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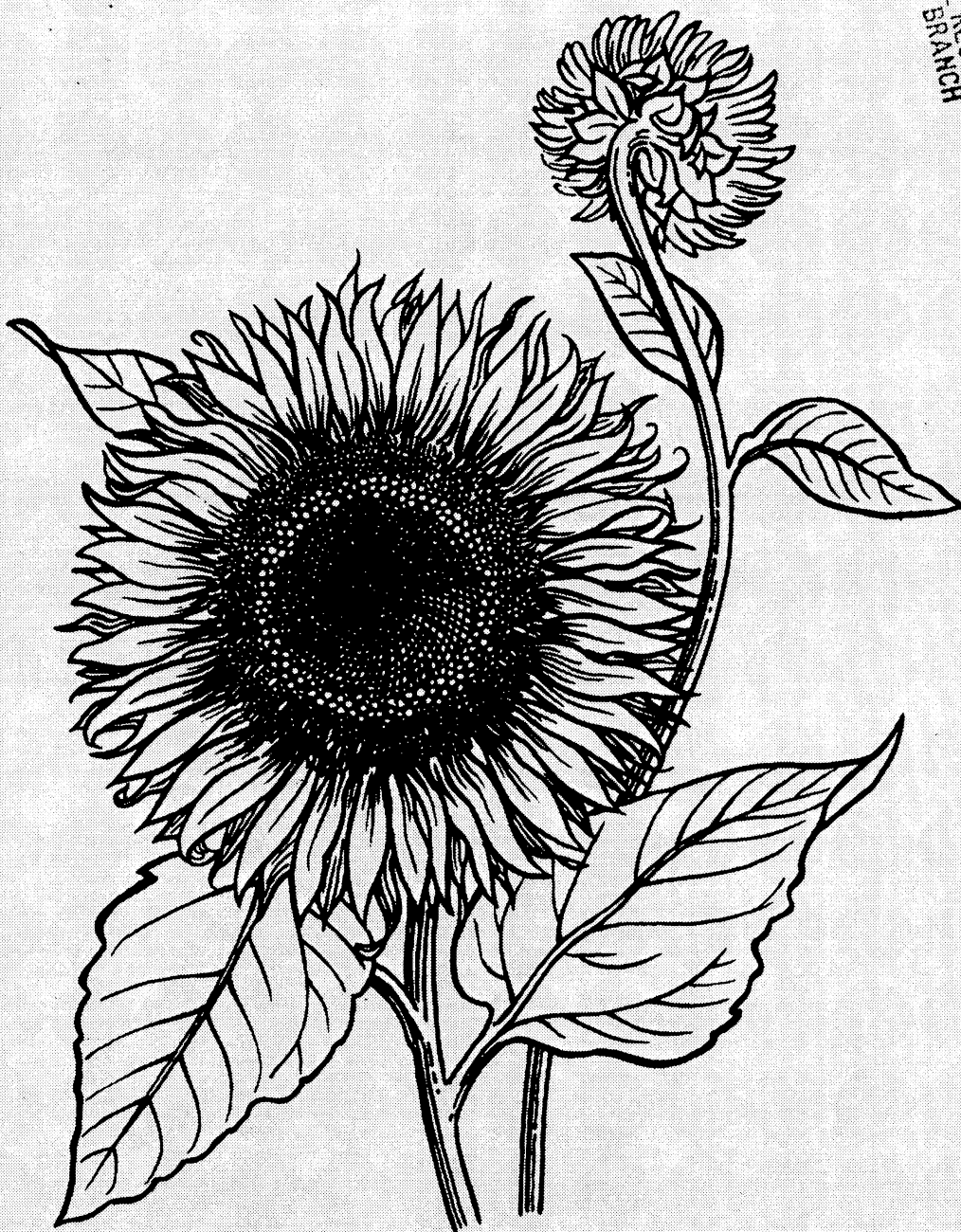
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June 1998

# Plant Inventory No. 206, Part I

Plant Materials Introduced  
January 1 to June 30, 1997  
(Nos. 596294 to 599110)

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# **Plant Inventory No. 206, Part I**

**Plant Materials Introduced  
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**R.A. Norris, editor**

Norris, R.A., ed. 1998. Plant Inventory No. 206, Part I. Plant Materials Introduced January 1 to June 30, 1997, Nos. 596294 to 599110. U.S. Department of Agriculture, Agricultural Research Service, 355 pp.

Plant Inventory No. 206 is a listing of plant materials introduced into the U.S. National Plant Germplasm System during calendar year 1997. It is not a listing of plant material for distribution.

Questions about data organization and proper plant identifications should be directed to the editor: R.A. Norris, National Germplasm Resources Laboratory, 10300 Baltimore Blvd., Bldg. 003, 4<sup>th</sup> Floor, Beltsville, MD 20705.

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The following were developed by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 01/07/1997.

**PI 596294. *Lactuca sativa* L.**  
Cultivar. "DESERTGREEN". PVP 9700009.

The following were developed by AgraTech Seeds, Inc., Seed Testing Lab., United States. Received 01/07/1997.

**PI 596295. *Arachis hypogaea* L.**  
Cultivar. "M2-225". PVP 9700010.

The following were developed by HybriTech Seed International, Inc., A Unit of Monsanto Company, United States. Received 01/07/1997.

**PI 596296. *Triticum aestivum* L., nom. cons.**  
Cultivar. "ORO BLANCO". PVP 9700011.

**PI 596297. *Triticum aestivum* L., nom. cons.**  
Cultivar. "PLATTE". PVP 9700012.

The following were developed by Hollar Seeds, Incorporated, Rocky Ford, Colorado, United States. Received 01/07/1997.

**PI 596298. *Capsicum annuum* L.**  
Cultivar. "PRAIRIE FIRE". PVP 9700013.

The following were developed by Montana State University, Research and Development Institute, Inc, 1711 W. College, Bozeman, Montana 59715, United States. Received 01/07/1997.

**PI 596299. *Hordeum vulgare* L.**  
Cultivar. "PROWASHONUPANA". PVP 9700014.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 01/07/1997.

**PI 596300. *Helianthus annuus* L.**  
Cultivar. "PHA182 MAINTAINER". PVP 9700015.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States. Received 01/07/1997.

**PI 596301. *Festuca lemanii* T. Bastard**  
Cultivar. "OSPREY". PVP 9700017.

The following were developed by Garst Seed Company, United States. Received 01/07/1997.

**PI 596302. Zea mays L. ssp. mays**  
Cultivar. "ZS01429". PVP 9700018.

**PI 596303. Zea mays L. ssp. mays**  
Cultivar. "ZS01595". PVP 9700019.

**PI 596304. Zea mays L. ssp. mays**  
Cultivar. "ZS01819". PVP 9700020.

The following were developed by J & S Research Company, Inc., United States. Received 01/07/1997.

**PI 596305. Gossypium hirsutum L.**  
Cultivar. "HS-10". PVP 9700022.

The following were developed by Holden's Foundation Seeds, Inc., United States. Received 01/07/1997.

**PI 596306. Zea mays L. ssp. mays**  
Cultivar. "LH291". PVP 9700023.

The following were developed by Craig Dremann, Redwood City Seed Company, P.O. Box 609, Redwood City, California 94064, United States. Received 01/07/1997.

**PI 596307. Bromus subvelutinus Shear**  
Cultivar. "VINEYARD AND ORCHARD (V&O)-TYPE ONE". PVP 9700024.

The following were developed by Western Plant Breeders, Phoenix, Arizona, United States. Received 01/07/1997.

**PI 596308. Triticum aestivum L., nom. cons.**  
Cultivar. "COLUSA". PVP 9700025.

**PI 596309. Triticum aestivum L., nom. cons.**  
Cultivar. "CUYAMA". PVP 9700026.

The following were developed by Larry M. Proctor, United States. Received 01/07/1997.

**PI 596310. Phaseolus vulgaris L.**  
Cultivar. "ENOLA". PVP 9700027.

The following were developed by Garst Seed Company, United States. Received

01/07/1997.

**PI 596311. *Zea mays* L. ssp. *mays***  
Cultivar. "ZS01537". PVP 9700028.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 01/07/1997.

**PI 596312. *Helianthus annuus* L.**  
Cultivar. "PHA262 MAINTAINER". PVP 9700031.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 01/07/1997.

**PI 596313. *Pisum sativum* L.**  
Cultivar. "PRISM". PVP 9700032.

The following were developed by Advanta Seeds West, Inc., 33725 Columbus Street S.E., P.O. Box 1496, Albany, Oregon 97321-0452, United States. Received 01/07/1997.

**PI 596314. *Festuca arundinacea* Schreb.**  
Cultivar. "REGIMENT". PVP 9700033.

**PI 596315. *Festuca arundinacea* Schreb.**  
Cultivar. "TULSA". PVP 9700034.

The following were developed by Petoseed Company, Inc., Saticoy, California 93004, United States. Received 01/07/1997.

**PI 596316. *Lactuca sativa* L.**  
Cultivar. "SHARP SHOOTER". PVP 9700035.

**PI 596317. *Lactuca sativa* L.**  
Cultivar. "REDLINE". PVP 9700036.

**PI 596318. *Lactuca sativa* L.**  
Cultivar. "PSR 3127". PVP 9700037.

**PI 596319. *Lactuca sativa* L.**  
Cultivar. "PSR 64289". PVP 9700038.

**PI 596320. *Lactuca sativa* L.**  
Cultivar. "PSR 69292". PVP 9700039.

**PI 596321. *Lactuca sativa* L.**  
Cultivar. "PSR 77393". PVP 9700040.

The following were developed by NDSU Research Foundation, North Dakota,

United States. Received 01/07/1997.

**PI 596322. Zea mays L. ssp. mays**  
Cultivar. "ND280". PVP 9700041.

**PI 596323. Zea mays L. ssp. mays**  
Cultivar. "ND281". PVP 9700042.

**PI 596324. Zea mays L. ssp. mays**  
Cultivar. "ND282". PVP 9700043.

The following were developed by Olvey & Associates, Inc., United States.  
Received 01/07/1997.

**PI 596325. Gossypium hirsutum L.**  
Cultivar. "DP-6204-ACALA". PVP 9700044.

The following were developed by Western Plant Breeders, Phoenix, Arizona,  
United States. Received 01/07/1997.

