (Desf.) Ball

"Sapporo Futo"; 390301 01 0005; Ames 7647.

PI 652133. *Daucus carota* L. subsp. *carota*

"Ooneko Senkou Oonaga"; 390301 02 0001; Ames 7648.

PI 652134. *Daucus carota* subsp. *maximus* (Desf.) Ball

"Magome Sanzun"; 390301 04 0005; Ames 7649.

PI 652135. *Daucus carota* L. subsp. *carota*

"Shinshuu Senkou Oonaga"; 390301 04 0007; Ames 7650.

PI 652136. *Daucus carota* L. subsp. *carota*
"Shin Kuroda Gosun"; 390301 09 0004; 80871; Ames 7651.

PI 652137. *Daucus carota* var. *sativus* Hoffm.
"Kouyou Gosun"; 390301 09 0006; 80881; Ames 7652.

PI 652138. *Daucus carota* var. *sativus* Hoffm.
"Yoshino"; 390301 09 0010; Ames 7653.

The following were donated by Pietro Perrino, Dirigente di Ricerca del C.N.R., Istituto di Genetica Vegetale, c/o Facolta di Agraria, Bari, Apulia 70126, Italy. Received 02/09/1987.

PI 652139. *Daucus carota* subsp. *hispanicus* (Gouan) Thell.
200497; 60685; Ames 7660.

PI 652140. *Daucus carota* L.
200847; 60686; Ames 7661.

PI 652141. *Daucus carota* L.
200848; 60687; Ames 7662.

PI 652142. *Daucus carota* L.
200849; 60688; Ames 7663.

PI 652143. *Daucus carota* L.
200850; 60689; Ames 7664.

PI 652144. *Daucus carota* L.
200922; 60690; Ames 7665.

PI 652145. *Daucus carota* L.
201431; Ames 7666.

The following were donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Sudex Company, Casablanca, Morocco. Received 02/09/1987.

PI 652146. *Daucus carota* var. *sativus* Hoffm.
"Muscade"; Same as Ames 18686; Ames 7670.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652147. *Daucus carota* var. *sativus* Hoffm.
"Rosal"; Dau 160/81/76; Ames 7671.

The following were donated by N.I. Vavilov Research Institute of Plant Industry, 44, B. Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung,

Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany.
Received 02/09/1987.

PI 652148. *Daucus carota* var. *sativus* Hoffm.

"Vitaminaja 6"; Dau 145/75/76; VIR 2072; 60681; Ames 7672.

The following were donated by Inst. f. Kulturpft.-Forsch, Prague-Ruzyne, Central Bohemia, Czech Republic; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652149. *Daucus carota* var. *sativus* Hoffm.

"Olympia"; Dau 141/79/76; Ames 7673.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Harris Garden, University of Reading, School of Plant Sciences, Whiteknights, Reading, England RG6 6AS, United Kingdom. Received 02/09/1987.

PI 652150. *Daucus carota* subsp. *hispanicus* (Gouan) Thell.

Dau 142/80/76; Ames 7675.

The following were donated by Botanischer Garten der Univ. Halle, Halle (Saale), Saxony-Anhalt, Germany; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652151. *Daucus carota* var. *sativus* Hoffm.

Dau 126/77/76; Ames 7676.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652152. *Daucus carota* var. *sativus* Hoffm.

"Yates Market King"; Dau 114/73/76; Ames 7678.

PI 652153. *Daucus carota* var. *sativus* Hoffm.

"Fakkel Mix"; Dau 159/81/76; Ames 7679.

PI 652154. *Daucus carota* var. *sativus* Hoffm.

"Feonia"; Dau 113/73/76; Ames 7680.

The following were donated by Institute for Plant Production & Qualification, Research Centre for Agrobotany, Tapioszele, Pest H-2766, Hungary; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652155. *Daucus carota* var. *sativus* Hoffm.

"Flakker"; Dau 111/73/76; Ames 7681.

The following were donated by Inst. f. Kulturpft.-Forsch, Prague-Ruzyne, Central Bohemia, Czech Republic; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652156. *Daucus carota* var. *sativus* Hoffm.
"Stupicka Polodlouha"; Dau 105/75/76; 60679; Ames 7682.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652157. *Daucus carota* var. *sativus* Hoffm.
"Vesta Vennaja"; "Versa Vennaja"; Dau 109/73/76; 60680; Ames 7683.

PI 652158. *Daucus carota* var. *sativus* Hoffm.
Landrace. DAU 208; Dau K5900/84/76; Landrace 1982:404; Ames 7684. Ekumi, SW Cageri, Sentental des chemish Kali (Rayon Cageri) Lecchumi.

PI 652159. *Daucus carota* var. *sativus* Hoffm.
Dau K5772/83/76; Same as PI 234623; Ames 7685.

PI 652160. *Daucus carota* var. *sativus* Hoffm.
"Amsterdam Grace"; Dau K4987/84/76; Ames 7687.

PI 652161. *Daucus carota* var. *sativus* Hoffm.
"Amsterdam Indu"; Dau K4986/84/76; Ames 7688.

PI 652162. *Daucus carota* var. *sativus* Hoffm.
"Banta"; Dau K4983/84/76; Ames 7689.

PI 652163. *Daucus carota* var. *sativus* Hoffm.
"Vita Longa"; Dau K4981/84/70; Ames 7690.

PI 652164. *Daucus carota* var. *sativus* Hoffm.
"Regina"; Dau K4917/83/76; Ames 7691.

PI 652165. *Daucus carota* var. *sativus* Hoffm.
"Superpak"; Dau 186/82/76; Ames 7693.

PI 652166. *Daucus carota* var. *sativus* Hoffm.
"Superno"; Dau 184/82/76; Ames 7694.

PI 652167. *Daucus carota* var. *sativus* Hoffm.
"Formula"; Dau 170/81/76; Ames 7695.

PI 652168. *Daucus carota* var. *sativus* Hoffm.
"Saigarepa"; Dau 169/81/76; 60682; Ames 7696.

PI 652169. *Daucus carota* var. *sativus* Hoffm.
"Decca"; Dau 167/81/76; Ames 7697.

PI 652170. *Daucus carota* var. *sativus* Hoffm.
"Tantal"; Dau 166/81/76; Ames 7698.

PI 652171. *Daucus carota* var. *sativus* Hoffm.
Dau 165/81/76; Karotan; Ames 7699.

The following were donated by Inst. f. Kulturpft.-Forsch, Prague-Ruzyne, Central Bohemia, Czech Republic; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652172. *Daucus carota* var. *sativus* Hoffm.
"Stupicka k Rychleni"; Dau 103/79/76; 60678; Ames 7700.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652173. *Daucus carota* var. *sativus* Hoffm.
"Amsterdamer Finger"; Dau 64/73/76; Ames 7703.

The following were donated by Institute for Plant Production & Qualification, Research Centre for Agrobotany, Tapioszele, Pest H-2766, Hungary; Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652174. *Daucus carota* var. *sativus* Hoffm.
"Voros Orias"; Dau 62/77/76; 60675; Ames 7704.

The following were donated by Leibniz-Inst fur Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652175. *Daucus carota* var. *sativus* Hoffm.
"Slendero"; Dau 55/73/76; Ames 7707.

PI 652176. *Daucus carota* var. *sativus* Hoffm.
"Rialto"; Dau 49/73/76; Ames 7708.

PI 652177. *Daucus carota* var. *sativus* Hoffm.
"Regulus II"; Dau 48/73/76; Same as PI 269321; Ames 7709.

PI 652178. *Daucus carota* var. *sativus* Hoffm.
"Winter Perfektion"; Dau 47/73/76; Ames 7710.

PI 652179. *Daucus carota* L.
"Danvers 126"; Dau 42/76/76; Same as NSL 22843; Same as NSL 6171; Ames 7712.

PI 652180. *Daucus carota* var. *sativus* Hoffm.
"Moskovskaja Zimmjaja"; Dau 29/77/76; 80781; 60672; Same as PI 325992; Ames 7714.

PI 652181. *Daucus carota* var. *sativus* Hoffm.

Dau 16/77/76; 60671; Ames 7716; China 1956:25. Samenhandlung (seed dealer) in Peking.

The following were donated by Otto J. Olson and Sons, A.B., Hammenhogs, Sweden; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 02/09/1987.

PI 652182. *Daucus carota* var. *sativus* Hoffm.

"London Torg"; Dau 8/77/76; 80791; Same as PI 205998; Same as PI 269317; Ames 7718.

The following were donated by Botanischer Garten der Stadt Köln, Amsterdamer Strasse 34, Köln, N. Rhine-Westphalia D-5000, Germany. Received 11/09/1963.

PI 652183. *Daucus carota* L.

8383; Ames 10083. Accession originated at Botanical Garden, University of Cologne, Federal Republic of Germany. Increased by G. D. McCollum in Beltsville, Maryland in mass planting.

The following were donated by Botanischer Garten, Johann Wolfgang Goethe Universität, Siesmayerstr. 72, Frankfurt Am Main, Hessen D-6000, Germany. Received 09/23/1963.

PI 652184. *Daucus carota* L.

8384; Ames 10084. Accession originated at Botanical Garden, University of Frankfurt, Federal Republic of Germany. Increased by G. D. McCollum in Beltsville, Maryland in mass planting.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 11/12/1963.

PI 652185. *Daucus carota* L.

8385-1; Ames 10085. Accession originated at Institute Kult. Gatersleben, German Democratic Republic. Single plant selfed increase by G. D. McCollum in Beltsville, Maryland.

The following were donated by Botanischer Garten der Friedrich-Schiller-Universität, Jena, Thuringia, Germany. Received 10/31/1963.

PI 652186. *Daucus carota* L.

8397-1,2; Ames 10086. Accession originated at Botanical Garden, Friedrich-Schiller University at Jena, German Democratic Republic. Increased in bulk by one selfed and one sibbed planted by G. D. McCollum in Beltsville, Maryland.

The following were donated by Orto Botanico e Giardino Coloniale di Palermo, Dipartimento Scienze Botaniche, Universita Degli Studi Palermo, Palermo, Sicily, Italy. Received 10/25/1963.

PI 652187. *Daucus carota* L.

83102-1,2; Ames 10087. Accession originated at Botanical Garden in Palermo, Sicily. Increased by G. D. McCollum at Beltsville, Maryland.

The following were donated by Wang Jingyi, Institute of Vegetable and Floriculture, Chinese Academy of Agricultural Sciences, No. 30 Bai Shi Qiao Road, Beijing, Beijing, China. Received 09/08/1988.

PI 652188. *Daucus carota* L.

"Ping Ding"; Ames 10091; Pingding 1987. Collected 09/1988 in Beijing, China. Near Beijing. Purple rooted and sweet.

The following were collected by E. Sajverova; V. Rydlova. Donated by Botanical Institute, Czechoslovak Academy of Science, Prague, Central Bohemia D-252 43, Czech Republic. Received 03/16/1990.

PI 652189. *Daucus carota* L.

Wild. 266; Ames 13166. Collected 1989 in Central Bohemia, Czech Republic. Elevation 300 m. Beroun, Srbsko 250-300 m.

The following were donated by Ogród Botaniczny Uniwersytetu Im. Adama Mickiewicza, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland. Received 08/16/1991.

PI 652190. *Daucus carota* L.

Wild. Index Seminum 202; Ames 17760. Collected 1991 in Poznań, Poland. Slawa Wielkopolska region (also known as Slawa).

PI 652191. *Daucus carota* L.

Wild. Index Seminum 141; Ames 17761. Collected 1991 in Poland. Okolice (prope) Poznania.

PI 652192. *Daucus carota* L.

Wild. Index Seminum 47; Ames 17762. Collected 1991 in Bydgoszcz, Poland. Zielonczyn.

The following were collected by Hortus Botanicus, Universitatis Mariae Curie-Skłodowska, UL. Sławinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/16/1991.

PI 652193. *Daucus carota* L.

Wild. Index Seminum 2523; Ames 17779. Collected 1991 in Zamosc, Poland. Latitude 50° 47' N. Longitude 23° 56' 30" E. Czumow k. Hrubieszowa.

PI 652194. *Daucus carota* L.

Wild. Index Seminum 2524; Ames 17780. Collected 1991 in Lublin, Poland. Lublin - okolice.