**PI 596326. Hordeum vulgare L.**  
Cultivar. "NEBULA". PVP 9700045.

The following were developed by Pennsylvania State University, Pennsylvania  
Agricultural Experiment Station, State College, Pennsylvania, United States.  
Received 01/07/1997.

**PI 596327. Agrostis stolonifera var. palustris (Huds.) Farw.**  
Cultivar. "PENN A-1". PVP 9700046.

The following were developed by Mitsui Toatsu Chemicals, Inc., Tokyo, Japan.  
Received 01/07/1997.

**PI 596328. Phleum pratense L.**  
Cultivar. "AURORA". PVP 9700049.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449,  
Hubbard, Oregon 97032, United States. Received 01/07/1997.

**PI 596329. Lolium perenne L.**  
Cultivar. "CATALINA". PVP 9700050.

The following were developed by Asgrow Seed Company, Kalamazoo, Michigan,  
United States. Received 01/07/1997.

**PI 596330. Zea mays L. ssp. mays**  
Cultivar. "ASG05". PVP 9700047.

**PI 596331. Zea mays L. ssp. mays**



Cultivar. "ASG06". PVP 9700048.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 01/07/1997.

**PI 596332. Sorghum bicolor (L.) Moench**  
Cultivar. "PH387LM". PVP 9700054.

The following were developed by Terral Seed, Inc., United States. Received 01/07/1997.

**PI 596333. Glycine max (L.) Merr.**  
Cultivar. "Terral TV5893". PVP 9700055.

The following were developed by Cebeco Zaden B.V., Rotterdam, Netherlands. Received 01/07/1997.

**PI 596334. Pisum sativum L.**  
Cultivar. "ALFETTA". PVP 9700053.

The following were developed by HybriTech Seed International, Inc., A Unit of Monsanto Company, United States. Received 01/07/1997.

**PI 596335. Triticum aestivum L., nom. cons.**  
Cultivar. "WI89-085". PVP 9700056.

The following were developed by Pennsylvania State University, Pennsylvania Agricultural Experiment Station, State College, Pennsylvania, United States. Received 01/07/1997.

**PI 596336. Agrostis stolonifera var. palustris (Huds.) Farw.**  
Cultivar. "PENN G-2". PVP 9700057.

**PI 596337. Agrostis stolonifera var. palustris (Huds.) Farw.**  
Cultivar. "SEASIDE II". PVP 9700058.

The following were developed by Norddeutsche Pflanzenzucht, Hans-George Lembke K.-G., Hohenlieth, Germany; Svalof Weibull AB, Sweden. Received 01/07/1997.

**PI 596338. Brassica napus L.**  
Cultivar. "MSL 501 C". PVP 9700059.

The following were developed by Pennsylvania State University, Pennsylvania Agricultural Experiment Station, State College, Pennsylvania, United States. Received 01/07/1997.

**PI 596339. *Agrostis stolonifera* L.**  
Cultivar. "PENN A-4". PVP 9700060.

**PI 596340. *Agrostis stolonifera* var. *palustris* (Huds.) Farw.**  
Cultivar. "PENN A-2". PVP 9700061.

The following were developed by Busch Agricultural Resources, Inc., 3515 East County Road 52, Fort Collins, Colorado 80524, United States. Received 01/07/1997.

**PI 596341. *Hordeum vulgare* L.**  
Cultivar. "2B91-4947". PVP 9700062.

The following were developed by Keisuke Horiike and Hawaiian Solo Company, Ltd., Hawaii, United States. Received 01/07/1997.

**PI 596342. *Carica papaya* L.**  
Cultivar. "PAPAYA". PVP 9700063.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449, Hubbard, Oregon 97032, United States. Received 01/07/1997.

**PI 596343. *Lolium perenne* L.**  
Cultivar. "STARDANCE". PVP 9700064.

The following were developed by Paymaster Technology Corp., United States. Received 01/07/1997.

**PI 596344. *Gossypium hirsutum* L.**  
Cultivar. "PM 1277". PVP 9700065.

The following were developed by Northrup, King & Company, 1500 Jackson N.E., Minneapolis, Minnesota 55413, United States. Received 01/07/1997.

**PI 596345. *Triticum aestivum* L., nom. cons.**  
Cultivar. "COKER 9663". PVP 9700066.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 01/07/1997.

**PI 596346. *Lactuca sativa* L.**  
Cultivar. "SPRECKELS". PVP 9700067.

The following were developed by Turf Merchants, Inc., United States. Received 01/07/1997.

**PI 596347. *Lolium perenne* L.**  
Cultivar. "BLACKHAWK". PVP 9700068.

The following were developed by Julian B. Thomas, Agriculture Canada, Crop Sciences Section, PO Box 3000, Main, Lethbridge, Alberta T1J 4B1, Canada; R. M. DePauw, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Res. Centre, Box 1030, Swift Current, Saskatchewan S9H 3X2, Canada; T.F. Townley-Smith, Agriculture Canada, Research Branch, 195 Dafoe Road, Winnipeg, Manitoba R3T 2M9, 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. Received 12/16/1996.

**PI 596348. *Triticum aestivum* L., nom. cons.**

Genetic. Pureline. L8800-CC7B1B1D16. GS-122. Pedigree - HY320\*5/BW553//HY320d\*6/7424BW5B4. Resistant to loose smut (*Ustilago tritici*) races T2, T8, T9, T10, T19, T31, and T39. Susceptible to races T6 and T15. Similar to L8800-CC7B1B1C1S in leaf rust reaction, days to head and mature, and height. Awned and shorter than the awnless P8802 lines.

**PI 596349. *Triticum aestivum* L., nom. cons.**

Genetic. Pureline. L8800-CC7B1B1C1S. GS-123. Pedigree - HY320\*5/BW553//HY320\*6/7424BW5B4. Susceptible to loose smut (*Ustilago tritici*) races T2, T6, T8, T9, T15, T31, and T39. Resistant to races T10 and T19. Similar to L8800-CC7B1B1D16 in leaf rust reaction, days to head and mature, and height. Awned and shorter than the awnless P8802 lines.

**PI 596350. *Triticum aestivum* L., nom. cons.**

Genetic. Pureline. P8802-C1\*3A2A2U. GS-124. Pedigree - Benito\*6/Glenlea//Benito. Awnless. Susceptible to loose smut (*Ustilago tritici*) races T8 and T39. Resistant to races T2, T6, T9, T10, T15, T19, and T31. Similar to P8802-C1\*3A2C16 in reaction to leaf and stem rust, days to head and mature.

**PI 596351. *Triticum aestivum* L., nom. cons.**

Genetic. Pureline. P8802-C1\*3A2C16. GS-125. Pedigree - Benito\*6/Glenlea//Benito. Awnless. Resistant to loose smut (*Ustilago tritici*) races T2, T6, T8, T9, T10, T15, T19, T31, and T39. Similar to P8802-C1\*3A2A2U in reaction to leaf and stem rust, days to head and mature, but slightly shorter.

The following were developed by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Leonard Francl, North Dakota State University, Dept of Plant Pathology, Fargo, North Dakota 58105, United States; J.B. Rasmussen, North Dakota State University, Dept. of Plant Pathology, Fargo, North Dakota 58105, United States; James A. Anderson, USDA, ARS, Washington State University, 209 Johnson Hall, Pullman, Washington 99164, United States; D.J. Cox, ECHO, 17430 Durrance Rd., North Fort Meyers, Florida 33917, United States; W. Moore, ConAgra Grain Processing Company, 1521 N. 15th Street, Omaha, Nebraska 68110, United States. Received 12/18/1996.

**PI 596352. *Triticum aestivum* L., nom. cons.**

Cultivar. Pureline. "ELKHORN"; ND8933. PVP 9700319; CV-859. Pedigree - Norstar/4/Centurk//Winoka/Ulianovka/3/SD76694. Released 1995. Hard red winter wheat. Mid-maturity and conventional height. Spikes lax and fusiform, awned, and white at maturity. Glumes medium length and width with oblique shoulders and beak acuminate. Seeds ovate, with rounded cheeks and medium brush. Winter hardiness intermediate between Roughrider and Seward. Straw strength similar to Roughrider and weaker than Seward. Averaged 4% greater grain yield than Seward, 7% greater than Arapahoe, and 12% greater than Roughrider. Greenhouse seedling and adult plant field resistance, with a trace mixture of susceptible plants, to prevalent stem rust (*Puccinia graminis*) races Pgt-QCCJ and -TPMK. Moderately susceptible to prevalent races of leaf rust (*Puccinia recondita*), but more resistant than Roughrider or Seward. Moderately susceptible reactions to tan spot (*Pyrenophora tritici-repentis*). Good grain quality. Test weight equivalent to Roughrider and higher than Seward. Wheat protein content, flour extraction and wet gluten mid-range between.

The following were developed by A. E. Hall, University of California, Department of Botany & Plant, Sciences, Riverside, California 92521, United States; Ndiaga Cisse, Institut Senegalais de Recherches Agricoles, Centre National de Recherches Agronomiques, BP 53, Bambey, Senegal; Mbaye Ndiaye, Institut Senegalais de Recherches Agricoles, Centre National de Recherches Agronomiques, BP 53, Bambey, Senegal; Samba Thiaw, Institut Senegalais de Recherches Agricoles, Centre National de Recherches Agronomiques, BP 53, Bambey, Senegal. Received 12/16/1996.

**PI 596353. *Vigna unguiculata* (L.) Walp.**

Cultivar. Pureline. "MELAKH"; B89-504. CV-140. Pedigree - IS86-292/IT83S-742-13. Semi-erect and indeterminate. In tropics flowers 31 days after sowing and reaches physiological maturity after 63 days. Dry seeds white with brown eye, weight 19g/100 seed. Resistance to major strains of CABMV in Senegal and partial resistance to bacterial blight (*Xanthomonas campestris* pv. *vignicola*) and cowpea aphid (*Aphis craccivora*).