The following were collected by F. Widder, Botanischer Institut der Universität, Graz, Styria, Austria. Received 09/1963.

PI 652195. *Daucus carota* L.

8371-2,4; Ames 18937. Collected 09/1963 in Schleswig-Holstein, Germany. Latitude 54° 12' N. Longitude 7° 53' E. Island of Helgoland, NW of Hamburg.

The following were donated by Jardin Botanique de l'Université et de la Ville, Institut de Sciences Naturelles, Faculté des Sciences, Besançon, Doubs F-25000, France. Received 02/06/1964.

PI 652196. *Daucus carota* L.

8374-1; Ames 18938.

The following were collected by Jardins Botaniques de La Ville, et De L'université, Nancy, Meurthe-et-Moselle, France. Received 10/28/1963.

PI 652197. *Daucus carota* L.

8377; Ames 18939. Collected 10/1963 in France. Latitude 48° 47' N. Longitude 6° 32' E. Elevation 200 m. Vic-sur-Seille (Moselle). Salt marsh.

The following were donated by Botanischer Garten, Marcusallee 60, Bremen, Bremen D-28359, Germany. Received 09/30/1963.

PI 652198. *Daucus carota* L.

8382-1; Ames 18940.

The following were collected by J. Perekz, Parma, Idaho, United States. Received 09/1962.

PI 652199. *Daucus carota* L.

83113; Ames 18941. Collected 09/1962 in Washington, United States. Near Vancouver. Along roadside.

The following were donated by Alan Whittemore, USDA/ARS, University of Georgia, Regional Plant Introduction Station, Griffin, Georgia 30223-1797, United States. Received 02/28/1992.

PI 652200. *Daucus carota* L.

"Shantene"; Ames 19033. Collected 07/20/1991 in Alma-Ata, Kazakhstan. Latitude 43° 15' N. Longitude 76° 57' E. Government store, Alma Ata (Almaty).

PI 652201. *Daucus carota* L.

Ames 19034. Collected 07/20/1991 in Alma-Ata, Kazakhstan. Latitude 43° 15' N. Longitude 76° 57' E. Private vendor, Alma Ata (Almaty).

The following were donated by N.I. Vavilov Research Institute of Plant Industry, 44, B. Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation. Received 07/20/1992.

PI 652202. *Daucus carota* L.

"Artek"; VIR 2340; Ames 19237. Collected 1988 in Moldova.

PI 652203. *Daucus carota* L.

"Biriucekutskaja"; VIR 1934; Duplicate of PI 326002; Ames 19238. Collected 1989 in Russian Federation.

PI 652204. *Daucus carota* L.

"Konservnaja 63"; VIR 2320; Ames 19239. Collected 1988 in Moldova.

PI 652205. *Daucus carota* L.

"Nantskaja Gorijskaja"; VIR 1685; Duplicate of PI 326012; Ames 19240. Collected 1989 in Georgia.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 11/10/1992.

PI 652206. *Daucus carota* L.

Cultivar. B92-76; W6 10762; Ames 20072. Collected 06/30/1992 in Bulgaria. Dobrich market. Carrot.

The following were donated by Tong Daxiang, Institute of Crop Germplasm Resources, Chinese Academy of Agricultural Sciences, 30 Bai Shi Qiao Road, Beijing, Beijing, China. Received 02/02/1993.

PI 652207. *Daucus carota* L.

"Bian gan hong"; Ex. No. 1; Ames 20162.

PI 652208. *Daucus carota* L.

"Lu ba fen"; Ex. No. 6; Ames 20163.

PI 652209. *Daucus carota* L.

"A ke su hu luo bu"; Ex. No. 15; Ames 20164.

PI 652210. *Daucus carota* L.

"Tu lu fan hu luo bu"; Ex. No. 16; Ames 20165.

PI 652211. *Daucus carota* L.

"Ha mi huang pi hu luo bu"; Ex. No. 17; Ames 20166.

PI 652212. *Daucus carota* L.

"Ha shi hong pi hu luo bu"; Ex. No. 18; Ames 20167.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; Gaylord Mink, Washington State University, Irrigated Agricultural Res. & Ext. Ctr., Route 2, Box 2953-A, Prosser, Washington 99350, United

States; Dickson. Donated by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Received 10/08/1993.

PI 652213. *Daucus carota* L.

Wild. 93 Kaz; 39-07; Ames 21515. Collected 09/1993 in Kazakhstan. Latitude 42° 52' N. Longitude 69° 55' E. Elevation 930 m. Near city of Chimkent. Boralday Forestry Region, Buldergen Gorge, Boralday Mountain, Khrebet Karatau. 1.5km S of Sergei's campsite, upstream, well exposed, flat low plateau, 3-4m above stream, high rocky wall nearby. Soil: sandy, rocky. Rainfall 350mm. Collection dates from September 10 - 26, 1993. Plant 1.5m in height. Flower: 3 inch diameter dried inflorescence. Seed from mixed population.

The following were collected by Armando De Jesus Machado, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Jose Loureiro Martins, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Donated by Goncalo Sampaio, Instituto de Botanica, Universidade Do Porto, 1191 Rua do Campo Alegre, Porto, Porto 4100, Portugal. Received 06/21/1994.

PI 652214. *Daucus carota* L.

Wild. 930729; Index Seminum 484; Ames 22116. Collected in Portugal. Peso da Regua, Tras-os-Montes (Alto Douro) Province.

The following were donated by Ogród Botaniczny, Uniwersytetu Warszawskiego, Aleje Ujazdowskie 4, Warszawa, Warszawa 00-478, Poland. Received 07/06/1994.

PI 652215. *Daucus carota* L.

Wild. Index Seminum 27; Ames 22120. Collected 09/21/1993 in Poland. Siedzow, Siedlce Province.

The following were collected by David Spooner, USDA, ARS, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706-1590, United States. Received 03/20/1995.

PI 652216. *Daucus carota* L.

Cultivated. 7009; Ames 22388. Collected 03/1995 in Nepal. Purchased from local seed cooperative, town Pokhara, Zone Gankakia, District Kaski.

The following were donated by David Spooner, USDA, ARS, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706-1590, United States; Horticultural Research Station, Marpha, Nepal. Received 03/20/1995.

PI 652217. *Daucus carota* L.

Cultivar. 7051; Nantes forto; Ames 22390.

The following were collected by Geza Kosa, A Magyar Tudományos Akademia, Okologiai es Botanikai Kutatointezetenek, Botanikus Kertje, Vacratot, Pest H-2163, Hungary. Donated by Botanical Garden, Institute of Ecology and Botany, of the Hungarian Academy of Sciences, Vacratot, Pest H-2163, Hungary. Received 06/15/1995.

PI 652218. *Daucus carota* L.

Wild. 100; Ames 22534. Collected 1995 in Hungary. Irrigation-canal sides near BEKES.

PI 652219. *Daucus carota* L.

Wild. 101; Ames 22535. Collected 1995 in Hungary. Lake BALATON area, N coast. Xeric, thermophilous bush and oakwood near VOROSBERENY.

The following were collected by Krystyna Dabrowska, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Maria Franszczak-Byc, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Ryszard Sawicki, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland; Malgorzata Rozycka, Ogród Botaniczny, Uniwersytetu Marii Curie-Skłodowskiej, ul. Sławinkowska 3, Lublin, Lublin 20-810, Poland. Donated by Hortus Botanicus, Universitatis Mariae Curie-Skłodowska, UL. Sławinkowska 3, Lublin, Lublin 20-818, Poland. Received 08/03/1995.

PI 652220. *Daucus carota* L.

Wild. Index Seminum 2984; Ames 22576. Collected 1993 in Chelm, Poland. Tarnogóra, Krasnystaw.

PI 652221. *Daucus carota* L.

Wild. Index Seminum 2985; Ames 22577. Collected 1993 in Lublin, Poland. Kamienna Góra, Krasnik.

The following were collected by Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Received 02/07/1996.

PI 652222. *Daucus carota* L.

Wild. Index Seminum 464; 940715; Ames 22727. Collected in Vila Real, Portugal. S. Joao da Pesqueira, Trás-os-Montes (Alto Douro) Province.

The following were collected by Instytut Hodowli i Aklimatyzacji Roslin, Ogród Botaniczny, Ul. Jezdziecka 5, Bydgoszcz, Bydgoszcz 85-687, Poland. Received 05/17/1996.

PI 652223. *Daucus carota* L.

Wild. Index Seminum 149; Ames 23004. Collected 1994 in Nowy Sącz, Poland.

PI 652224. *Daucus carota* L.

Wild. Index Seminum 150; Ames 23005. Collected 1993 in Lomża, Poland.

The following were donated by Museum National d'Histoire Naturelle, Paris, Ville-de-Paris, France; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 652225. *Daucus carota* subsp. *maritimus* (Lam.) Batt.

Cultivated. DAU 127/94; K 3888; Ames 23117. Biennial (2-jährig).

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Harris Garden, University of Reading, School of Plant Sciences, Whiteknights, Reading, England RG6 6AS, United Kingdom. Received 06/21/1996.

PI 652226. *Daucus carota* subsp. *maximus* (Desf.) Ball
DAU 218/90; K 5948; Ames 23118. Collected 1996 in Greece. N. Khalkidiki, Kassandra, 10 km N of Kassandra oncoast road. Spontaneous collection.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 652227. *Daucus carota* subsp. *maximus* (Desf.) Ball
DAU 237/91; K 6589; Ames 23119. Collected 1985 in Former Serbia and Montenegro. Between Hvar and Milna.

The following were donated by Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany; Botanic Garden, Liege, Liege, Belgium. Received 06/21/1996.

PI 652228. *Daucus carota* subsp. *maximus* (Desf.) Ball
DAU 246/94; K 6324; Ames 23120. Collected 1996 in Calabria, Italy. Bova Marina, Province di Reggio di Calabria. Spontaneous collection. Identified with K 6066.

The following were donated by Inst. National Recherche Agron. Tunisie, Ariana, Tunisia; Leibniz-Inst für Pflanzengenetik und Kulturpflanzenforschung, Genebank, Corrensstrasse 3, Gatersleben, Saxony-Anhalt D-06466, Germany. Received 06/21/1996.

PI 652229. *Daucus carota* subsp. *maximus* (Desf.) Ball
DAU 253/94; K 6339; Ames 23121.

The following were collected by Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States; Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States; Lufter Xhuvëli, Agricultural University of Tirana, Dept. of Agronomy, Rr. "Myslym Shyri", Tirana, Albania. Donated by Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 09/30/1996.

PI 652230. *Daucus* sp.
Wild. Al 009; Ames 23196. Collected 08/24/1996 in Albania. Latitude 40° 57' 4" N. Longitude 19° 41' 4" E. Elevation 60 m. Ditch along road going to field plots of Wheat Institute: Lavdi Deshmoreye, Lushnje. Height 1-1.2m. Common type.

The following were collected by Leon Reese, 1017 NW 12th Street, Pendleton, Washington 97801, United States. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 09/30/1996.

PI 652231. *Daucus carota* L. subsp. *carota*

"Nantaskaya 4"; Ames 23205; W6 16896; Ames 24049. Collected 1994 in Armenia. High-yielding, tasty and with a high marketable value. Used fresh, processed or stored up to January/February. It's the most widely cultivated variety in Armenia. Average yield is 400-500 centner/hectare (c/ha).

The following were collected by Leon Reese, 1017 NW 12th Street, Pendleton, Washington 97801, United States. Developed by James Unupoglian, Giumry Seed Selection Station, Armenia. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 09/30/1996.

PI 652232. *Daucus carota* L. subsp. *carota*

"Leninakanian-6"; Ames 23206; W6 16897; Ames 24050. Collected 1994 in Armenia. High-yielding (up to 900 c/ha), tasty with a high marketable value. Excellent for mechanized harvesting. It's possible to store it up to June if the natural heat regulation is obtained. It contains more vitamins and sugar (lactose) than "Nantskaya-4." It has spread into the mountainous regions of Armenia.

The following were collected by Botanical Garden of Iran, Research Institute of Forests and Rangel, P.O. Box 13185-116, Tehran, Tehran, Iran. Received 10/01/1996.

PI 652233. *Daucus broteri* Ten.

Wild. 484; Ames 23223. Collected 1996 in Mazandaran, Iran. Elevation 950 m. Chalus road, Dasht-e Nazir, Kandalus.

The following were collected by D. Arndt, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 09/03/1997.

PI 652234. *Daucus carota* L.

Index Seminum 44; Ames 23894. Collected 1997 in Saxony-Anhalt, Germany. Latitude 51° 3' N. Longitude 12° 4' E. Mannsdorf.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 10/20/1997.

PI 652235. *Daucus carota* L.

Wild. B96-278; Ames 23981. Collected 07/12/1996 in Lovech, Bulgaria.
Latitude 42° 50' N. Longitude 24° 58' 47" E. Elevation 518 m.
Above village of Aprilci. Grassy/Vetch hillside with a western exposure.

PI 652236. *Daucus carota* L.

Wild. B96-304; Ames 23983. Collected 07/14/1996 in Lovech, Bulgaria.
Latitude 42° 50' 54" N. Longitude 24° 54' 16" E. Elevation 396
m. Outskirts of Novo Selo near patrol station.

PI 652237. *Daucus carota* L.

Wild. B96-319; Ames 23985. Collected 07/14/1996 in Lovech, Bulgaria.
Latitude 42° 51' 42" N. Longitude 24° 31' 13" E. Elevation 991
m. Balkan Mountains. Southwestern exposure.

The following were collected by Jardin Botanique Universite Louis Pasteur, 28
Rue Goethe, Strasbourg, Bas-Rhin F-67083, France. Received 05/11/1998.

PI 652238. *Daucus carota* L.

Wild. Index Seminum 12; Ames 24559. Collected 1998 in Bas-Rhin, France.
Latitude 48° 40' N. Longitude 7° 29' E. Near Hohengoeft.

The following were collected by D. Arndt, Botanischer Garten, Universitat
Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by
Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony
D-04103, Germany. Received 09/08/1998.

PI 652239. *Daucus carota* L.

Wild. Index Seminum 185; Ames 25016. Collected 09/1998 in Saxony-Anhalt,
Germany. Latitude 51° 3' N. Longitude 12° 4' E. Mannsdorf.

The following were collected by Hans Kohler, Botanischer Garten, Universitat
Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Donated by
Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony
D-04103, Germany. Received 09/08/1998.

PI 652240. *Daucus carota* L.

Wild. Index Seminum 187; Ames 25018. Collected 09/1998 in Saxony-Anhalt,
Germany. Latitude 51° 12' N. Longitude 12° 1' E. Zorbau.

The following were collected by Hans Kohler, Botanischer Garten, Universitat
Leipzig, Linnestrassse 1, Leipzig, Saxony D-04103, Germany; H. Roth,
Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Saxony
D-04103, Germany. Donated by Botanischer Garten, Universitat Leipzig,
Linnestrassse 1, Leipzig, Saxony D-04103, Germany. Received 09/08/1998.

PI 652241. *Daucus carota* L.

Wild. Index Seminum 188; Ames 25019. Collected 09/1998 in Thuringia,
Germany. Latitude 51° 18' N. Longitude 10° 15' E. Wachstedt,
Eichsfeld.

The following were donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; O.P. Dutta, Indian Institute of Horticultural Research, Banaglore, Karnataka 560 089, India. Received 07/20/1998.

PI 652242. *Daucus carota* L.

Landrace. IIHR 017; American Beauty; 111-1; Ames 25030. Collected in India. Moderately susceptible to powdery mildew and susceptible to alternaria. Pale orange root. 5/19 bolted.

PI 652243. *Daucus carota* L.

Landrace. IIHR 089; Ames 25031; D.C.. Collected in Turkey. Highly resistant to powdery mildew and highly susceptible to alternaria. Yellow root. 0/6 bolted.

PI 652244. *Daucus carota* L.

Landrace. IIHR 091; Ames 25033. Collected in Turkey. Highly resistant to powdery mildew and highly susceptible to alternaria. Purple root. 4/15 bolted.

PI 652245. *Daucus carota* L.

Landrace. IIHR 161; 113-1; Ames 25034. Collected in India. Highly susceptible to rootknot nematode, moderately susceptible to powdery mildew, and susceptible to alternaria. Dark orange root. 9/20 bolted.

PI 652246. *Daucus carota* L.

Landrace. IIHR 162; Ames 25035. Collected in Russian Federation. Slightly resistant to powdery mildew and susceptible to alternaria. Dark orange root. Received as *Daucus carota* ssp. *sativus*. 10/27 bolted.

PI 652247. *Daucus carota* L.

Landrace. IIHR 163; Ames 25036. Collected in Russian Federation. Resistant to powdery mildew and susceptible to alternaria. White, yellow, and orange roots. Received as *Daucus carota* ssp. *sativus*. 1/6 bolted.

PI 652248. *Daucus carota* L.

Landrace. IIHR 164; Ames 25037. Collected in Russian Federation. Highly susceptible to powdery mildew and susceptible to alternaria. Yellow and orange roots. Received as *Daucus carota* ssp. *sativus*. 4/27 bolted. This accession has a mixed life cycle where biennial plants are petaloid male sterile hybrid plants. Annual plants were separated out as they bolted in the greenhouse and the resulting seed increase was assigned Ames 27808.

PI 652249. *Daucus carota* L.

Landrace. IIHR 165; 114-1; Ames 25038. Collected in Russian Federation. Highly resistant to powdery mildew and highly susceptible to alternaria. Pale orange root. Received as *Daucus carota* ssp. *orientalis*. 7/15 bolted.

PI 652250. *Daucus carota* L.

Landrace. IIHR 166; Ames 25039. Collected in Russian Federation. Highly resistant to powdery mildew and highly susceptible to alternaria. Yellow root. Received as *Daucus carota* ssp. *orientalis*. 0/22 bolted.

- PI 652251. *Daucus carota* L.**
Landrace. IIHR 176; Ames 25041. Collected in India. Local. Highly susceptible to rootknot nematode, moderately susceptible to powdery mildew, and resistant to alternaria. Orange root. 10/19 bolted.
- PI 652252. *Daucus carota* L.**
Landrace. IIHR 189; 115-1; Ames 25046. Collected in Uttar Pradesh, India. Local Black. Moderately resistant to powdery mildew and susceptible to alternaria. Dark purple root. 10/32 bolted.
- PI 652253. *Daucus carota* L.**
Landrace. IIHR 192; Ames 25048. Collected in Uttar Pradesh, India. Local 1. Moderately resistant to rootknot nematode, susceptible to powdery mildew, and moderately susceptible to alternaria. Red and yellow roots. 4/30 bolted.
- PI 652254. *Daucus carota* L.**
Landrace. IIHR 193; Ames 25049. Collected in Uttar Pradesh, India. Local. Moderately resistant to powdery mildew and moderately susceptible to alternaria. Red, orange, and purple roots. 0/23 bolted.
- PI 652255. *Daucus carota* L.**
Landrace. IIHR 195; Ames 25051. Collected in Uttar Pradesh, India. Susceptible to powdery mildew and moderately susceptible to alternaria. Yellow root. 6/15 bolted.
- PI 652256. *Daucus carota* L.**
Landrace. IIHR 196; 121-1; 116-1; Ames 25052. Collected in Uttar Pradesh, India. Local Black. Moderately resistant to powdery mildew and moderately susceptible to alternaria. Dark purple and yellow roots. 3/24 bolted.
- PI 652257. *Daucus carota* L.**
Landrace. IIHR 198; Pusa Meghali; 9079-1; Ames 25054. Collected 07/20/1998 in Delhi, India. Moderately susceptible to powdery mildew and moderately susceptible to alternaria. Pale red root. 0/20 bolted.
- PI 652258. *Daucus carota* L.**
Landrace. IIHR 200; Pusa Yamadagni; 117-1; Ames 25055. Collected 07/20/1998 in Delhi, India. Susceptible to powdery mildew and susceptible to alternaria. Orange and white roots. 0/34 bolted.
- PI 652259. *Daucus carota* L.**
Landrace. IIHR 203; 120-1; Ames 25056. Collected in India. Local 2. Highly susceptible to rootknot nematode. 8/24 bolted.
- PI 652260. *Daucus carota* L.**
Landrace. IIHR 215; Ames 25058; HC-1. Collected in Haryana, India. Moderately resistant to powdery mildew and moderately resistant to alternaria. Red and white roots. 0/20 bolted.
- PI 652261. *Daucus carota* L.**
Landrace. IIHR 216; Ames 25059; HC-2. Collected in Haryana, India. Moderately resistant to powdery mildew and moderately resistant to alternaria. Red root. 10/22 bolted.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland. Donated by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 07/20/1998.

PI 652262. *Daucus carota* L.

Landrace. BES 002; POL176400; Ames 25060. Collected 10/14/1997 in Bielsko, Poland. Latitude 49° 45' N. Longitude 19° 16' E. Kocierz Moszczanicki, 14 km northeast of Zywiec. Gravel heap along the roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652263. *Daucus carota* L.

Landrace. BES 007; POL176401; Ames 25061. Collected 10/14/1997 in Bielsko, Poland. Latitude 49° 49' N. Longitude 19° 19' E. Targanice, 2 km south of Andrychow. Along roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652264. *Daucus carota* L.

Landrace. BES 019; POL176402; Ames 25062. Collected 10/14/1997 in Bielsko, Poland. Latitude 49° 49' N. Longitude 19° 33' E. Mucharz, 10 km north of Sucha Beskidzka. Along roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652265. *Daucus carota* L.

Landrace. BES 026; POL176403; Ames 25063. Collected 10/15/1997 in Bielsko, Poland. Latitude 49° 42' N. Longitude 19° 23' E. Hucisko, 14 km east of Zywiec. Along roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652266. *Daucus carota* L.

Landrace. BES 070; POL176406; Ames 25066. Collected 10/16/1997 in Bielsko, Poland. Latitude 49° 47' N. Longitude 18° 51' E. Pogorze, 3 km east of Skoczow. Along roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652267. *Daucus carota* L.

Landrace. BES 074; POL176407; 9081-1; Ames 25067. Collected 10/17/1997 in Bielsko, Poland. Latitude 49° 38' N. Longitude 19° 10' E. Przybedza, 12 km south of Zywiec. Along roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652268. *Daucus carota* L.

Landrace. BES 091; POL176408; 9082-1; Ames 25068. Collected 10/18/1997 in Bielsko, Poland. Latitude 49° 47' N. Longitude 19° 12' E. Miedzybrodzie Bialskie, 14 km south of Zywiec. Along roadside. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652269. *Daucus carota* L.

Landrace. POL WIE 67; POL176409; 9083-1; Ames 25069. Collected 10/23/1997 in Poznan, Poland. Latitude 52° 21' N. Longitude 16° 14' E. Rozanowo near Roza, 8 km northeast of Nw. Tomysl. Orchard. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652270. *Daucus carota* L.

Landrace. UKR 15; POL176410; 9084-1; Ames 25070. Collected 09/02/1997 in Ukraine. Latitude 51° 13' N. Longitude 24° 19' E. Stakor, wies Lukiv, Turijskij region. Pasture (cultivated meadow). Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652271. *Daucus carota* L.

Landrace. UKR 67; POL176411; 9085-1; Ames 25071. Collected 09/03/1997 in Ukraine. Latitude 51° 14' N. Longitude 24° 41' E. Dorotischsche, Kovielskij region. Pasture (cultivated meadow). Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652272. *Daucus carota* L.

Landrace. BEL-2; POL176418; 9086-1; Ames 25078. Collected 1997 in Skierniewice, Poland. Latitude 52° 7' N. Longitude 20° 28' E. Baranow, 9 km north of Zyrardow. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652273. *Daucus carota* L.

Landrace. BEL-3; POL176419; 9087-1; Ames 25079. Collected 1997 in Skierniewice, Poland. Latitude 52° 6' N. Longitude 20° 21' E. Kozlowice Stare, 5 km northwest of Zyrardow. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

PI 652274. *Daucus carota* L.

Landrace. BOL-1; POL176420; 9088-1; Ames 25080. Collected 1997 in Skierniewice, Poland. Latitude 52° 6' N. Longitude 20° 10' E. Bolimowska Wies, 14 km north of Skierniewice. Some bolting, however, no specific notes on bolting available. Long daylength (>40 degrees north or south latitude).