The following were developed by W. A. Compton, University of Nebraska, Department of Agronomy, Crop, Range, Soil, and Weed Sciences, Lincoln, Nebraska 68583, United States; Stan G. Jensen, USDA, ARS, University of Nebraska, 406-M Plant Sci. Bldg., Lincoln, Nebraska 68583-0937, United States; M. Thomas-Compton, University of Nebraska, 308 Keim Hall, Lincoln, Nebraska 68583-0915, United States; B., Jr. Doupnik, University of Nebraska, Dept. of Plant Pathology, South Central Research and Ext. Ctr., Clay Center, Nebraska 68933-0066, United States; Shawn Kaeppler, University of Wisconsin, College of Agriculture, Agronomy Department, Madison, Wisconsin 53706, United States; D. D. Galusha, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68583-0915, United States. Donated by Shawn Kaeppler, University of Wisconsin, College of Agriculture, Agronomy Department, Madison, Wisconsin 53706, United States. Received 12/27/1996.

**PI 596354. *Zea mays* L. ssp. *mays***

Breeding. Inbred. N211. PL-288. Pedigree - Self-pollination directly from CLNA(C1). Medium-tall, S5 line. Shows few symptoms when infected

with maize chlorotic mottle virus. Resistance to maize dwarf mosaic virus race B. 3 to 5 tassel branches. Ears 12 to 14 kernel rows, kernels yellow, and cob red. Plant health good, excellent stay-green characteristics late in season. Requires approx. 1410 heat units to pollen shed.

The following were donated by Shawn Kaeppler, University of Wisconsin, College of Agriculture, Agronomy Department, Madison, Wisconsin 53706, United States. Received 12/27/1996.

**PI 596355. *Zea mays* L. ssp. *mays***

Breeding. Inbred. N216. Developed in United States. Pedigree - Self-pollination directly from NB(S)RF1(6). Prolific S6 line. Height avg. 195 cm. Ears 14 to 18 kernel rows, kernels yellow, cob red, and silks colorless. Selected based on yield in hybrid combination and resistance to stalk and root lodging.

The following were developed by W. A. Compton, University of Nebraska, Department of Agronomy, Crop, Range, Soil, and Weed Sciences, Lincoln, Nebraska 68583, United States; Stan G. Jensen, USDA, ARS, University of Nebraska, 406-M Plant Sci. Bldg., Lincoln, Nebraska 68583-0937, United States; M. Thomas-Compton, University of Nebraska, 308 Keim Hall, Lincoln, Nebraska 68583-0915, United States; B., Jr. Doupnik, University of Nebraska, Dept. of Plant Pathology, South Central Research and Ext. Ctr., Clay Center, Nebraska 68933-0066, United States; Shawn Kaeppler, University of Wisconsin, College of Agriculture, Agronomy Department, Madison, Wisconsin 53706, United States; D. D. Galusha, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68583-0915, United States. Donated by Shawn Kaeppler, University of Wisconsin, College of Agriculture, Agronomy Department, Madison, Wisconsin 53706, United States. Received 12/27/1996.

**PI 596356. *Zea mays* L. ssp. *mays***

Breeding. Inbred. N217. PL-289. Pedigree - Derived directly by selfing component family 077-3 from cycle 1 of NCLNB. S5 line. Height avg. 180 cm. Selection based on yield in hybrid combination and corn lethal necrosis symptom development. Excellent resistance to maize dwarf mosaic virus race B and some resistance to maize chlorotic mottle virus. Ears 12 to 14 kernel rows, kernels yellow, cobs pink, silks colorless, and anthers green.

**PI 596357. *Zea mays* L. ssp. *mays***

Breeding. Inbred. N218. PL-290. Pedigree - Derived by self-pollinating family 172-2, a component of NCLNB cycle 1. S5 line. Height avg. 170 cm. Selected based on yield in hybrid combination and corn lethal necrosis symptom development. Good resistance to maize dwarf mosaic virus race B and some resistance to maize chlorotic mottle virus. Ears 12 to 14 kernel rows, kernels yellow, and cobs red.

The following were donated by John D. Miller, USDA, ARS, Coastal Plain Experiment Station, Agronomy Dept., Tifton, Georgia 31793, United States; Homer D. Wells, USDA, ARS, Coastal Plain Experiment Station, Plant Pathology Dept., Tifton, Georgia 31793, United States. Received 1982.

**PI 596358. Lablab purpureus (L.) Sweet**

Breeding. TIFT-1; TIFTON ELITE LINE NO 1. GP-44. Pedigree - Rongai/67-13 . Bred for increased summer forage production and early seed maturation. Summer annual legume, semi-erect growth habit with some tendency to vining. Leaves trifoliate, leaflets broad-ovate shape. Flowers cream colored, self-pollinated, and borne in racemes with distinct odor. Seed pods flat or inflated. Seeds large, length approx 1 cm, light to dark brown, coat smooth with hilum prominent and white. Seed yields good, but mature over several weeks. Forage yields over 2 metric tons/ha. Susceptible to corn earworm (*Heliothis zea*), tobacco budworm (*H. virescens*), and other *Heliothis* spp.

The following were developed by S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India ; A.G.S. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Asia Center, Patancheru, Andhra Pradesh 502324, India; H.D. Upadhyaya, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502 324, India; M.J.V. Rao, ICI Limited, Agricultural Research Station, Begur, Karnataka, India; N.S. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502324, India; N. Yellaiah, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 01/13/1997.

**PI 596359. Arachis hypogaea L.**

Breeding. ICGV 86143; BSR 1. GP-87. Pedigree - ICGS 44/(Robut 33-1/NC Ac 2821-F8) F2-P23-B1-B1-B1-B1-B1. Spanish type with erect growth habit, sequential branching and elliptical, medium sized dark green leaves. Matures in about 100-105 days. Pods mainly two-seeded, small to medium in size, with no or slight beak and constriction and smooth to slight reticulation. Seeds with tan colored testa and weight 56g 100-seed -1 and contain 469g ka-1 oil and 250g kg-1 protein.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 01/07/1997.

**PI 596360. Helianthus annuus L.**

Cultivar. "PHA182". Sterile line of PI 596300.

**PI 596361. Helianthus annuus L.**

Cultivar. "PHA262". Female form of PI 596312.

The following were developed by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway, Phoenix, Arizona 85040, United States; Anson E. Thompson, USDA, ARS, 4331 E. Broadway Road, Phoenix, Arizona 85040, United States; Terry A. Coffelt, USDA, ARS, U.S. Water Conservation Lab., 4331 E. Broadway Rd., Phoenix, Arizona 85040-8832, United States. Received 01/13/1997.

**PI 596362. Lesquerella fendleri (A. Gray) S. Watson**

Breeding. WCL-LY1. GP-20. Pedigree - Bulk population from one accession originating from Arizona (PI 311165) and nine from Texas (PI 293005, PI 293006, PI 293007, PI 293009, PI 293010, PI 293012, PI 293013, PI 293015, and PI 293016). One of three lines developed for improved oil traits. First public release material of lesquerella germplasm. Produced higher lesquerolic acid yields than unselected population (15.3 +/- 1.58 versus 11.76 +/- 0.57g kg<sup>-1</sup>). Plant height ranged between 11.7 and 17.5cm. Average 1000 seed weight 0.60g. Seed yield averaged 15g per plant.

**PI 596363. *Lesquerella fendleri* (A. Gray) S. Watson**

Breeding. WCL-LO1. GP-21. Pedigree - Bulk population from one accession originating from Arizona (PI 311165) and nine from Texas (PI 293005, PI 293006, PI 293007, PI 293009, PI 293010, PI 293012, PI 293013, PI 293015, and PI 293016). One of three lines developed for improved oil traits. First public release material of lesquerella germplasm. Produced significantly more seed-oil than unselected population (26 +/- 2.42 versus 23 +/- 1.07g kg<sup>-1</sup>). Plant height ranged between 11.7 and 17.5cm. Average 1000 seed weight 0.60g. Seed yield averaged 15g per plant.

**PI 596364. *Lesquerella fendleri* (A. Gray) S. Watson**

Breeding. WCL-LH1. GP-22. Pedigree - Bulk population from one accession originating from Arizona (PI 311165) and nine accessions from Texas (PI 293005, PI 293006, PI 293007, PI 293009, PI 293010, PI 293012, PI 293013, PI 293015, and PI 293016). One of three lines developed for improved oil traits. First public release of lesquerella germplasm. Produced significantly more lesqueolic acid than unselected population (54.5 +/- 2.32 versus 50.2 +/- 1.12g kg<sup>-1</sup>). Plant height ranged between 11.7 and 17.5cm. Average 1000 seed weight 0.60g. Seed yield averaged 15g per plant.

The following were developed by Julian B. Thomas, Agriculture Canada, Crop Sciences Section, PO Box 3000, Main, Lethbridge, Alberta T1J 4B1, Canada; Denis A. Gaudet, Agriculture Canada, Research Station, Box 3000, Main, Lethbridge, Alberta T1J 4B1, Canada; R. 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; T. Demeke, Agriculture and Agri-Food Canada, Research Centre, Lethbridge, Alberta T1J 4B1, Canada; D.A. Laroche, Agriculture and Agri-Food Canada, Research Centre, Lethbridge, Alberta T1J 4B1, Canada. Received 12/16/1996.

**PI 596365. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. P8913-V2A5. GP-542. Pedigree - BW90\*4/Bt10. Hard red-kerneled spring wheat. Resistant to common bunt (*Tilletia caries* and *T. laevis*) races L-1, L-16, T-1, T-6, T-13, and T-19. Derived from a source possessing the common bunt resistance gene Bt10.

**PI 596366. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. P8917-B4D4. GP-543. Pedigree - HY358\*4/Bt10. Hard white-kerneled spring wheat with short stature. Resistant to common bunt (*Tilletia caries* and *T. laevis*) races L-1, L-16, T-1, T-6, T-13, and T-19. Derived from a source possessing the common bunt resistance gene Bt10.

**PI 596367. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. P8921-Q4C5. GP-544. Pedigree - HY358/Bt10//2\*HY320/3/W8600. Medium-hard red-kerneled spring wheat with short stature. Resistant to common bunt (*Tilletia caries* and *T. laevis*) races L-1, L-16, T-1, T-6, T-13, and T-19. Derived from a source possessing the common bunt resistance gene Bt10.

The following were developed by M.M. Rahman, Pulses Research Center, BARI, Regional Agric. Res. Sta., Ishurdi, Pabna, Bangladesh; M. Rahman, Bangladesh Agr. Res. Inst., Ishurdi; J. Kumar, CIDA-CDP, Khmarbari, Dhaka, Bangladesh; M. A. Malek, Bangladesh Agricultural Research Institute, Pulses Research Centre, Ishurdi, Pabna, Bangladesh. Received 01/06/1997.