The following were donated by N.I. Vavilov Research Institute of Plant Industry, 44, B. Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 07/20/1998.

PI 652275. *Daucus carota* L.

Landrace. VIR 847; Ames 25081. Collected 1929 in Japan. Chantenay shape, orange and yellow color.

PI 652276. *Daucus carota* L.

Landrace. VIR 1084; Ames 25082. Collected 1934 in Tajikistan. Danvers shape, orange and yellow color.

- PI 652277. *Daucus carota* L.**
Landrace. VIR 1609; Ames 25083. Collected 1953 in Mongolia. Danvers shape, orange color.
- PI 652278. *Daucus carota* L.**
Landrace. VIR 1713; Ames 25084. Collected 1955 in Kyrgyzstan. Danvers shape, orange color.
- PI 652279. *Daucus carota* L.**
Landrace. VIR 1769; Ames 25085. Collected 1956 in Russian Federation. Chantenay shape, orange color.
- PI 652280. *Daucus carota* L.**
Landrace. VIR 1772; Ames 25086. Collected 1956 in Russian Federation. Chantenay shape, pale orange color.
- PI 652281. *Daucus carota* L.**
Landrace. VIR 1826; 9089-1; Ames 25087. Collected 1957 in Russian Federation. Danvers shape, pale orange and yellow color.
- PI 652282. *Daucus carota* L.**
Landrace. VIR 1843; Ames 25088. Collected 1958 in Albania. Chantenay shape, dark orange color.
- PI 652283. *Daucus carota* L.**
Landrace. VIR 1847; 9090-1; Ames 25089. Collected 1958 in China. Danvers shape, orange color.
- PI 652284. *Daucus carota* L.**
Landrace. VIR 1851; Ames 25090. Collected 1958 in Bulgaria. Chantenay shape, orange color.
- PI 652285. *Daucus carota* L.**
Landrace. VIR 1869; Ames 25091. Collected 1958 in Russian Federation. Danvers and Chantenay shape, orange and yellow color.
- PI 652286. *Daucus carota* L.**
Landrace. VIR 2052; Ames 25093. Collected 1962 in Bulgaria. Chantenay shape, orange color.
- PI 652287. *Daucus carota* L.**
Landrace. VIR 2080; 9091-1; Ames 25094. Collected 1964 in Armenia. Danvers shape, orange color.
- PI 652288. *Daucus carota* L.**
Landrace. VIR 2086; Ames 25095. Collected 1962 in Kazakhstan. Small Chantenay shape, orange color.
- PI 652289. *Daucus carota* L.**
Landrace. VIR 2235; Ames 25096. Collected 1969 in Chile. Paris Market shape, orange, yellow, and white color.

The following were collected by T. Kubala, Ogród Botaniczny UAM, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland; M. Gorska-Zajaczkowska, Ogród Botaniczny UAM, ul. Dąbrowskiego 165, Poznań, Poznań 60-594, Poland;

Aleksander Lukasiewicz, Ogród Botaniczny UAM, ul. Dabrowskiego 165, Poznan, Poznan 60-594, Poland; A. Smigla-Babula, Ogród Botaniczny UAM, ul. Dabrowskiego 165, Poznan, Poznan 60-594, Poland; W. Wojtowicz, Ogród Botaniczny UAM, ul. Dabrowskiego 165, Poznan, Poznan 60-594, Poland. Donated by Ogród Botaniczny Uniwersytetu Im. Adama Mickiewicza, ul. Dabrowskiego 165, Poznan, Poznan 60-594, Poland. Received 06/21/1999.

PI 652290. *Daucus carota* L.

Wild. Index Seminum 72; Ames 25378. Collected 06/1999 in Szczecin, Poland. Latitude 53° 58' N. Longitude 14° 37' E. Kolczewo, Wolinski Park Narodowy.

The following were collected by Armando De Jesus Machado, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Jose Loureiro Martins, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal; Andre Dos Anjos Da Serra, Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Donated by Universidade do Porto, Instituto de Botanica, Rua do Campo Alegre, 1191, Porto, Porto 4100, Portugal. Received 04/29/1996.

PI 652291. *Daucus carota* subsp. *commutatus* (Paol.) Thell.

Wild. Index Seminum 317; Ames 25418. Collected 05/06/1995 in Faro, Portugal. Latitude 37° 1' N. Longitude 9° 0' W. Cabo de Sao Vicente.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Stelios Samaras, Center of Macedonia & Thrach, Greek Gene Bank, Thessaloniki, Macedonia 570 01, Greece. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/18/1999.

PI 652292. *Daucus carota* L.

Wild. G001; Ames 25560. Collected 08/16/1999 in Macedonia, Greece. Latitude 40° 47' 4" N. Longitude 22° 5' 5" E. Elevation 80 m. Bizari Village, 8 km east of Edessa, Pella Prefecture.

PI 652293. *Daucus carota* L.

Wild. G009; Ames 25561. Collected 08/17/1999 in Macedonia, Greece. Latitude 40° 39' 30" N. Longitude 21° 45' 42" E. Elevation 540 m. Near Filotas-Andigonos, Pella Prefecture. Roadside.

PI 652294. *Daucus carota* L.

Wild. G011; Ames 25562. Collected 08/17/1999 in Macedonia, Greece. Latitude 40° 17' 13" N. Longitude 21° 27' 51" E. Elevation 550 m. ~3 km from Siatista. Roadside and wheat field gone to fallow.

PI 652295. *Daucus carota* L.

Wild. G017; Ames 25563. Collected 08/17/1999 in Epirus, Greece. Latitude 40° 5' 56" N. Longitude 20° 45' 51" E. Elevation 670 m. 5 km north of Konitsa. Roadside. Green seed.

- PI 652296. *Daucus carota* L.**
Wild. G038; Ames 25564. Collected 08/19/1999 in Epirus, Greece. Latitude 39° 41' 59" N. Longitude 20° 46' 14" E. Elevation 410 m. 7 km from Ioannina toward Igoumenitsa. Roadside.
- PI 652297. *Daucus carota* L.**
Wild. G057; Ames 25566. Collected 08/19/1999 in Epirus, Greece. Latitude 39° 17' 32" N. Longitude 20° 35' 54" E. Elevation 20 m. 15 km from Paramithia toward Preveza, Preveza Prefecture. Roadside. High incidence of red leaves.
- PI 652298. *Daucus carota* L.**
Wild. G061; Ames 25567. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 42' 6" N. Longitude 20° 42' 30" E. Elevation 1 m. Nidhri, near Lefkas/Nikiana, Lefkas Island. Seashore.
- PI 652299. *Daucus carota* L.**
Wild. G068; Ames 25568. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 37' 57" N. Longitude 20° 36' 10" E. Elevation 20 m. Vasiliki. Roadside next to orchards.
- PI 652300. *Daucus carota* L.**
Wild. G069; Ames 25569. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 42' 51" N. Longitude 20° 35' 57" E. Elevation 520 m. ~1 km before Chortala. Roadside/orchard/vineyard.
- PI 652301. *Daucus carota* L.**
Wild. G077; Ames 25570. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 46' 22" N. Longitude 20° 38' 47" E. Elevation 670 m. Englouvi. Plateau roadside.
- PI 652302. *Daucus carota* L.**
Wild. G079; Ames 25571. Collected 08/20/1999 in Ionian Islands, Greece. Latitude 38° 49' 36" N. Longitude 20° 42' 8" E. Elevation 2 m. Lefkas. Vacant lot.
- PI 652303. *Daucus carota* L.**
Wild. G080; Ames 25572. Collected 08/20/1999 in Central Greece, Greece. Latitude 38° 34' 48" N. Longitude 21° 25' 34" E. Elevation 55 m. Near Agrinion, toward Patrai. Roadside.
- PI 652304. *Daucus carota* L.**
Wild. G081; Ames 25573. Collected 08/21/1999 in Peloponnese, Greece. Latitude 38° 10' 41" N. Longitude 21° 41' 12" E. Elevation 20 m. 10 km south of Patrai, toward Pyrgos. Orchard/roadside.
- PI 652305. *Daucus carota* L.**
Wild. G084; Ames 25574. Collected 08/21/1999 in Peloponnese, Greece. Latitude 37° 40' 20" N. Longitude 21° 31' 51" E. Elevation 40 m. Roadside.
- PI 652306. *Daucus carota* L.**
Wild. G088; Ames 25575. Collected 08/21/1999 in Peloponnese, Greece. Latitude 37° 17' 3" N. Longitude 21° 47' 1" E. Elevation 150 m. Near Koklas village, toward Sparti, Messenia Prefecture. Roadside ravine.

- PI 652307. *Daucus carota* L.**
Wild. G092; Ames 25576. Collected 08/22/1999 in Peloponnese, Greece.
Latitude 37° 4' 48" N. Longitude 22° 18' 32" E. Elevation 790 m.
6 km from Tripi, toward Kalamata. Roadside.
- PI 652308. *Daucus carota* L.**
Wild. G101; Ames 25577. Collected 08/22/1999 in Peloponnese, Greece.
Latitude 37° 10' 9" N. Longitude 22° 53' 55" E. Elevation 80 m.
Over 1 km off road, 2 km northeast of Leonidion, toward Argos.
Roadside/seaside.
- PI 652309. *Daucus carota* L.**
Wild. G104; Ames 25578. Collected 08/23/1999 in Peloponnese, Greece.
Latitude 37° 34' 40" N. Longitude 22° 52' 37" E. Elevation 100
m. 7 km east of Nafplion to Epidavros, Argolis Prefecture. Fenceline of
olive orchard.
- PI 652310. *Daucus carota* L.**
Wild. G111; Ames 25579. Collected 08/23/1999 in Peloponnese, Greece.
Latitude 37° 54' 59" N. Longitude 23° 6' 22" E. Elevation 0 m. 8
km from Isthmus of Korinthou, toward Athens, Korinthia Prefecture.
Seashore, 5 meters from water.
- PI 652311. *Daucus carota* L.**
Wild. G115; Ames 25580. Collected 08/23/1999 in Central Greece, Greece.
Latitude 38° 18' 39" N. Longitude 23° 25' 6" E. Elevation 310 m.
5 km northeast of Neokhori, toward Kallithea, Attica Prefecture.
Roadside by cotton and tomato fields.
- PI 652312. *Daucus carota* L.**
Wild. G118; Ames 25581. Collected 08/24/1999 in Central Greece, Greece.
Latitude 38° 23' 10" N. Longitude 23° 55' 4" E. Elevation 15 m.
3 km southeast of Amarinthos, toward Aliverion, Evvoia Prefecture. Olive
orchard/abandoned field, 25 meters from sea coast.
- PI 652313. *Daucus carota* L.**
Wild. G123; Ames 25582. Collected 08/24/1999 in Central Greece, Greece.
Latitude 38° 48' 32" N. Longitude 23° 26' 51" E. Elevation 10 m.
Kirinthos village, north of Halkida, Evvoia Prefecture. Roadside/fallow
field. Acidic soil based on presence of *Lupinus angustifolius*.
- PI 652314. *Daucus carota* L.**
Wild. G127; Ames 25583. Collected 08/24/1999 in Central Greece, Greece.
Latitude 38° 57' 55" N. Longitude 22° 58' 19" E. Elevation 100
m. 2 km north of Glifa ferry, toward Volos, Phthiotis Prefecture.
Roadside by olive orchard.
- PI 652315. *Daucus carota* L.**
Wild. G128; Ames 25584. Collected 08/24/1999 in Thessaly, Greece.
Latitude 39° 37' 4" N. Longitude 22° 25' 48" E. Elevation 70 m.
Larisa, first exit from south (Athens) to Trikala, Larissa Prefecture.
Vacant lot.
- PI 652316. *Daucus carota* L.**
Wild. G136; Ames 25585. Collected 08/25/1999 in Thessaly, Greece.
Latitude 39° 43' 11" N. Longitude 21° 37' 7" E. Elevation 260 m.

Meteora monastery, 2 km from Kastraki village to Meteora.
Roadside/fallow field.

PI 652317. *Daucus carota* L.