**PI 596368. *Cicer arietinum* L.**

Cultivar. Pureline. Barichhola 4; ICCL 85222. CV-149. Pedigree - HMS 10x(P 1100 x WR 315). Days to maturity 120-130. Plant height 55-60 cm. Yield potential 200-2700 kg/ha. 100 seed weight 13-14 g, seed color light brown. Twin podded. Resistant to fusarium wilt. Sowing date Nov. 15-30.

**PI 596369. *Cicer arietinum* L.**

Cultivar. Pureline. Barichhola 5; RBH-228a. CV-150. Pedigree - Germplasm selection from farmers field near Pabna, Bangladesh. Days to maturity 115-125. Plant height 50-55 cm. Yield potential 1500-2500 kg/ha. 100 seed weight 12.5 g, seed color light brown. Resistant to fusarium wilt. Sowing date Nov. 15-30.

**PI 596370. *Cicer arietinum* L.**

Cultivar. Pureline. Barichhola 6; ICCL-83149. CV-151. Pedigree - (G-130 x B 108) x NP 34 x GW 5/7. Days to maturity 115-120 normal (105-110 days late sown). Plant height 45-55 cm. Yield potential 2000-2500 kg/ha normal (1200-1500 kg/ha late sown conditions). 100 seed weight 15-16 g, seed color light brown. Resistant to fusarium wilt. Sowing date Nov. 15 to Dec. 30.

The following were developed by Steve Bieberich, Sunshine Nursery, Route 3, Box 2, Clinton, Oklahoma 73601-9352, United States. Received 04/19/1989.

**PI 596371. *Chenopodium giganteum* D. Don**

Cultivated. Ames 10278. Collected in Oklahoma, United States. Latitude 35 deg. 30' N. Longitude 98 deg. 58' W. Heirloom vegetable. Maintained in western Oklahoma since late 1800's, thought to have been brought from Tennessee. Selected for large, tender, purple, new leaves.

The following were developed by Bountiful Gardens Seeds, 19550 Walker Road, Willits, California 95490, United States. Received 04/02/1990.

**PI 596372. *Chenopodium giganteum* D. Don**

Cultivar. "MAGENTA"; Ames 13209. Collected in California, United States. Potherb of the San Francisco restaurant trade. Entire plant edible. Leaves beautiful, florescent magenta. Use in salads, steam, or boil.



Seeds can be ground for meal or flour.

The following were collected by Paul Ovrom, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50010-1010, United States. Received 10/22/1990.

**PI 596373. *Ampelopsis glandulosa* var. *brevipedunculata* (Maxim.) Momiy.**  
Wild. Ames 14431. Collected 10/22/1990 in Iowa, United States. Climbing in trees at West end of Lake LaVerne, campus of Iowa State University, Story County, Iowa.

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 596374. *Anthemis tinctoria* L.**  
Wild. CHRY 53/89; Ames 21138. Collected in Korea, North. Elevation 20 m. Chun San, approximately 15 km southwest of Wonsan which is known for the production of Kaki (*Diospyros*).

The following were collected by S. Tsuchiya, Fruit Tree Research Station, Division of Fruit Breeding, Yatabe, Tsukuba, Ibaraki 205, Japan. Received 04/08/1983.

**PI 596375. *Aronia melanocarpa* (Michx.) Elliott**  
Wild. 44-2; CARO 3; ARO 3; Ames 10756. Collected 10/12/1981 in Former Soviet Union. Russian Federation. Pedigree - Uncertain. This species is not native to Russia, likely an escape.

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 02/28/1992.

**PI 596376. *Dianthus caryophyllus* L.**  
Cultivated. Ames 19029. Collected 07/20/1991 in Kazakhstan. Government store, Alma Ata, Kazakh Republic.

The following were collected by Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States; David Brenner, Iowa State University, Regional Plant Introduction Station, Room G208, Agronomy Building, Ames, Iowa 50011, United States. Donated by David Brenner, Iowa State University, Regional Plant Introduction Station, Room G208, Agronomy Building, Ames, Iowa 50011, United States. Received 10/19/1989.

**PI 596377. *Duchesnea indica* (Andrews) Focke**  
Wild. T & B 880082; CDUC 7; Indian Strawberry; Ames 10762. Collected 06/24/1988 in North-West Frontier, Pakistan. Latitude 34 deg. 3' 0'' N. Longitude 73 deg. 24' 0'' E. Elevation 2600 m. Mountains near Nathiagali in the district of Hazara. Steep slope under trees. Occurs in 1-2 meter

diameter patches in moister spots in range of *Fragaria nubicola*. Soil well drained, slightly stony, loam. Slope 70 degrees, aspect NE and SW, and exposure 40-60%. Pedigree - Collected from the wild in Pakistan.

The following were donated by Gary Koller, The Arnold Arboretum, Harvard University, 125 Arborway, Jamaica Plain, Massachusetts 02130, United States. Received 12/11/1991.

**PI 596378. *Flueggea suffruticosa* (Pall.) Baill.**  
Cultivated. 15-87; Ames 18337. Pedigree - 3 divisions from AA 17237-1. Seed from J.G. Jack, Ping-yang, Korea-1924.

The following were donated by A.T. Whittemore, Missouri Botanical Garden, Biology Department, P.O. Box 299, St. Louis, Missouri 63166-0299, United States; Issik Dendrarium, Kazakhstan. Received 03/04/1992.

**PI 596379. *Flueggea suffruticosa* (Pall.) Baill.**  
Cultivated. Ames 18934. Collected in Kazakhstan.

The following were donated by USDA, NRCS, Plant Materials Center, 1036 Miller Street Southwest, Los Lunas, New Mexico 87031, United States. Received 04/09/1992.

**PI 596380. *Forestiera neomexicana* A. Gray**  
Cultivar. "Jemez"; 9004570; A-12044; New Mexico Olive; Ames 19065. Collected 1939 in New Mexico, United States. Vicinity of Jemez Springs, Sandoval County. Commonly found along streams, hillsides, and mesas between 910-2100m elev. In southwestern woodlands & desert grassland of north & central Arizona & New Mexico. Highly branched, spreading, deciduous shrub, grows to 12 feet. Suckers from base, branches interlace, forming dense thicket under favorable conditions. Leaves oblong and grayish-green. Bark smooth and light gray to brown. Flowers inconspicuous in dense sessile clusters March to April before new leaves. Fruit bluish-black, ripens between June and September and holds well, attractive to birds.

The following were collected by Ju. R. Roskov. Donated by V.L. Komarov Botanical Institute, Academy of Sciences, St. Petersburg 22, Popov Street 2, St. Petersburg, Russian Federation. Received 09/29/1992.

**PI 596381. *Helichrysum arenarium* (L.) Moench**  
Wild. 3111; Ames 20045. Collected in Ukraine. Near town of Kanev, district of Czerkassky.

The following were donated by The Plant Cell Research Institute, Inc., 6560 Trinity Court, Dublin, California 94568, United States; Friedrich Miescher Institute, P.O. Box 2543, Basel, Basel CH-4002, Switzerland. Received 03/18/1991.

**PI 596382. *Hyoscyamus muticus* L.**

Uncertain. HO-17; Ames 15664.

The following were collected by Ju. A. Lux; Z.V. Lomagina; T.K. Perfilova. Donated by V.L. Komarov Botanical Institute, Academy of Sciences, St. Petersburg 22, Popov Street 2, St. Petersburg, Russian Federation. Received 09/29/1992.

**PI 596383. *Hyoscyamus niger* L.**

Wild. 2984; Ames 20032. Collected in Former Soviet Union. Near village of Plodovoje, district of Priosersk, in the European part of Russia.

The following were donated by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Received 06/08/1990.

**PI 596384. *Parthenocissus quinquefolia* (L.) Planch.**

Wild. GU 126; NA 61287; Ames 13849. Collected in West Virginia, United States. Elevation 635 m. Route 55, 1 mile west of summit of Shenandoah Mts. Lee Ranger District, Hardy Co.

The following were donated by Vyzkumny a Slechtitelsky Ustav Picninarsky, 66441 Troubsko u Brna, Czech Republic. Received 11/23/1987.

**PI 596385. *Phacelia tanacetifolia* Benth.**

Cultivar. "Vetrovska"; Ames 7991. Collected in Czechoslovakia.

The following were donated by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Received 06/08/1990.

**PI 596386. *Physocarpus opulifolius* (L.) Maxim.**

Wild. GU 160; NA 61252; Ames 13850. Collected in Virginia, United States. Elevation 914 m. Blue Ridge - Greenstone Overlook, Augusta County. Mile 9, western exposure.

The following were collected by E. D. McArthur, USDA, FS, Int. Forest & Range Exper. Station, Shrub Sciences Laboratory, Provo, Utah 84601, United States. Received 10/19/1989.

**PI 596387. *Potentilla fruticosa* L.**

Wild. CPOT 1; Ames 10763. Collected in Utah, United States. Near Tropic Reservoir.

The following were collected by P. Meyer. Donated by Peter Bristol, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44060-5172, United States. Received 04/25/1985.

**PI 596388. *Pterocarya stenoptera* C. DC.**

Wild. KNW 84-1008; Ames 4968. Collected in Korea, South. Kyong Gi Do,

Namyongju Gun, Korea. Kwangnung Forest Research Station. Growing along stream in flood plain.

The following were donated by Alan Whittmore, USDA/ARS, University of Georgia, Regional Plant Introduction Station, Griffin, Georgia 30223-1797, United States. Received 04/28/1992.

**PI 596389. *Rumex acetosa* L.**

Cultivated. Ames 19095. Collected 07/20/1991 in Kazakhstan. Private vendor, Alma Ata Market, Kazakh.

**PI 596390. *Rumex acetosa* L.**

Cultivated. Ames 19096. Collected 07/20/1991 in Kazakhstan. Government store, Alma Ata Market, Kazakh.

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, United States; Mark P. Widrechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, 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, United States; Mark P. Widrechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

**PI 596391. *Sanvitalia ocymoides* DC.**

Wild. RWCF 8; Ames 21559. Collected 10/01/1993 in Tamaulipas, Mexico. Latitude 23 deg. 35' N. Longitude 99 deg. 20' W. Elevation 650 m. Roadside area. N side of road 200 m SW bridge across Rio Chihue, Hwy 101, 45.9 km SW Ciudad Victoria near Ejido San Antonio. Soil clay. Assoc. sp. Acacia, Lippia, Ambrosia. Rays dull yellow, disks dark brown.

**PI 596392. *Sanvitalia ocymoides* DC.**

Wild. RWCF 11; Ames 21560. Collected 10/01/1993 in Tamaulipas, Mexico. Latitude 23 deg. 50' N. Longitude 99 deg. 53' W. Elevation 1100 m. 18.8 km SW Tula on Hwy 101 toward San Luis Potosi. Both sides of hwy extending several m up hillside. Soil gravelly clay. Assoc. sp. Opuntia, Larrea, Acacia, Yucca. Rays orange, disks dark brown.

The following were donated by Hortus Botanicus Principalis, Academiae Scientiarum URSS, ul. Botanicheskaya 4, Moscow, Russian Federation. Received 01/16/1989.

**PI 596393. *Spiraea chamaedryfolia* L.**

Cultivated. 434A; Sample 434A; Ames 10098. Collected in Former Soviet Union.

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 596394. *Tanacetum parthenium* (L.) Sch. Bip.**  
Uncertain. CHRY 67/88; Ames 21148. Collected in Italy. Bisegna.

The following were collected by Hans Kohler, Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Donated by Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Received 07/07/1993.

**PI 596395. *Tanacetum parthenium* (L.) Sch. Bip.**  
Wild. No. 161; Ames 21202. Collected in Germany. Weissenfels, Sachsen-Anhalt.

The following were collected by G. Krebs. Donated by Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Received 07/07/1993.

**PI 596396. *Tanacetum vulgare* L.**  
Wild. No. 162; Ames 21204. Collected in Germany. Bad Dübren, Sachsen.

The following were collected by Hans Kohler, Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Donated by Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Received 07/07/1993.

**PI 596397. *Tanacetum vulgare* L.**  
Wild. No. 163; Ames 21205. Collected in Germany. Belgern, Sachsen.

The following were collected by V. Beyer. Donated by Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Received 07/07/1993.

**PI 596398. *Tanacetum vulgare* L.**  
Wild. No. 164; Ames 21206. Collected in Germany. Eilenburg, Sachsen.

The following were collected by Hans Kohler, Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Donated by Botanischer Garten, Universität Leipzig, Linnestrassse 1, Leipzig, Germany. Received 07/07/1993.

**PI 596399. *Tanacetum vulgare* L.**  
Uncertain. No. 165; Ames 21207. Collected in Germany. Weissenfels, Sachsen-Anhalt.

The following were donated by Ogród Botaniczny, Uniwersytetu Warszawskiego, Aleje Ujazdowskie 4, Warszawa, Poland. Received 07/06/1994.

**PI 596400. *Tanacetum vulgare* L.**  
Wild. Index Seminum #78; Ames 22121. Collected 09/14/1993 in Poland. Lawy (Kampinos Forest), Warszawa Province.

The following were collected by L.A. Spetzman, Plant Science Research Division, USDA-ARS, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Received 02/24/1984.

**PI 596401. *Thalictrum dasycarpum* Fisch. et al.**

Wild. LS-376; B 58291; G-18933; Ames 2865. Collected 08/10/1967 in Michigan, United States. Alpena County. 3 miles south of Alpena City limits on Highway 23. Damp, sunny ditch. Soil sandy, organic. Perennial herb to 6 feet. Variable color green to purplish.

**PI 596402. *Thalictrum dasycarpum* Fisch. et al.**

Wild. LS-395; B 58293; G-18934; Ames 2866. Collected 08/27/1967 in Wisconsin, United States. Madison, Dane County. Near airfield on Highway 51 about 1 mile north of Highway 151. Sunny, moist, low-lying grassy roadside. Irregular application of weed killer in this area.

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, United States; Mark P. Widrechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, 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, United States; Mark P. Widrechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

**PI 596403. *Zinnia angustifolia* Kunth**

Wild. RWCF 54a; Ames 21569. Collected 10/12/1993 in Jalisco, Mexico. Latitude 22 deg. 41' N. Longitude 103 deg. 47' W. Elevation 2050 m. Rocky roadside area. 14.9 km NE Huejuquilla. Rays yellow center, orange edge, white & lemon. Seeds smaller than RWCF 54.

**PI 596404. *Zinnia haageana* Regel**

Wild. RWCF 31; Ames 21574. Collected 10/06/1993 in Guanajuato, Mexico. Latitude 20 deg. 51' N. Longitude 100 deg. 47' W. Elevation 1900 m. Road from San Miguel de Allende to Celaya. 5.8 km NE Presa Allende. Grassy roadside area, rocky, silty, clay loam. Assoc. sp. *Tithonia*, *Tagetes*, *Mimosa*, Numerous grasses. Rays 5-10, orange center, yellow edge, disks typical.

**PI 596405. *Zinnia haageana* Regel**

Wild. RWCF 46; Ames 21577. Collected 10/10/1993 in Jalisco, Mexico. Latitude 20 deg. 57' N. Longitude 102 deg. 50' W. Elevation 1790 m. 0.75 km N inters. rd to Mezcalona & Mex Hwy 80 to Yahualica. S of Yahualica. Edge of pasture & roadside area. Soil rocky clay. Assoc. sp. *Tagetes*, *Salvia*, *Ipomoea*, misc grasses. Rays 8-10, orange center, yellow edge, disks typical.

The following were developed by Harold E. Pattee, USDA, ARS, North Carolina State University, Box 7625, Raleigh, North Carolina 27695-7625, United States ; Thomas G. Isleib, North Carolina State University, Department of Crop Science, Box 5155, Raleigh, North Carolina 27695-7629, United States; R. Walton Mazingo, Tidewater Agricultural Research and Extension Center, 6321 Holland Road, Suffolk, Virginia 23437, United States; P.W. Rice, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; J.E. Bailey, North Carolina State University, Dept. of Plant Pathology, Box 7616, Raleigh, North Carolina 27695-7616, United States. Received 01/21/1997.

**PI 596406. *Arachis hypogaea* L.**

Cultivar. Pureline. "NC 12C"; N90013E. CV-57; PVP 9700074. Pedigree - NC 7/NC 9. Virginia-type. Branching alternate, growth habit intermediate between bunch and runner, mainstems long (41 cm) with large leaflets (69 mm x 29 mm). Seeds large, 940 mg seed-1, testa tan, and high oil content. Fancy pods 85%, extra large kernels 50%, and meat content 73%. Partial resistance to *Cylindrocladium* black rot (*Cylindrocladium parasiticum*) and early leafspot (*Cercospora arachidicola*). Susceptible to *Sclerotinia* blight (*Sclerotinia minor*) and stem rot (*Sclerotium rolfsii*).

The following were developed by Steve St. Martin, Ohio State University, Department of Agronomy, Rm. 202, 2021 Coffey Road, Columbus, Ohio 43210-1086, United States; R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; A.J. Calip-DuBois, Ohio State University, Ohio Agricultural Res. and Develop. Ctr., Dept. of Horticulture and Crop Science, Columbus, Ohio 43210, United States; Ron Fioritto, Ohio State University, Ohio Agricultural Research & Development Center, Dept. of Horticulture & Crop Science, Wooster, Ohio 44691, United States; A.F. Schmitthenner, Ohio State University, Dept. of Plant Pathology, Columbus, Ohio 43210, United States; R.J. Martin, USDA, ARS, Ohio State University, Dept. of Food Science and Technology, Columbus, Ohio 43210, United States. Received 01/21/1997.

**PI 596407. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Defiance"; HS91-4523. PVP 9700106; CV-364. Pedigree - HM8778 x A3733. Indeterminate cultivar of maturity group III. Flowers purple, pubescence gray, and pods brown. Seedcoats dull yellow with imperfect black hila, and peroxidase activity low. Resistant to races 1, 3, 4, and 25 of *Phytophthora sojae*, the causal agent of phytophthora rot, and susceptible to race 7. Susceptible to brown stem rot (*Phialophora gregata*), and sudden death syndrome (*Fusarium solani* sp. *phaseoli*).

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 01/27/1997.

**PI 596408. *Lagerstroemia hybrid***

Cultivated. NA 62919. Pedigree - // / *L. indica* dwarf lavender x [(*L. indica* Dwarf Red x *L. fauriei*) x (*L. indica* Dwarf Red x *L. fauriei*)] / x

[(L. indica Dwarf Red x L. fauriei) x (L. indica 'Low Flame' x L. fauriei)]// x // /L. Dwarf Medium Pink x [(L. indica Dwarf Red x L. fauriei) x (L. indica Dwarf Red x L. fauriei)]/ x [(L. indica Dwarf Red x L. fauriei) x (L. indica 'Low Flame' x L. fauriei)]//. First true dwarf Lagerstroemia indica x L. fauriei hybrid. Growth habit compact mound, densely branching. Height 18" and width 26" after 6 years of container culture. Flowers pink-lavender, appear mid to late summer, approx. two weeks after flowers on standard hybrid tree forms of crapemyrtle, and persist until frost. Foliage fine-textured, glossy dark green, turns bronze-red in fall. Resistant to powdery mildew. Well suited to diverse landscape uses. Adaptable to same cultural conditions as other crapemyrtle hybrid cultivars. Will thrive in full sun and heavy loam soil with pH 5.0-6.5. Propagated readily from softwood or semi-hardwood cuttings.

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 400, 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 596409. Capsicum chinense Jacq.**

Landrace. WTS-95; aji bravo. Collected 09/03/1996 in Morona-Santiago, Ecuador. Latitude 2 deg. 21' 4'' S. Longitude 78 deg. 9' 19'' W. Elevation 1040 m. Canton Macas, Localidad Rio Blanco. Farmer's house. Obtained from farmer's garden. Plant 1 m 80 cm tall. Leaves crinkled. Flowers yellowish-green, anthers purple, 2 per node. Fruits pendant, 5-6 cm long, 2-2.5 cm wide, red, triangular, truncate at pedicel, neck, blossom end pointed, corrugated in cross section. Piquant.

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. Received 01/27/1997.