Wild. G139; Ames 25586. Collected 08/25/1999 in Macedonia, Greece.
Latitude 40° 16' 58" N. Longitude 22° 36' 14" E. Elevation 1 m.
Katerini, Pieria Prefecture. Roadside/seashore, less than 10 meters from
brackish water.

PI 652318. *Daucus carota* L.

Wild. G142; Ames 25587. Collected 08/26/1999 in Macedonia, Greece.
Latitude 40° 16' 18" N. Longitude 23° 13' 5" E. Elevation 50 m.
6 km south of Sozopolis, toward Moudania, Chalkidikis Prefecture.
Roadside.

PI 652319. *Daucus carota* L.

Wild. G145; Ames 25588. Collected 08/26/1999 in Macedonia, Greece.
Latitude 39° 59' 59" N. Longitude 23° 34' 17" E. Elevation 60 m.
Chumiuti village, along road to Thessaloniki, Chalkidikis Prefecture.
Vacant lot.

PI 652320. *Daucus carota* L.

Wild. G146; Ames 25589. Collected 08/27/1999 in Macedonia, Greece.
Latitude 40° 38' N. Longitude 22° 56' E. Elevation 20 m. Grounds
of National Agricultural Research Foundation, Agricultural Research
Center of Macedonia & Thrach, Thessaloniki.

PI 652321. *Daucus guttatus* Sm.

Wild. G007; Ames 25590. Collected 08/17/1999 in Macedonia, Greece.
Latitude 40° 54' 20" N. Longitude 21° 57' 31" E. Elevation 550
m. 1 km from Sarakini, toward Edessa.

PI 652322. *Daucus carota* L.

Wild. G010; Ames 25591. Collected 08/17/1999 in Macedonia, Greece.
Latitude 40° 36' 26" N. Longitude 21° 41' 31" E. Elevation 580
m. Near Ptolemaida electric powerplant, Kozani Prefecture.
Roadside/railroad.

PI 652323. *Daucus carota* L.

Wild. G013; Ames 25592. Collected 08/17/1999 in Macedonia, Greece.
Latitude 40° 17' 13" N. Longitude 21° 27' 51" E. Elevation 550
m. ~3 km from Siatista. Roadside and wheat field gone to fallow.

PI 652324. *Daucus guttatus* Sm.

Wild. G015; Ames 25593. Collected 08/17/1999 in Macedonia, Greece.
Latitude 40° 13' 23" N. Longitude 20° 57' 32" E. Elevation 730
m. 40 km north-northeast of Konitsa, 100 m from Epirus Region, Kastoria
Prefecture. Roadside black gravel.

PI 652325. *Daucus guttatus* Sm.

Wild. G058; Ames 25594. Collected 08/19/1999 in Epirus, Greece. Latitude
39° 17' 32" N. Longitude 20° 35' 54" E. Elevation 20 m. 15 km
from Paramithia toward Preveza, Preveza Prefecture. Roadside.

- PI 652326. *Daucus guttatus* Sm.**
Wild. G059; Ames 25595. Collected 08/19/1999 in Epirus, Greece. Latitude 39° 10' 19" N. Longitude 20° 33' 9" E. Elevation 2 m. Ammoudi, Preveza Prefecture. Beach.
- PI 652327. *Daucus guttatus* Sm.**
Wild. G063; Ames 25596. Collected 08/20/1999 in Central Greece, Greece. Latitude 38° 40' 40" N. Longitude 20° 41' 42" E. Elevation 51 m. Roadside, steep grade.
- PI 652328. *Daucus guttatus* Sm.**
Wild. G082; Ames 25597. Collected 08/21/1999 in Peloponnese, Greece. Latitude 38° 10' 41" N. Longitude 21° 41' 12" E. Elevation 20 m. 10 km south of Patrai, toward Pyrgos. Orchard/roadside.
- PI 652329. *Daucus broteri* Ten.**
Wild. G096; Ames 25600. Collected 08/22/1999 in Peloponnese, Greece. Latitude 37° 1' 31" N. Longitude 22° 32' 47" E. Elevation 360 m. 4 km from Skoura, toward Leonidion, Laconia Prefecture. Roadside/hills/orchard.
- PI 652330. *Daucus guttatus* Sm.**
Wild. G102; Ames 25601. Collected 08/22/1999 in Peloponnese, Greece. Latitude 37° 10' 9" N. Longitude 22° 53' 55" E. Elevation 80 m. 2 km northeast of Leonidion, toward Argos. Roadside/seaside.
- PI 652331. *Daucus guttatus* Sm.**
Wild. G110; Ames 25603. Collected 08/23/1999 in Peloponnese, Greece. Latitude 37° 49' 39" N. Longitude 23° 3' 39" E. Elevation 200 m. Village of Loutra Agias Elenis, 17 km south of Korinthos, Korinthia Prefecture. *Daucus involucratus* plants present, but all seed shed.
- PI 652332. *Daucus involucratus* Sm.**
Wild. G109; Ames 25613. Collected 08/23/1999 in Peloponnese, Greece. Latitude 37° 49' 39" N. Longitude 23° 3' 39" E. Elevation 200 m. Village of Loutra Agias Elenis, 17 km south of Korinthos, Korinthia Prefecture.
- PI 652333. *Daucus broteri* Ten.**
Wild. G034; Ames 25635. Collected 08/18/1999 in Epirus, Greece. Latitude 39° 41' 41" N. Longitude 20° 50' 51" E. Elevation 500 m. Perama Cave grounds. *Daucus muricatus* present, but not collected.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; Bassam Al-Safadi, Atomic Energy Commission, P.O. Box 6091, Damascus, Syria. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 11/10/1999.

- PI 652334. *Daucus carota* L.**
Landrace. S007; Black Carrot; Ames 25702. Collected 07/27/1999 in Syria. Latitude 36° 11' 57" N. Longitude 37° 9' 10" E. Elevation 0 m. Bab Alfraj seed market, Aleppo.
- PI 652335. *Daucus carota* L.**
Uncertain. S107; Ames 25704. Collected 1999 in Syria. Very mixed seed.
- PI 652336. *Daucus carota* L.**
Uncertain. S117; Ames 25705. Collected 1999 in Syria. Mix with parsley and others.
- PI 652337. *Daucus carota* L.**
Uncertain. S005; Ames 25710. Collected 1999 in Syria. Green seed.
- PI 652338. *Daucus carota* L.**
Uncertain. S006; Ames 25711. Collected 1999 in Syria.
- PI 652339. *Daucus guttatus* Sm.**
Wild. S040; Ames 25715. Collected 07/28/1999 in Syria. Latitude 36° 19' 17" N. Longitude 37° 0' 6" E. Elevation 430 m. Daret Izze, northwest of Aleppo.
- PI 652340. *Daucus broteri* Ten.**
Wild. S066; Ames 25736. Collected 07/29/1999 in Syria. Latitude 35° 55' N. Longitude 35° 57' 24" E. Elevation 480 m. Kassab.
- PI 652341. *Daucus carota* L.**
Wild. S074; Ames 25741. Collected 07/29/1999 in Syria. Latitude 35° 52' 32" N. Longitude 35° 55' 7" E. Elevation 200 m. Ash Sheik Hasan.
- PI 652342. *Daucus broteri* Ten.**
Wild. S076; Ames 25743. Collected 07/29/1999 in Syria. Latitude 35° 52' 40" N. Longitude 35° 53' 2" E. Elevation 30 m. Al Badrusiyah.
- PI 652343. *Daucus carota* L.**
Wild. S078; Ames 25744. Collected 07/29/1999 in Syria. Latitude 35° 47' 28" N. Longitude 36° 0' 1" E. Elevation 400 m. Halwah.
- PI 652344. *Daucus carota* L.**
Wild. S080; Ames 25746. Collected 07/29/1999 in Syria. Latitude 35° 44' 40" N. Longitude 36° 3' 44" E. Elevation 410 m. Alratbeh.
- PI 652345. *Daucus broteri* Ten.**
Wild. S086; Ames 25752. Collected 07/30/1999 in Syria. Latitude 35° 37' 44" N. Longitude 36° 14' 46" E. Elevation 550 m. Jurin.
- PI 652346. *Daucus carota* L.**
Wild. S098; Ames 25763. Collected 07/30/1999 in Syria. Latitude 34° 46' 3" N. Longitude 36° 18' 18" E. Elevation 500 m. Crac des Chevaliers.
- PI 652347. *Daucus carota* L.**
Uncertain. S134; Ames 25783. Collected 1999 in Syria.

The following were collected by Teresa Kotlinska, Research Institute of Vegetable Crops, Plant Genetic Resources Laboratory, Konstytucji 3 Maja 1/3, Skierniewice, Skierniewice 96-100, Poland; Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States; S. Ali Kucuk, Aegean Agricultural Research Institute, P.O. Box 9, Menemen, Izmir 35661, Turkey. Donated by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/28/1999.

PI 652348. *Daucus carota* L.

Wild. T001; Ames 25794. Collected 08/05/1999 in Izmir, Turkey. Latitude 38° 22' 53" N. Longitude 26° 37' 36" E. Elevation 12 m. West of Izmir.

PI 652349. *Daucus carota* L.

Wild. T002; Ames 25795. Collected 08/05/1999 in Izmir, Turkey. Latitude 38° 22' 53" N. Longitude 26° 37' 36" E. Elevation 12 m. West of Izmir.

PI 652350. *Daucus involucratus* Sm.

Wild. T003; Ames 25796. Collected 08/05/1999 in Izmir, Turkey. Latitude 38° 25' 59" N. Longitude 26° 35' 53" E. Elevation 12 m.

PI 652351. *Daucus carota* L.

Wild. T008; Ames 25799. Collected 08/05/1999 in Izmir, Turkey. Latitude 38° 29' 23" N. Longitude 26° 27' 50" E. Elevation 30 m. Near Cesme.

PI 652352. *Daucus carota* L.

Wild. T012; 01 302-1; Ames 25803. Collected 08/06/1999 in Izmir, Turkey. Latitude 38° 39' 31" N. Longitude 26° 49' 15" E. Elevation 51 m. Near Bagarasi. Roadside.

PI 652353. *Daucus carota* L.

Wild. T015; Ames 25806. Collected 08/06/1999 in Izmir, Turkey. Latitude 39° 4' 3" N. Longitude 27° 2' 23" E. Elevation 39 m. Between Aliaga and Dikili. Roadside.

PI 652354. *Daucus carota* L.

Wild. T020; Ames 25811. Collected 08/07/1999 in Izmir, Turkey. Latitude 38° 8' 45" N. Longitude 27° 9' 3" E. Elevation 106 m. 4-5 km north of Degirmendere, traveling southwest of Izmir. Roadside.

PI 652355. *Daucus involucratus* Sm.

Wild. T022; Ames 25813. Collected 08/07/1999 in Izmir, Turkey. Latitude 37° 54' 5" N. Longitude 27° 16' 33" E. Elevation 70 m. 5 km north of Kusadasi. Roadside.

PI 652356. *Daucus carota* L.

Wild. T028; Ames 25817. Collected 08/07/1999 in Aydin, Turkey. Latitude 37° 43' 19" N. Longitude 27° 15' 17" E. Elevation 55 m. Opposite Dalaman Airport. Roadside.

PI 652357. *Daucus carota* L.

Wild. T030; Ames 25819. Collected 08/07/1999 in Izmir, Turkey. Latitude 37° 56' 8" N. Longitude 27° 20' 45" E. Elevation 74 m. Ephesus.