**PI 596410. Chloris virgata Sw.**

Wild. 96S-96. Collected 09/04/1996 in Mongolia. Latitude 47 deg. 25' 22'' N. Longitude 92 deg. 13' 37'' E. Elevation 1400 m. Khovd Aimag, Mankhan Sum, fenced experimental farm that is currently being used as a hay-making area located about 0.5 km from Sum center. Old river terrace at edge of the Sum center that is irrigated to produce hay. Soil rubbly, gravelly valley outwash soil. Dominant veg. Salix, Populus, Phragmites communis.

The following were developed by Kimberly Campbell, Ohio State University, Ohio Agric. Res. and Development Center, Dept. of Horticulture & Crop Science, Wooster, Ohio 44691-4096, United States; Robert W. Gooding, Ohio State University, Ohio Agricultural Research & Development Center, Department of Agronomy, Wooster, Ohio 44691-4096, United States; Larry D. Herald, Ohio State University, Dept. of Horticulture and Crop Science, Ohio Agric. Res.



and Development Ctr., Wooster, Ohio 44691, United States. Received 01/21/1997.

**PI 596411. *Avena sativa* L.**

Cultivar. Pureline. "CHAIRMAN". CV-345. Pedigree - Larry/Mo. 06235. High grain yield potential and early maturity. Heading date average June 16, height average 82 cm, grain volume weight average 435 kgm-3. Juvenile growth habit erect. Culm diameter medium, curly, leaf margins glabrous. Ligules present. Panicles equilateral with ascending branches. Spikelet separation by fracture, floret separation by disarticulation. Lemmas yellow and glabrous. Basal hairs absent. Seed nonfluorescent under ultraviolet light. Awns infrequent and non-twisted. Kernels bright yellow, size medium, plump, and tips finely tapered.

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Andrew Nickell, Asgrow Seed Company, 5926 Highway 14 East, Janesville, Wisconsin 53456, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States; Paul Stephens, Pioneer Hi-Bred International, 2999 East 350th Road, Suite 102, La Salle, Illinois 61301, United States; M. S. Bachman, University of Illinois, Department of Crop Sciences, 1102 S. Goodwin Ave., Urbana, Illinois 61801, United States. Received 01/21/1997.

**PI 596412. *Glycine max* (L.) Merr.**

Breeding. Pureline. LN92-12033. GP-182. Pedigree - Century 84 x PI 437833. Group II maturity (relative maturity 2.7), resistant line near-isogenic for brown stem rot resistance gene Rbs2. Carries Rps1-c allele for resistance to *Phytophthora sojae*. Compared to Century 84 had lower yield, higher lodging score, and shorter plants at locations with less than 3% of plants of susceptible lines showing brown stem rot leaf symptoms. As resistant as PI 437833 when compared for brown stem rot leaf symptoms. Flowers purple, pubescence gray, pods brown at maturity, and seeds dull yellow with imperfect black hila.

**PI 596413. *Glycine max* (L.) Merr.**

Breeding. Pureline. LN92-12054. GP-183. Pedigree - Century 84 x PI 437833. Group II maturity (relative maturity 2.7), susceptible line near-isogenic for brown stem rot resistance gene Rbs2. Carries Rps1-c allele for resistance to *Phytophthora sojae*. Compared to Century 84 had lower yield, higher lodging score, and shorter plants at locations with less than 3% of plants showing brown stem rot leaf symptoms. As susceptible as Century 84 when compared for brown stem rot leaf symptoms. Flowers purple, pubescence gray, pods brown at maturity, and seeds dull yellow with imperfect black hila.

The following were developed by T.E. Carter, USDA, ARS, North Carolina State University, 3127 Ligon Street Box 7631, Raleigh, North Carolina 27695-7631, United States; Joe W. Burton, USDA-ARS, North Carolina State University, Department of Crop Science, Raleigh, North Carolina 27695-7631, United States; E.B. Huie, USDA, ARS, North Carolina State Univ., Dept. of Crop Science,

Raleigh, North Carolina 27695-7631, United States; F.S. Farmer, USDA, ARS, North Carolina State University, Dept. of Crop Sci., Raleigh, North Carolina 27695-7631, United States. Received 01/27/1997.

**PI 596414. *Glycine max* (L.) Merr.**  
Cultivar. Pureline. "Clifford". CV-363; PVP 9700102. Pedigree - N77-114 x N77-179. Highly productive cultivar of maturity group V. In full season planting in south eastern states has average maturity date Oct. 7. Seed size average 17.5 g per 100 seeds. Seed protein concentration average 40% and oil concentration average 21%. Flowers purple, pubescence tawny, and podwall tan. Resistant to soybean mosaic virus and good resistance to lodging. Susceptible to both cyst and root-knot nematodes and to race 3 *Phytophthora*. Very susceptible to stem canker.

The following were collected by Jon Rebman, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway, Phoenix, Arizona 85040, United States. Received 12/1996.

**PI 596415. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1838; W6 18863. Collected 1993 in New Mexico, United States. Latitude 32 deg. 52' 0'' N. Longitude 105 deg. 2' 0'' W. Elevation 1622 m. 8.9 miles east of Junction 82/24 on Route 82; east of Elk.

**PI 596416. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1839; W6 18864. Collected 1993 in New Mexico, United States. Latitude 32 deg. 50' 0'' N. Longitude 104 deg. 48' 0'' W. Elevation 1301 m. 7.7 miles east of Junction 82/13 on Route 82; west of Artesia.

**PI 596417. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1841; W6 18865. Collected 1993 in New Mexico, United States. Latitude 32 deg. 19' 0'' N. Longitude 104 deg. 15' 0'' W. Elevation 1131 m. 5.3 miles southwest of Junction 180(62)/285 on Route 180(62); south of Carlsbad at Gillock Road.

**PI 596418. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1843; W6 18866. Collected 1993 in New Mexico, United States. Latitude 32 deg. 45' 0'' N. Longitude 104 deg. 6' 0'' W. Elevation 1082 m. 21.2 miles north of Route 180(62) on 360; northeast of Carlsbad and 4.6 miles south of Junction 82/360.

**PI 596419. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1844; W6 18867. Collected 1993 in New Mexico, United States. Latitude 33 deg. 41' 0'' N. Longitude 105 deg. 50' 0'' W. Elevation 1637 m. 3.6 miles north of Junction 380/54 on Route 54; north of Carrizozo.

**PI 596420. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1845; W6 18868. Collected 1993 in New Mexico, United States. Latitude 33 deg. 41' 0'' N. Longitude 105 deg. 55' 0'' W. Elevation 1573 m. 4.4 miles west of Junction 380/54 on Route 380 at entrance to Valley of Fire lava beds; west of Carrizozo.

**PI 596421. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1848; W6 18869. Collected 1993 in Arizona, United States. Latitude 33 deg. 15' 0'' N. Longitude 110 deg. 17' 0'' W. Elevation 796 m. 10.6

miles east of Junction US 170/70 on US 70 between mile markers 181 and 182; east of Peridot.

- PI 596422. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1855; W6 18870. Collected 1993 in Arizona, United States. Latitude 31 deg. 58' 0'' N. Longitude 109 deg. 28' 0'' W. Elevation 1548 m. 3.4 miles south of Junction 186/181 on Route 181; west side of Chiricahua Mountains; northeast of Sunizona.
- PI 596423. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1874; W6 18871. Collected 1993 in Arizona, United States. Latitude 34 deg. 34' 0'' N. Longitude 109 deg. 30' 0'' W. Elevation 1756 m. 46.7 miles southeast of Junction 77/US 180 along US 180 and 5.5 miles northwest of Junction 180/61; west of St. Johns.
- PI 596424. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1880; W6 18872. Collected 1993 in Arizona, United States. Latitude 34 deg. 22' 0'' N. Longitude 110 deg. 9' 0'' W. Elevation 1826 m. 7.4 miles north of Route 260 on the dirt road between Pinedale and Taylor; northwest of Show Low.
- PI 596425. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1889; W6 18873. Collected 1993 in New Mexico, United States. Latitude 33 deg. 53' 0'' N. Longitude 106 deg. 24' 0'' W. Elevation 1661 m. 38.7 miles west of Junction 380/54 in Carrizozo along Route 380.
- PI 596426. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1906; W6 18874. Collected 1993 in New Mexico, United States. Latitude 34 deg. 25' 0'' N. Longitude 106 deg. 39' 0'' W. Elevation 1646 m. 7.8 miles west of Junction 60/47 on US 60; west of Mountainair.
- PI 596427. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1907; W6 18875. Collected 1993 in New Mexico, United States. Latitude 34 deg. 33' 0'' N. Longitude 106 deg. 8' 0'' W. Elevation 1850 m. 29.3 miles east of Junction 60/47 and 5.6 miles west of Junction 41/60 on US 60; east of Mountainair.
- PI 596428. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1910; W6 18876. Collected 1993 in New Mexico, United States. Latitude 34 deg. 28' 0'' N. Longitude 104 deg. 18' 0'' W. Elevation 1149 m. 54.3 miles east of Junction 60/54 (north) on US 60 and 2.3 miles west of Junction 60/20 in Sumner.
- PI 596429. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1912; W6 18877. Collected 1993 in New Mexico, United States. Latitude 34 deg. 44' 0'' N. Longitude 104 deg. 28' 0'' W. Elevation 1359 m. 25.3 miles north of Junction 60/84 in Sumner on Route 84; south of Santa Rosa.
- PI 596430. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 1919; W6 18878. Collected 1993 in New Mexico, United States. Latitude 36 deg. 36' 0'' N. Longitude 108 deg. 55' 0'' W. Elevation 1698 m. 14.0 miles west of US 666(191) on Route 13 to Red Rock; southwest of Ship Rock.