- PI 652358. *Daucus carota* L.**
Wild. T031; Ames 25820. Collected 08/07/1999 in Izmir, Turkey.
Latitude 38° 7' 48" N. Longitude 27° 40' 17" E. Elevation 79 m.
Between Tire and Mahmutlar.
- PI 652359. *Daucus carota* L.**
Wild. T033; Ames 25822. Collected 08/08/1999 in Aydin, Turkey.
Latitude 37° 30' 47" N. Longitude 27° 20' 22" E. Elevation 31 m.
Soke Valley, traveling south of Izmir inland. Roadside, wet, not a
Daucus habitat.
- PI 652360. *Daucus guttatus* Sm.**
Wild. T035; Ames 25824. Collected 08/08/1999 in Mugla, Turkey.
Latitude 37° 25' 37" N. Longitude 27° 33' 38" E. Elevation 110
m. Between Soke and Milas. Roadside.
- PI 652361. *Daucus carota* L.**
Wild. T038; Ames 25826. Collected 08/08/1999 in Mugla, Turkey.
Latitude 37° 17' 9" N. Longitude 27° 51' 59" E. Elevation 520 m.
Between Milas and Karalti. Roadside/gravel drive.
- PI 652362. *Daucus carota* L.**
Wild. T039; Ames 25827. Collected 08/08/1999 in Mugla, Turkey.
Latitude 37° 17' 9" N. Longitude 27° 51' 59" E. Elevation 520 m.
Between Milas and Karalti. Roadside/gravel drive.
- PI 652363. *Daucus carota* L.**
Wild. T040; Ames 25828. Collected 08/08/1999 in Mugla, Turkey.
Latitude 37° 17' 9" N. Longitude 27° 51' 59" E. Elevation 520 m.
Between Milas and Karalti. Roadside/gravel drive.
- PI 652364. *Daucus carota* L.**
Wild. T043; Ames 25831. Collected 08/09/1999 in Mugla, Turkey.
Latitude 37° 2' 47" N. Longitude 28° 21' 36" E. Elevation 35 m.
29 km south of Mugla. Fallow field. High anthocyanin leaves and fruit.
- PI 652365. *Daucus guttatus* Sm.**
Wild. T048; Ames 25836. Collected 08/09/1999 in Mugla, Turkey.
Latitude 36° 50' 53" N. Longitude 28° 13' 25" E. Elevation 255
m. Roadside.
- PI 652366. *Daucus guttatus* Sm.**
Wild. T051; Ames 25839. Collected 08/09/1999 in Mugla, Turkey.
Latitude 36° 46' 59" N. Longitude 28° 0' 5" E. Elevation 143 m.
Roadside on a narrow peninsula. Smooth.
- PI 652367. *Daucus broteri* Ten.**
Wild. T052; Ames 25840. Collected 08/09/1999 in Mugla, Turkey.
Latitude 36° 46' 59" N. Longitude 28° 0' 5" E. Elevation 143 m.
Roadside on a narrow peninsula. Rough.
- PI 652368. *Daucus carota* L.**
Wild. T053; Ames 25841. Collected 08/09/1999 in Mugla, Turkey.
Latitude 36° 45' 54" N. Longitude 27° 45' 25" E. Elevation 6 m.
12 km from Datca.

- PI 652369. *Daucus carota* L.**
Wild. T057; 01 303-1; Ames 25845. Collected 08/09/1999 in Mugla, Turkey. Latitude 36° 44' 26" N. Longitude 27° 40' 12" E. Elevation 45 m. Vacant lot.
- PI 652370. *Daucus carota* L.**
Wild. T059; Ames 25847. Collected 08/09/1999 in Mugla, Turkey. Latitude 36° 48' 56" N. Longitude 28° 8' 7" E. Elevation 9 m. Fallow field and roadside.
- PI 652371. *Daucus guttatus* Sm.**
Wild. T061; Ames 25849. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 59' 33" N. Longitude 28° 39' 7" E. Elevation 16 m. 8 km to Koycegiz from Mugla. Smooth.
- PI 652372. *Daucus carota* L.**
Wild. T062; Ames 25850. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 59' 33" N. Longitude 28° 39' 7" E. Elevation 16 m. 8 km to Koycegiz from Mugla.
- PI 652373. *Daucus carota* L.**
Wild. T065; Ames 25853. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 57' 58" N. Longitude 28° 42' 8" E. Elevation 11 m. Koycegiz. Roadside/orchard.
- PI 652374. *Daucus carota* L.**
Landrace. T072; Ames 25858. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 45' 56" N. Longitude 28° 48' 34" E. Elevation 11 m. Dalaman Market. Orange rooted.
- PI 652375. *Daucus carota* L.**
Wild. T077; Ames 25863. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 45' 54" N. Longitude 28° 54' 48" E. Elevation 83 m. Between Dalaman-Gocik and Fethiye. Field of wild *Daucus* at a roadside waterstop. Rough.
- PI 652376. *Daucus carota* L.**
Wild. T080; Ames 25866. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 40' 2" N. Longitude 29° 7' 53" E. Elevation 10 m. Fethiye.
- PI 652377. *Daucus carota* L.**
Wild. T081; Ames 25867. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 40' 2" N. Longitude 29° 7' 53" E. Elevation 10 m. Fethiye. Smooth.
- PI 652378. *Daucus carota* L.**
Wild. T082; Ames 25868. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 40' 2" N. Longitude 29° 7' 53" E. Elevation 10 m. Fethiye. Rough.
- PI 652379. *Daucus carota* L.**
Wild. T084; Ames 25870. Collected 08/10/1999 in Mugla, Turkey. Latitude 36° 40' 2" N. Longitude 29° 7' 53" E. Elevation 10 m. Fethiye.

- PI 652380. *Daucus carota* L.**
 Wild. T085; 01 304-1; Ames 25871. Collected 08/11/1999 in Mugla, Turkey. Latitude 36° 38' 23" N. Longitude 29° 20' 24" E. Elevation 121 m. Near Zorlar, between Fethiye and Antalya. Roadside. Green seed.
- PI 652381. *Daucus carota* L.**
 Wild. T086; Ames 25872. Collected 08/11/1999 in Mugla, Turkey. Latitude 36° 38' 23" N. Longitude 29° 20' 24" E. Elevation 121 m. Near Zorlar, between Fethiye and Antalya. Roadside.
- PI 652382. *Daucus carota* L.**
 Wild. T087; Ames 25873. Collected 08/11/1999 in Antalya, Turkey. Latitude 36° 20' 10" N. Longitude 29° 20' 3" E. Elevation 40 m. Near many greenhouses, west of Oratar. Roadside.
- PI 652383. *Daucus broteri* Ten.**
 Wild. T093; Ames 25879. Collected 08/11/1999 in Antalya, Turkey. Latitude 36° 15' 49" N. Longitude 30° 7' 15" E. Elevation 15 m. Mediterranean coast. Rocky slopes. Smooth, brown stem and seed. Possibly switched with T092?.
- PI 652384. *Daucus carota* L.**
 Wild. T095; 01 305-1; Ames 25881. Collected 08/11/1999 in Antalya, Turkey. Latitude 36° 18' 57" N. Longitude 30° 11' 15" E. Elevation 3 m. Near Finike. Roadside. Some green.
- PI 652385. *Daucus broteri* Ten.**
 Wild. T096; Ames 25882. Collected 08/11/1999 in Antalya, Turkey. Latitude 36° 23' 36" N. Longitude 30° 28' 16" E. Elevation 9 m. Olympos. Smooth.
- PI 652386. *Daucus guttatus* Sm.**
 Wild. T097; Ames 25883. Collected 08/11/1999 in Antalya, Turkey. Latitude 36° 23' 36" N. Longitude 30° 28' 16" E. Elevation 9 m. Olympos. Rough.
- PI 652387. *Daucus carota* subsp. *commutatus* (Paol.) Thell.**
 Wild. T100; Ames 25886. Collected 08/12/1999 in Antalya, Turkey. Latitude 36° 52' 32" N. Longitude 30° 44' 3" E. Elevation 15 m. Antalya. Streetside vacant lot. Columnar.
- PI 652388. *Daucus carota* L.**
 Wild. T102; 01 306-1; Ames 25888. Collected 08/12/1999 in Antalya, Turkey. Latitude 36° 52' 32" N. Longitude 30° 44' 3" E. Elevation 15 m. Antalya. Streetside vacant lot.
- PI 652389. *Daucus carota* L.**
 Wild. T103; Ames 25889. Collected 08/12/1999 in Antalya, Turkey. Latitude 36° 49' 7" N. Longitude 31° 27' E. Elevation 18 m. Near Manavgat waterfall. Roadside and fallow field.
- PI 652390. *Daucus guttatus* Sm.**
 Wild. T104; Ames 25890. Collected 08/12/1999 in Antalya, Turkey. Latitude 36° 49' 7" N. Longitude 31° 27' E. Elevation 18 m. Near Manavgat waterfall. Roadside and fallow field. Smaller.

- PI 652391. *Daucus carota* L.**
Wild. T105; 01 307-1; Ames 25891. Collected 08/12/1999 in Antalya, Turkey. Latitude 36° 46' 8" N. Longitude 31° 23' 31" E. Elevation 14 m. Side ruins.
- PI 652392. *Daucus carota* L.**
Wild. T107; Ames 25893. Collected 08/12/1999 in Antalya, Turkey. Latitude 36° 52' 55" N. Longitude 31° 45' 54" E. Elevation 482 m. Mutici village, near Akseki. Gravel road/shoulder.
- PI 652393. *Daucus carota* L.**
Wild. T109; 01 308-1; Ames 25895. Collected 08/12/1999 in Konya, Turkey. Latitude 37° 21' 31" N. Longitude 31° 53' 2" E. Elevation 1046 m. 10-15 km to Seydisehir, between Yarpuz and Konya. Roadside/gravel road. Flat umbels.
- PI 652394. *Daucus carota* L.**
Wild. T112; 01 310-1; Ames 25897. Collected 08/13/1999 in Konya, Turkey. Latitude 37° 52' 32" N. Longitude 32° 25' 43" E. Elevation 1016 m. Near water purification, Konya, toward Beysehir. Streetside. Some flat umbels.
- PI 652395. *Daucus carota* L.**
Wild. T114; Ames 25899. Collected 08/13/1999 in Konya, Turkey. Latitude 37° 50' 44" N. Longitude 31° 54' 9" E. Elevation 1154 m. Near Damlapinar. Roadside.
- PI 652396. *Daucus carota* L.**
Wild. T115; 01 309-1; Ames 25900. Collected 08/13/1999 in Konya, Turkey. Latitude 37° 50' 44" N. Longitude 31° 54' 9" E. Elevation 1154 m. Near Damlapinar. Roadside.
- PI 652397. *Daucus carota* L.**
Wild. T117; Ames 25902. Collected 08/13/1999 in Turkey. Latitude 38° 9' 18" N. Longitude 31° 16' 56" E. Elevation 1155 m. ~15 km east of Yalvac. Roadside.
- PI 652398. *Daucus carota* L.**
Wild. T118; 01 311-1; Ames 25903. Collected 08/13/1999 in Isparta, Turkey. Latitude 37° 54' 57" N. Longitude 30° 17' 31" E. Elevation 1012 m. Near Kecioborlu. Roadside.
- PI 652399. *Daucus carota* L.**
Wild. T119; Ames 25904. Collected 08/13/1999 in Denizli, Turkey. Latitude 37° 49' 24" N. Longitude 29° 23' 3" E. Elevation 493 m. 30 km east of Denizli. Roadside.
- PI 652400. *Daucus carota* L.**
Landrace. T120; Kizilot; Ames 25905. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 18' 10" N. Longitude 29° 20' 53" E. Elevation 0 m. Cakir (village), near Acipayam. Red/purple and yellow rooted.
- PI 652401. *Daucus carota* L.**
Landrace. T121; Cakir; Ames 25906. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 18' 10" N. Longitude 29° 20' 53" E. Elevation 0 m. Cakir (village), near Acipayam. Orange rooted.

PI 652402. *Daucus carota* L.

Landrace. T123; Cakir; Ames 25908. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 18' 10" N. Longitude 29° 20' 53" E. Elevation 0 m. Cakir (village), near Acipayam. Orange rooted.

PI 652403. *Daucus carota* L.

Landrace. T124; Cakir; Ames 25909. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 18' 10" N. Longitude 29° 20' 53" E. Elevation 0 m. Cakir (village), near Acipayam. Orange rooted.

PI 652404. *Daucus carota* L.

Landrace. T125; Cakir; 01 312-1; Ames 25910. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 18' 10" N. Longitude 29° 20' 53" E. Elevation 0 m. Cakir (village), near Acipayam. Orange rooted.

PI 652405. *Daucus carota* L.

Landrace. T126; Isparta; Ames 25911. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 18' 10" N. Longitude 29° 20' 53" E. Elevation 0 m. Cakir (village), near Acipayam. Orange rooted.

PI 652406. *Daucus carota* L.

Wild. T127; Ames 25912. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 17' 3" N. Longitude 29° 19' 46" E. Elevation 789 m. Near Cakir village. Roadside by carrot field.

PI 652407. *Daucus carota* L.

Wild. T128; Ames 25913. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 57' 9" N. Longitude 28° 53' 45" E. Elevation 167 m. 6 km west of Saraykoy, between Denizli and Kuyucak, Menderes Valley. Roadside gravel by cotton field.

PI 652408. *Daucus carota* L.

Wild. T129; Ames 25914. Collected 08/14/1999 in Denizli, Turkey. Latitude 37° 57' 9" N. Longitude 28° 53' 45" E. Elevation 167 m. 6 km west of Saraykoy, between Denizli and Kuyucak, Menderes Valley. Roadside gravel by cotton field.

PI 652409. *Daucus carota* L.

Wild. T130; Ames 25915. Collected 08/14/1999 in Aydin, Turkey. Latitude 37° 50' 56" N. Longitude 27° 47' 21" E. Elevation 68 m. Acarlar, west of Aydin, 5 km east of Incirliova. Roadside.

The following were donated by Will Bonsall, Scatterseed Project, 39 Bailey Road, Industry, Maine 04938, United States. Received 05/31/2000.

PI 652410. *Daucus carota* L.

Landrace. DC-99-01; Ames 26053. Collected 1999 in Rajasthan, India. Latitude 24° 35' N. Longitude 73° 41' E. Udaipur. Market.

The following were collected by Jacques Zeller, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Bernard Riebel, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France; Marta Ramel, Jardin Botanique Universite Louis Pasteur, 28, Rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083,

France. Donated by Jardin Botanique, Universite Louis Pasteur, 28, rue Goethe, Strasbourg-Cedex, Bas-Rhin F-67083, France. Received 05/10/2001.

PI 652411. *Daucus carota* subsp. *gummifer* (Syme) Hook. f.

Wild. Index Seminum 5; Ames 26265. Collected in Finistere, France. Latitude 47° 47' N. Longitude 3° 45' 30" W. Elevation 10 m. Pointe de Rospico, Nevez.

The following were collected by Philipp W. Simon, USDA, ARS, Vegetable Crops Research Unit, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 09/21/2001.

PI 652412. *Daucus crinitus* Desf.

Wild. P-014; Ames 26410. Collected 07/2001 in Portugal.

PI 652413. *Daucus crinitus* Desf.

Wild. P-018; Ames 26412. Collected 07/24/2001 in Guarda, Portugal. Latitude 41° 0' 52" N. Longitude 6° 56' 40" W. Elevation 222 m.

PI 652414. *Daucus crinitus* Desf.

Wild. P-048; Ames 26417. Collected 07/2001 in Faro, Portugal. Latitude 37° 9' 13" N. Longitude 7° 49' 38" W. Elevation 196 m.

The following were collected by Ewa Antoniewska, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Elzbieta Zygala, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland; Urszula Zablocka, Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Donated by Arboretum i Zaklad Fizjografii w Bolestraszcach, Bolestraszyce-Zamek, skr. poczt. 471, Przemysl, Przemysl 37-700, Poland. Received 09/16/2003.

PI 652415. *Daucus carota* L.

Wild. Index Seminum 165; Ames 27288. Collected 08/22/2002 in Przemysl, Poland. Latitude 49° 45' N. Longitude 22° 50' E. Luczyce, Opole Zach.

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Cuphea hybrid (650912-650919, 650928-650936)
Cuphea lanceolata (650921, 650925-650927, 650937)
Cuphea leptopoda (650910)
Cuphea linarioides (650896)
Cuphea lutea (650902, 650922-650924)
Cuphea micropetala (650940)
Cuphea mimuloides (650894)
Cuphea palustris (650903)
Cuphea racemosa (650939)
Cuphea viscosissima (650920, 650938, 650941)
Cuphea wrightii var. *wrightii* (650900-650901, 650911)
Cydonia oblonga (647030-647032)
Cynodon dactylon (647875-647877, 648260)
Cynodon transvaalensis (647878-647881)
Dalea foliosa (648967-648969)
Dalea purpurea (648970-648971)
Dasiphora fruticosa subsp. *fruticosa* (649659)
Daucus broteri (652233, 652329, 652333, 652340, 652342, 652345, 652367,
652383, 652385)
Daucus carota (652118-652120, 652140-652145, 652179, 652183-652224,
652234-652290, 652292-652320, 652322-652323, 652334-652338, 652341,
652343-652344, 652346-652349, 652351-652354, 652356-652359,
652361-652364, 652368-652370, 652372-652382, 652384, 652388-652389,
652391-652410, 652415)
Daucus carota subsp. *carota* (644218, 652121-652130, 652133, 652135-652136,
652231-652232)

Daucus carota subsp. *commutatus* (652291, 652387)
Daucus carota subsp. *gummifer* (652411)
Daucus carota subsp. *hispanicus* (652139, 652150)
Daucus carota subsp. *maritimus* (652225)
Daucus carota subsp. *maximus* (652131-652132, 652134, 652226-652229)
Daucus carota var. *sativus* (652137-652138, 652146-652149, 652151-652178,
652180-652182)
Daucus crinitus (652412-652414)
Daucus guttatus (652321, 652324-652328, 652330-652331, 652339, 652360,
652365-652366, 652371, 652386, 652390)
Daucus involucratus (652332, 652350, 652355)
Daucus sp. (652230)
Desmodium tortuosum (647846)
Diervilla lonicera (649660-649661)
Diervilla sessilifolia (649662-649664)
Drymocallis arguta subsp. *arguta* (649713-649714)
Drymocallis rupestris (649731)
Echinacea angustifolia (649026)
Echinacea angustifolia var. *angustifolia* (649027-649033)
Echinacea pallida (649034-649038)
Echinacea paradoxa var. *neglecta* (649039)
Echinacea purpurea (649040-649041)
Echinacea sanguinea (649042-649044)
Echinacea simulata (649045-649047)
Echinochloa colona (647849, 649324, 649334-649338)
Echinochloa crus-galli (649325-649333, 649339-649341, 649367-649369)
Echinochloa esculenta (647850)
Echinochloa frumentacea (649342-649366)
Echinochloa muricata var. *muricata* (649370)
Echinochloa picta (647851)
Enarthrocarpus arcuatus (650170)
Eremochloa ophiuroides (647882-647883)
Eremochloa zeylanica (647884)
Eruca pinnatifida (650171-650173)
Eruca sativa (650174-650236)
Eruca sativa subsp. *longirostris* (650237)
Eruca vesicaria (650238)
Erucastrum gallicum (650239)
Erucastrum ifniense (650240)
Erucastrum littoreum subsp. *brachycarpum* (650241)
Erucastrum littoreum subsp. *glabrum* (650242)
Erucastrum strigosum (650243)
Erysimum capitatum (650244-650245)
Erysimum cheiranthoides (650246-650249)
Erysimum metlesicsii (650250)
Erysimum nevadense (650251)
Erysimum repandum (650252)
Erysimum virgatum (650253)
Erysimum witmannii (650254)
Euonymus alatus (649665)
Euphorbia characias (649763)
Euphorbia lagascae (649764-649785)
Euphorbia lathyris (649786)
Euphorbia marginata (649787)
Euphorbia myrsinites (649788)
Euphorbia peplus (649789)
Euphorbia spinosa (649790)

Euphorbia tirucalli (649791)
Fagopyrum esculentum (647588-647701)
Festuca arundinacea (648004-648005, 648026, 648030)
Festuca rubra subsp. *commutata* (651837)
Festuca rubra subsp. *rubra* (648222)
Festuca trachyphylla (648230)
Flueggea suffruticosa (649666)
Foeniculum vulgare (649460-649470)
Foeniculum vulgare var. *vulgare* (649471-649472)
Fragaria bucharica (651569)
Fragaria chiloensis subsp. *pacifica* (651554)
Fragaria daltoniana (651568)
Fragaria hybrid (651555-651560)
Fragaria iinumae (651561)
Fragaria nipponica (651562)
Fragaria orientalis (651551)
Fragaria pentaphylla (651570)
Fragaria tibetica (651567)
Fragaria vesca (651546, 651550, 651552, 651579)
Fragaria vesca subsp. *americana* (651573, 651576)
Fragaria virginiana (651580-651581)
Fragaria virginiana subsp. *grayana* (651574)
Fragaria virginiana subsp. *platypetala* (651553)
Fragaria virginiana subsp. *virginiana* (651571-651572, 651575, 651578)
Fragaria viridis (651564-651566)
Fragaria x ananassa (651547-651549, 651563, 651577, 651622)
Fraxinus ornus (649667)
Gaultheria procumbens (645594)
Glebionis segetum (649668)
Glycine max (645464-645469, 646156-646157, 646161-646180, 646189-646192,
647081-647087, 647867, 647960-647962, 647985-648003, 648031,
648231-648233, 648235, 648270, 648318-648324, 648470, 651309-651315,
651518)
Glycine soja (648388-648389)
Gossypium hirsutum (644227-644236, 645568, 645571-645577, 646198, 647088,
648008-648009, 648011-648014, 648016-648017, 648025, 648225-648229,
648343, 648464-648467, 650850-650854, 651030, 651607-651608,
651610-651611, 651854-651859)
Gymnocladus dioicus (649669)
Helianthus angustifolius (649936-649937)
Helianthus annuus (649792-649859, 649938, 650337-650844)
Helianthus anomalus (649860-649861)
Helianthus argophyllus (649862-649866)
Helianthus atrorubens (649939-649940)
Helianthus bolanderi (649867-649869)
Helianthus californicus (649941-649955)
Helianthus carnosus (649956)
Helianthus cusickii (649957-649968)
Helianthus debilis subsp. *cucumerifolius* (649870)
Helianthus debilis subsp. *debilis* (649871)
Helianthus decapetalus (649969-649972)
Helianthus deserticola (649872-649883)
Helianthus divaricatus (649973)
Helianthus eggertii (649974-649983)
Helianthus exilis (649884-649902)
Helianthus giganteus (649984-649985)
Helianthus gracilentus (649986-649987)

Helianthus grosseserratus (649988-649999)
Helianthus hybrid (649903-649904)
Helianthus longifolius (650000-650001)
Helianthus maximiliani (650002-650011)
Helianthus microcephalus (650012)
Helianthus mollis (650013-650015)
Helianthus niveus (650016)
Helianthus niveus subsp. *canescens* (649905)
Helianthus niveus subsp. *tephrodes* (650017-650021)
Helianthus nuttallii (650022-650024)
Helianthus nuttallii subsp. *rydbergii* (650025)
Helianthus pauciflorus (650026-650027)
Helianthus pauciflorus subsp. *pauciflorus* (650028)
Helianthus pauciflorus subsp. *subrhomboideus* (650029-650035)
Helianthus petiolaris (649906)
Helianthus petiolaris subsp. *fallax* (649907)
Helianthus petiolaris subsp. *petiolaris* (649908-649910)
Helianthus porteri (649911-649918)
Helianthus pumilus (650036-650078)
Helianthus resinosus (650079-650083)
Helianthus schweinitzii (650084)
Helianthus smithii (650085-650087)
Helianthus strumosus (650088)
Helianthus tuberosus (650089-650108)
Helianthus verticillatus (650109-650110)
Hesperis matronalis (650255)
Hibanobambusa tranquillans (647937)
Hordeum brachyantherum subsp. *brachyantherum* (645564)
Hordeum vulgare subsp. *spontaneum* (651223-651224, 651237-651238,
651240-651242, 651244-651248)
Hordeum vulgare subsp. *vulgare* (645477, 646158-646160, 646199, 647080, 648224,
648421-648422, 648913, 651213-651222, 651225-651236, 651239, 651243,
651860)
Humulus lupulus var. *lupulus* (651841-651843)
Hyoscyamus muticus (649670)
Hyoscyamus niger (649671-649672)
Hypericum androsaemum (649048)
Hypericum ascyron subsp. *pyramidatum* (649049-649050)
Hypericum gentianoides (649051)
Hypericum hirsutum (649052)
Hypericum mitchellianum (649053)
Hypericum perforatum (649054-649080)
Hypericum punctatum (649081-649085)
Hypericum tetrapterum (649086)
Hyssopus officinalis (649673-649677)
Iberis amara (650256)
Indocalamus solidus (647938)
Ipomoea batatas var. *batatas* (645581-645582)
Ipomoea setosa (645682)
Ipomoea sp. (645608-645630)
Isatis buschiana (650257)
Isatis tinctoria (650258)
Lablab purpureus (648441)
Lactuca sativa (645474, 645476, 645484, 645570, 646186-646187, 646194, 646197,
648015, 648032, 648348-648349, 648471, 650112, 650116, 650846, 650849,
651020, 651024, 651027-651029, 651609, 651614-651615, 651617, 651839,
651882-651883)