- PI 596431. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1920; W6 18879. Collected 1993 in New Mexico, United States.  
Latitude 36 deg. 35' 0'' N. Longitude 108 deg. 55' 0'' W. Elevation 1932  
m. 17.3 miles west of US 666(191) on Route 13 to Red Rock; southwest of  
Ship Rock.
- PI 596432. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1926; W6 18880. Collected 1993 in Arizona, United States. Latitude  
34 deg. 54' 0'' N. Longitude 110 deg. 10' 0'' W. Elevation 1615 m.  
Northwest side of Holbrook on north side of I-40; at gravel pit just  
east of Broadcast Lane.
- PI 596433. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1932; W6 18881. Collected 1993 in Arizona, United States. Latitude  
33 deg. 17' 0'' N. Longitude 110 deg. 23' 0'' W. Elevation 879 m. 4.4  
miles east of Junction 70/170 at Peridot on Route 70; west of Bylas.
- PI 596434. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 1933; W6 18882. Collected 1993 in Arizona, United States. Latitude  
33 deg. 16' 0'' N. Longitude 110 deg. 19' 0'' W. Elevation 811 m. 8.4  
miles east of 70/170 at Peridot on Route 70; west of Bylas.

The following were collected by Charlotte Christy, USDA, ARS, U.S. Water  
Conservation Laboratory, 4331 East Broadway Road, Phoenix, Arizona 85040,  
United States. Received 12/1996.

- PI 596435. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2255; W6 18883. Collected 1994 in Texas, United States. Latitude  
31 deg. 50' 0'' N. Longitude 106 deg. 1' 0'' W. Elevation 1341 m. 14.1  
miles east of Junction with Loop 375 at El Paso and 2.2 miles west of  
picnic area.
- PI 596436. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2256; W6 18884. Collected 1994 in Texas, United States. Latitude  
31 deg. 42' 0'' N. Longitude 105 deg. 25' 0'' W. Elevation 1241 m. FM  
2317, 9.3 miles south of US 62/180 and 3.0 miles west of FM 1111; about  
5 miles southeast of Cornudas.
- PI 596437. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2257; W6 18885. Collected 1994 in Texas, United States. Latitude  
31 deg. 44' 0'' N. Longitude 105 deg. 13' 0'' W. Elevation 1097 m. 8.6  
miles east of FM 1111 and 1.3 miles west of FM 1437; between Cornudas  
and Salt Flat.
- PI 596438. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2259; W6 18886. Collected 1994 in Texas, United States. Latitude  
31 deg. 49' 0'' N. Longitude 105 deg. 8' 0'' W. Elevation 1189 m. FM  
1576, 7.6 miles south of FM 2249 and 9.5 miles north of US 62/180; about  
9 miles north of Salt Flat.
- PI 596439. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2260; W6 18887. Collected 1994 in Texas, United States. Latitude  
31 deg. 49' 0'' N. Longitude 105 deg. 8' 0'' W. Elevation 1219 m. FM  
1576, 8.1 miles south of FM 2249 and 9.0 miles north of US 62/180; about

9 milesnorth of Salt Flat.

- PI 596440. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2261; W6 18888. Collected 1994 in Texas, United States. Latitude 31 deg. 23' 0'' N. Longitude 104 deg. 50' 0'' W. Elevation 1036 m. Route 54, 29.3 miles south of US 62/180 and 25.2 miles north of I-10 (business) at Van Horn.
- PI 596441. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2262; W6 18889. Collected 1994 in Texas, United States. Latitude 31 deg. 22' 0'' N. Longitude 104 deg. 49' 0'' W. Elevation 945 m. Route 54, 30.1 miles south of US 62/180 and 24.4 miles north of I-10 (business) at Van Horn.
- PI 596442. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2263; W6 18890. Collected 1994 in Texas, United States. Latitude 30 deg. 54' 0'' N. Longitude 103 deg. 5' 0'' W. Elevation 945 m. I-10, westbound on ramp at Firestone exit, 36 miles east of Route 17 exit; about 5 miles west of Fort Sockton.
- PI 596443. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2265; W6 18891. Collected 1994 in Texas, United States. Latitude 30 deg. 52' 0'' N. Longitude 103 deg. 47' 0'' W. Elevation 1128 m. Route 17, 2.4 miles south of Reeves County and 1.5 miles north of FM 1832; about 6 miles south of Toyahvale.
- PI 596444. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2266; W6 18892. Collected 1994 in Texas, United States. Latitude 30 deg. 46' 0'' N. Longitude 103 deg. 44' 0'' W. Elevation 1250 m. Route 17, 6.5 miles south of FM 1832 and 7.2 miles north of rest area; about 17 miles north of Ft. Davis.
- PI 596445. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2267; W6 18893. Collected 1994 in Texas, United States. Latitude 30 deg. 41' 0'' N. Longitude 103 deg. 47' 0'' W. Elevation 1231 m. Route 17, 13.7 miles south of FM 1832 and 10.0 miles north of Route 118 at Ft. Davis.
- PI 596446. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2268; W6 18894. Collected 1994 in Texas, United States. Latitude 30 deg. 29' 0'' N. Longitude 103 deg. 45' 0'' W. Elevation 1554 m. Route 118, 13.9 miles east of Ft. Davis and 1.0 miles west of FM 1837.
- PI 596447. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2269; W6 18895. Collected 1994 in Texas, United States. Latitude 30 deg. 43' 0'' N. Longitude 103 deg. 11' 0'' W. Elevation 975 m. At rest area along US 67, 31.2 miles northeast of division of US 67 and US 90, east of Alpine.
- PI 596448. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2270; W6 18896. Collected 1994 in Texas, United States. Latitude 30 deg. 23' 0'' N. Longitude 103 deg. 35' 0'' W. Elevation 1402 m. US 67, 49.3 miles south of I-10 and 16.6 miles from junction Route 118 and US 67/90 in Alpine.

- PI 596449. *Lesquerella argyraea*** (A. Gray) S. Watson  
Wild. 2271; W6 18897. Collected 1994 in Texas, United States. Latitude 30 deg. 18' 0'' N. Longitude 103 deg. 37' 0'' W. Elevation 1372 m. Route 118, 3.9 miles south of junction with US 67/90 in Alpine.
- PI 596450. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2273; W6 18898. Collected 1994 in Texas, United States. Latitude 30 deg. 12' 0'' N. Longitude 103 deg. 34' 0'' W. Elevation 1554 m. Route 118 at litter barrel, 12.9 miles south of junction with US 67/90 in Alpine and 12.6 miles north of picnic area.
- PI 596451. *Lesquerella argyraea*** (A. Gray) S. Watson  
Wild. 2275; W6 18899. Collected 1994 in Texas, United States. Latitude 30 deg. 2' 0'' N. Longitude 103 deg. 34' 0'' W. Elevation 1280 m. Picnic area along Route 118, 25.5 miles south of junction with US 67/90 in Alpine and 50.7 mi north of FM 170 (near Study Butte).
- PI 596452. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2277; W6 18900. Collected 1994 in Texas, United States. Latitude 29 deg. 47' 0'' N. Longitude 103 deg. 11' 0'' W. Elevation 853 m. US 385, 7.9 miles north of FM 2627 and 30.4 miles south of US 90 at Marathon.
- PI 596453. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2278; W6 18901. Collected 1994 in Texas, United States. Latitude 30 deg. 12' 0'' N. Longitude 103 deg. 12' 0'' W. Elevation 1311 m. US 385, 1.6 miles north of junction with US 90 at Marathon.
- PI 596454. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2281; W6 18902. Collected 1994 in Texas, United States. Latitude 30 deg. 56' 0'' N. Longitude 101 deg. 52' 0'' W. Elevation 640 m. US 90, about 2 miles east of division of Route 349/US 190 at Iraan and 27.9 miles west of Route 137.
- PI 596455. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2282; W6 18903. Collected 1994 in Texas, United States. Latitude 30 deg. 58' 0'' N. Longitude 101 deg. 58' 0'' W. Elevation 549 m. Route 349, 3.0 miles north of US 190 and 0.2 miles south of Pecos River; about 6 miles northwest of Iraan.
- PI 596456. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2286; W6 18904. Collected 1994 in Texas, United States. Latitude 32 deg. 19' 0'' N. Longitude 102 deg. 38' 0'' W. Elevation 808 m. Route 115, 0.5 miles north of junction 115/176, east of Andrews and 6.1 miles south of FM 1788.
- PI 596457. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2290; W6 18905. Collected 1994 in Texas, United States. Latitude 31 deg. 47' 0'' N. Longitude 103 deg. 16' 0'' W. Elevation 853 m. Route 302, 9.2 miles west of junction 302/115, west of Kermit and 4.2 miles east of Loving County.
- PI 596458. *Lesquerella fendleri*** (A. Gray) S. Watson  
Wild. 2291; W6 18906. Collected 1994 in Texas, United States. Latitude 31 deg. 7' 0'' N. Longitude 103 deg. 43' 0'' W. Elevation 945 m. FM

2903, 13.6 miles south of I-20 (at Toyah) and 0.4 miles north of FM 3334.

- PI 596459. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2292; W6 18907. Collected 1994 in Texas, United States. Latitude 31 deg. 1' 0'' N. Longitude 103 deg. 44' 0'' W. Elevation 1006 m. FM 2903, 6.3 miles south of FM 3334 and 0.5 miles north of I-10 west on ramp; about 3 miles north of Balmorhea.
- PI 596460. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2293; W6 18908. Collected 1994 in Texas, United States. Latitude 31 deg. 0' 0'' N. Longitude 104 deg. 11' 0'' W. Elevation 1311 m. Route 118, 4.6 miles south of I-10 at Kent.
- PI 596461. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2294; W6 18909. Collected 1994 in Texas, United States. Latitude 30 deg. 32' 0'' N. Longitude 104 deg. 6' 0'' W. Elevation 1722 m. Route 166, 11.1 miles east of FM 505 and 11.3 miles west of Route 17; about 15 miles west of Ft. Davis.
- PI 596462. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2295; W6 18910. Collected 1994 in Texas, United States. Latitude 30 deg. 33' 0'' N. Longitude 103 deg. 55' 0'' W. Elevation 1676 m. Route 166, 8.3 miles east of picnic area and 0.5 miles west of Route 17; about 4 miles south of Ft. Davis.
- PI 596463. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2296; W6 18911. Collected 1994 in Texas, United States. Latitude 30 deg. 26' 0'' N. Longitude 103 deg. 58' 0'' W. Elevation 1554 m. Route 17, 9.0 miles south of Route 166; about 12 miles south of Fort Davis.
- PI 596464. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2299; W6 18912. Collected 1994 in Texas, United States. Latitude 30 deg. 9' 0'' N. Longitude 104 deg. 5' 0'' W. Elevation 1402 m. US 67, 47.2 miles north of junction FM 170/US 67 at Presidio and 3.7 miles south of FM 169.
- PI 596465. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2300; W6 18913. Collected 1994 in Texas, United States. Latitude 30 deg. 19' 0'' N. Longitude 103 deg. 47' 0'' W. Elevation 1494 m. US 67/90, about 9 miles west of Alpine and 17.5 miles east of Route 17 in Marfa.
- PI 596466. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2301; W6 18914. Collected 1994 in Texas, United States. Latitude 30 deg. 16' 0'' N. Longitude 103 deg. 54' 0'' W. Elevation 1433 m. US 67/90, 7.1 miles east of Route 17 in Marfa.
- PI 596467. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2302; W6 18915. Collected 1994 in Texas, United States. Latitude 30 deg. 32' 0'' N. Longitude 104 deg. 19' 0'' W. Elevation 1494 m. FM 505, 5.3-5.8 miles north of US 90; east of Valentine about 15 miles.
- PI 596468. *Lesquerella fendleri* (A. Gray) S. Watson**  
Wild. 2303; W6 18916. Collected 1994 in Texas, United States. Latitude

30 deg. 43' 0'' N. Longitude 104 deg. 40' 0'' W. Elevation 1280 m. US 90, 20.6 miles west of FM 505 and 6.9 miles east of FM 1523; about 40 miles southeast of Van Horn.