Lens culinaris (649919)
Lens culinaris subsp. *culinaris* (644221)
Lepidium campestre (650259-650260)
Lepidium cardamines (650261)
Lepidium densiflorum (650262)
Lepidium lasiocarpum (650263)
Lepidium latifolium (650264-650265)
Lepidium perfoliatum (650266)
Lepidium ruderales (650267-650270)
Lepidium sativum (650271)
Lepidium subulatum (650272)
Lepidium vesicarium (650273)
Leucaena hybrid (647963, 651861)
Leymus cinereus (645595)
Ligustrum obtusifolium (649678)
Linum altaicum (650292)
Linum austriacum (650293-650301)
Linum austriacum subsp. *euxinum* (650302)
Linum baicalense (650303-650307)
Linum bienne (650308-650309)
Linum campanulatum (650310)
Linum elegans (650311)
Linum flavum (650312-650315)
Linum hirsutum (650316-650318)
Linum hypericifolium (650319)
Linum lewisii (650320)
Linum mucronatum (650321)
Linum narbonense (650322)
Linum perenne (650323-650329)
Linum stelleroides (650330)
Linum strictum subsp. *strictum* (650331)
Linum tauricum (650332)
Linum tenuifolium (650333-650334)
Linum thracicum (650335)
Linum trigynum (650336)
Linum usitatissimum (648438, 649751-649762)
Lolium multiflorum (648355)
Lolium perenne (646193, 648325-648341, 648353)
Lonicera caerulea var. *edulis* (647033-647035)
Malus domestica (644250-644251, 651008-651010)
Malus orientalis (644252-644253)
Malus pumila (651011)
Malus sieversii (645631-645679, 646107-646153, 650944-651007)
Malus sikkimensis (650943)
Malva sylvestris (649679)
Malva tournefortiana (649680)
Marina parryi (648972)
Matricaria aurea (649681-649684)
Matthiola longipetala subsp. *bicornis* (650274)
Matthiola maderensis (650275)
Matthiola parviflora (650276)
Medicago sativa subsp. *falcata* (644249)
Mentha arvensis (645590, 651864)
Mentha longifolia (644254)
Mentha pulegium (651844, 651863)
Mentha sp. (651865-651868)
Monarda bradburiana (649685)

Monarda fistulosa (649686-649688)
 Monarda hybrid (649689-649690)
 Monarda punctata (649691)
 Mucuna sp. (647847)
 Nicotiana tabacum (651833-651836)
 Ocimum americanum (652060)
 Ocimum americanum var. americanum (652058, 652062)
 Ocimum americanum var. pilosum (652052)
 Ocimum basilicum (652053-652054, 652061, 652065, 652070-652071)
 Ocimum campechianum (652066)
 Ocimum gratissimum (652067-652069)
 Ocimum gratissimum var. gratissimum (652063-652064)
 Ocimum gratissimum var. macrophylla (652055)
 Ocimum tenuiflorum (652056-652057, 652059)
 Oenanthe pimpinelloides (649473)
 Onobrychis viciifolia (646154)
 Origanum vulgare subsp. vulgare (649692-649694)
 Orlaya daucoides (649474-649477)
 Orlaya daucorlaya (649478)
 Oryza sativa (645471-645473, 645478-645482, 651498-651499, 651606)
 Panicum amarum (645599)
 Panicum miliaceum (649371-649372)
 Panicum miliaceum subsp. miliaceum (649373-649386)
 Panicum virgatum (644818, 645256, 648365-648367)
 Pappophorum vaginatum (648238)
 Parthenocissus vitacea (649695-649696)
 Paspalum hybrid (647885-647886)
 Paspalum lividum (647887)
 Paspalum notatum (648217-648218, 648303)
 Paspalum sp. (647888-647890)
 Paspalum vaginatum (645598, 647891-647923)
 Pastinaca sativa (652072-652096, 652100-652111, 652117)
 Pastinaca sativa subsp. sativa (652097-652099, 652112-652116)
 Petroselinum crispum (649479-649491)
 Peucedanum alsaticum (649492)
 Phacelia campanularia (649697)
 Phaseolus vulgaris (645475, 647089-647092, 647964, 648018-648019,
 648219-648220, 648344-648347, 648352, 648356-648357, 650857, 651500,
 651519-651520, 651600)
 Phragmites australis (645597)
 Phyllostachys aureosulcata (647939-647941)
 Phyllostachys bambusoides (647942-647945)
 Phyllostachys edulis (647946)
 Phyllostachys nigra (647947)
 Phyllostachys rubromarginata (647948)
 Physocarpus opulifolius (649698-649705)
 Pimpinella anisum (649493-649494)
 Pimpinella peregrina (649495-649498)
 Pimpinella saxifraga (649499-649502)
 Pisum sativum (645579-645580, 647093-647095, 647868, 648006, 648351,
 648444-648447, 648450, 649921, 651582-651583)
 Poa hybrid (646182)
 Poa pratensis (648454, 651025)
 Poa secunda (651885)
 Polypogon maritimus (647874)
 Potentilla argentea (649706-649712)
 Potentilla chinensis (649715)

Potentilla collina (649716)
Potentilla fragarioides (649717)
Potentilla gracilis (649718-649719)
Potentilla hybrid (649720)
Potentilla longifolia (649721-649723)
Potentilla multifida (649724)
Potentilla norvegica (649725)
Potentilla pensylvanica (649726)
Potentilla recta (649727-649730)
Potentilla tanacetifolia (649732-649734)
Potentilla thuringiaca (649735)
Potentilla tridentata (649736)
Pseudoroegneria spicata (650111)
Pseudosasa amabilis (647949)
Pycnanthemum incanum (645591)
Pycnanthemum pilosum (651320)
Pycnanthemum tenuifolium (645586-645587, 645589, 651321)
Pycnanthemum virginianum (645593, 651317-651319)
Pyrus salicifolia (651623)
Raphanus sativus (647040-647079)
Ratibida columnifera (649934)
Rhus typhina (649737)
Rubus argutus (651845)
Rubus columellaris (651870)
Rubus divaricatus (651871)
Rubus flagellaris (651872)
Rubus geoides (651869)
Rubus innominatus (651877)
Rubus lamprocaulos (651873)
Rubus occidentalis (651846-651852)
Rubus schleicheri (651874)
Rubus seebergensis (651875)
Rubus wahlbergii (651876)
Saccharum sp. (650858, 651501, 651881, 651884)
Sambucus cerulea (647037)
Sambucus racemosa (647038)
Sambucus racemosa var. microbotrys (647036)
Saposhnikovia divaricata (649503)
Sasa masamuneana (647950)
Sasa senanensis (647951)
Scaligeria tripartita (649504)
Schizachyrium scoparium (645604, 648368-648376)
Securigera varia (648973)
Setaria italica subsp. italica (649311-649319)
Setaria italica subsp. viridis (649320)
Setaria macrostachya (649321)
Setaria pumila (649322)
Setaria pumila subsp. pumila (648974)
Setaria verticillata (649323)
Shibataea chinensis (647952)
Shibataea lanceifolia (647953-647954)
Sinapis alba (650277-650278)
Sinapis alba subsp. mairei (650279)
Sinapis arvensis (650280-650281)
Sinapis pubescens (650282)
Sinapis pubescens subsp. pubescens (650283)
Sinobambusa sp. (647955-647958)

Sium suave (649505)
Solanum douglasii (645683)
Solanum dulcamara (645684)
Solanum jamesii (651529)
Solanum lichtensteinii (645685)
Solanum lycopersicum (644727-644817, 644819-645255, 645257-645308,
645315-645454, 647096-647225, 647229, 647234-647441, 647447-647452,
647468-647521, 647523-647554, 647556-647587, 648237, 648434-648437,
648439-648440, 649922-649924, 651013-651014)
Solanum lycopersicum var. *cerasiforme* (645309-645314, 647465-647466, 647522,
647555)
Solanum lycopersicum var. *lycopersicum* (647226-647228, 647230-647233,
647442-647446, 647453-647464, 647467)
Solanum macrocarpon (645686)
Solanum pyracanthos (645687)
Solanum sp. (645569)
Solanum stoloniferum (651526-651528)
Solanum tuberosum (645563, 648442-648443, 648867-648869, 649920,
650890-650891, 651019, 651596-651598, 651828)
Solanum viride (645688)
Sorbaria kirilowii (649738)
Sorbus sambucifolia (647039)
Sorghastrum nutans (648377-648387)
Sorghum bicolor subsp. *bicolor* (644258-644726, 646200-647029, 647702-647844,
648037-648216, 648458-648463, 650859-650880, 651092-651212,
651322-651497, 651584-651595)
Sphallerocarpus gracilis (649387-649388)
Spinacia oleracea (646181, 647852-647858, 648936-648965, 650117-650119,
650847-650848)
Spinacia tetrandra (647859-647861)
Spinacia turkestanica (647862-647866)
Spiraea flexuosa (649739)
Spiraea media (649740-649741)
Spiraea mongolica var. *mongolica* (649742)
Spiraea tomentosa (649743)
Staphylea trifolia (649744)
Stenotaphrum sp. (647924-647925)
Symphoricarpos orbiculatus (649745)
Tanacetum corymbosum subsp. *clusii* (649746)
Tanacetum corymbosum subsp. *corymbosum* (649747)
Tanacetum huronense (649748)
Tecoma guarume (651040-651042)
Thlaspi arvense (650284-650287)
Thlaspi bellidifolium (650288)
Thlaspi perfoliatum (650289-650291)
Torilis arvensis (649389-649396)
Torilis arvensis subsp. *neglecta* (649397-649406)
Torilis leptophylla (649407-649420)
Torilis nodosa (649421-649426)
Torilis tenella (649427-649429)
Trachyspermum ammi (649430-649432)
Tridens flavus (648975-649020)
Trifolium pratense (651017-651018)
Trifolium reflexum (650856)
Trifolium spumosum (651039)
Trifolium stellatum (645562)
Triticum aestivum subsp. *aestivum* (644222-644224, 645605-645607,

646183-646185, 646196, 647959, 648007, 648010, 648020-648024,
 648027-648029, 648034, 648350, 648390-648394, 648396-648420,
 648448-648449, 648468-648469, 648891-648912, 650113-650115, 650855,
 651012, 651021, 651023, 651026, 651032-651033, 651043-651091,
 651249-651308, 651502-651517, 651612, 651616)
Triticum turgidum (645483)
Triticum turgidum subsp. *durum* (648870-648890, 650845, 651031)
Turgenia latifolia (649433)
Uniola paniculata (645600)
Vaccinium darrowii (644257, 651626, 651628-651630)
Vaccinium elliottii (644255)
Vaccinium fuscatum (644256)
Vaccinium hybrid (651627)
Vaccinium myrtilloides (651624)
Vaccinium virgatum (651625)
Viburnum macrocephalum f. *keteleeri* (651840)
Vicia villosa subsp. *villosa* (648342)
Vigna unguiculata (645578)
Vigna unguiculata subsp. *unguiculata* (650120)
 X *Aegilotriticum* sp. (648475-648866)
 X *Triticosecale* sp. (648395)
Xanthoceras sorbifolium (649749)
Zea mays subsp. *mays* (644237-644248, 645583-645585, 645689-646106,
 647965-647984, 648271-648301, 648304-648317, 648423-648433,
 648451-648453, 649925-649933, 650881-650889, 650892-650893,
 651034-651038, 651316, 651524-651525, 651530-651545, 651601-651605,
 651618-651620, 651631-651827, 651832)
Zinnia hybrid (647869-647873, 648455-648457, 648472-648474)
Zoysia japonica (648261-648269)
Zoysia sp. (647926)