The following were donated by David D. Rubis, University of Arizona, Dept. of Plant Sciences, Tucson, Arizona 85721, United States. Received 1985.

PI 596469. *Plantago ovata* Forssk.  
W6 3453; A301.

PI 596470. *Plantago ovata* Forssk.  
W6 3454; A302.

PI 596471. *Plantago ovata* Forssk.  
W6 3455; A303.

Unknown source. Received 1985.

PI 596472. *Plantago ovata* Forssk.  
W6 3456; A304.

The following were donated by David D. Rubis, University of Arizona, Dept. of Plant Sciences, Tucson, Arizona 85721, United States. Received 1985.

PI 596473. *Plantago ovata* Forssk.  
W6 3457; A307.

Unknown source. Received 1985.

PI 596474. *Plantago ovata* Forssk.  
W6 3458; A308.

The following were donated by David D. Rubis, University of Arizona, Dept. of Plant Sciences, Tucson, Arizona 85721, United States. Received 1985.

PI 596475. *Plantago ovata* Forssk.  
W6 3459; 9390.

PI 596476. *Plantago ovata* Forssk.  
W6 3460; 2208.

PI 596477. *Plantago ovata* Forssk.  
W6 3461; 2209.

PI 596478. *Plantago ovata* Forssk.  
W6 3462; 2210.

PI 596479. *Plantago ovata* Forssk.  
W6 3463; 1271-10.



- PI 596480. *Plantago ovata* Forssk.  
W6 3464; 1271-11.
- PI 596481. *Plantago ovata* Forssk.  
W6 3465; 1271-16 (A316).
- PI 596482. *Plantago ovata* Forssk.  
W6 3466; 1271-22.
- PI 596483. *Plantago ovata* Forssk.  
W6 3467; 1271-23.
- PI 596484. *Plantago ovata* Forssk.  
W6 3468; 1271-24.
- PI 596485. *Plantago ovata* Forssk.  
W6 3469; 1271-29 (A329).
- PI 596486. *Plantago ovata* Forssk.  
W6 3470; 1271-33 (A333).
- PI 596487. *Plantago ovata* Forssk.  
W6 3471; 1271-46.
- PI 596488. *Plantago ovata* Forssk.  
W6 3472; 1626.
- PI 596489. *Plantago ovata* Forssk.  
W6 3473; 9712.
- PI 596490. *Plantago ovata* Forssk.  
W6 3474; 9713.
- PI 596491. *Plantago ovata* Forssk.  
W6 3475; 9714.
- PI 596492. *Plantago ovata* Forssk.  
W6 3476; 8601 (9724).
- PI 596493. *Plantago ovata* Forssk.  
W6 3477; 9729.
- PI 596494. *Plantago ovata* Forssk.  
W6 3478; 8607.
- PI 596495. *Plantago ovata* Forssk.  
W6 3479; 9744.
- PI 596496. *Plantago ovata* Forssk.  
W6 3480; P. OVATA (INDIA).
- PI 596497. *Plantago ovata* Forssk.  
W6 3481; P. OVATA (ARIZONA).

The following were collected by George Stallings, USDA-ARS, Root Disease & Bio Control Unit, 367 Johnson Hall, WSU, Pullman, Washington 99164-6430, United States. Received 03/27/1989.

**PI 596498. *Chenopodium quinoa* Willd.**

Landrace. "Rosa Junin"; Ames 10336. Collected 09/18/1986 in Cuzco, Peru. Latitude 13 deg. 0' 0'' S. Longitude 71 deg. 30' 0'' W. Elevation 3030 m. From plants growing in the Pisac area near Cusco. Stem has red stripes and inflorescence is green. As observed in a greenhouse in Ames, Iowa in 1994.

The following were developed by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States. Received 12/04/1990.

**PI 596499. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC12"; Ames 14405. Collected in Iowa, United States. Pedigree - Bulk seed from S6 plant derived from an ear of indian corn purchased at a florist's shop in St. Paul, Minnesota in 1979. 7 half-sib ears bulked. Red-orange (heavy calico) flint on white endosperm.

**PI 596500. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC13"; Ames 14406. Collected in Iowa, United States. Pedigree - Bulk seed from S6 plants derived from a hybrid between PI 214288 and bulked early flint pollen. 5 half-sib ears bulked. Tan flint.

**PI 596501. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC14"; Ames 17818. Pedigree - Bulk-sib seeds from S6 line derived from Squaw Corn received from Anna Rouf, Wahoo, NE in 1982. Purple flint corn.

**PI 596502. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC15"; Ames 17819. Pedigree - Bulk-sib seeds from S6 line derived from an accidental outcross in a partially inbred line from Seedway Elite. Purple flint corn. Kernels appear waxy.

**PI 596503. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC16"; Ames 17820. Pedigree - Bulk-sib seeds from S6 line derived from Pawnee x Tamaroa Flint received from Gail E. Wagner, Kettering, OH in 1982. Violet flour corn.

**PI 596504. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC17"; Ames 20063. Pedigree - Half-sib pollinations within an S6 line derived from Burnham 3910 x PI 452064. Purple rice popcorn. Bulk sample of 50 seeds each from 14 half-sib ears. (700 seeds total).

**PI 596505. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC18"; Ames 20064. Pedigree - Half-sib pollinations within a full-sib/S6 line derived from Pawnee x Tamaroa Flint received from Gail E. Wagner, Kettering, OH in 1982. Mottled rose flour corn. Bulk sample of 75 seeds each from 8 half-sib ears. (600 seeds total).

**PI 596506. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "OC19"; Ames 20065. Pedigree - Half-sib pollinations within an S5 line derived from Peterson's ABP13 x Rainbow. Dark red flint corn. Purplish stem and leaves, leaves also have white stripes. Bulked sample of 75 seeds each from 9 half-sib ears. (675 seeds total).

The following were developed by K.N. Rai, Int. Crops Res. Inst. for the Semi-Arid Tropics, Cereals Program, Patancheru, Andhra Pradesh 502 324, India ; R.P. Thakur, Int. Crops Res. Inst. for the Semi-Arid Tropics, Andhra Pradesh 502 324, India; A. Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502324, India. Received 02/11/1997.

**PI 596507 QUAR. Pennisetum glaucum (L.) R. Br.**

Breeding. Inbred. ICMB 88006. PL-29. Pedigree - Pedigree and pedigree bulk breeding in a F2 population, 843B x SRL 53-1. Maintainer line, the seed parent of a commercial hybrid developed by private seed company in India. Resistant to downy mildew (*Sclerospora graminicola*) and smut (*Tolyposporium penicillariae*). Mean plant height approx 1.1 m, 50% flowering 50 days. 2.2 panicles plant-1, panicles small, candle-shaped, length 16 cm. Seed size large, 12.7 g 1000-1, shape globular, color grey. Leaf sheath base purple, anther color light brick.

**PI 596508 QUAR. Pennisetum glaucum (L.) R. Br.**

Breeding. Inbred. ICMA 88006. PL-30. Pedigree - Pedigree selection up to F4 and three additional generations of pedigree bulk breeding produced a F7 progeny. Six additional generations of pedigree selection in F7 progeny and concurrent backcrossing into the A1 cytoplasm of 81A. A1-system male-sterile, the seed parent of a commercial hybrid developed by a private seed company in India. Resistant to downy mildew (*Sclerospora graminicola*) and smut (*Tolyposporium penicillariae*). Male sterility found stable across seasons and sites in India. Mean plant height approx. 1.1 m, 50% flowering 50 days. 2.2 panicles plant-1, candle-shaped, small, length 16 cm. Seed size large, 12.7 g 1000-1, shape globular, color grey. Leaf sheath base purple, anther color light brick.

**PI 596509 QUAR. Pennisetum glaucum (L.) R. Br.**

Breeding. Inbred. ICMB 92666. PL-31. Pedigree - Pedigree and pedigree bulk breeding in a F2 progeny No. 155 derived from a BC1 population (ICMP ES 34) x 843B x ICMP ES 34). Production of a F4 progeny from F2 progeny, followed by another 11 generations of pedigree bulk breeding and its concurrent backcrossing into the A1 cytoplasm of 81A. Maintainer line, seed parental line used to breed medium-maturity hybrids. Resistant to downy mildew (*Sclerospora graminicola*), ergot (*Claviceps fusiformis*), and smut (*Tolyposporum penicillariae*). Mean plant height approx. 1.4 m, 50% flowering approx. 51 days. Panicles small, appx. 17 cm. Seed size large, 10.5 g 1000-1, shape globular, color grey brown. Node and internode color green, anther color creamy.

**PI 596510 QUAR. Pennisetum glaucum (L.) R. Br.**

Breeding. Inbred. ICMA 92666. PL-32. Pedigree - Production of a F4 progeny from F2 progeny, followed by another 11 generations of pedigree bulk breeding and its concurrent backcrossing into the A1 cytoplasm of 81A. A1-system male-sterile, seed parental line used to breed medium-maturity hybrids. Resistant to downy mildew (*Sclerospora*

graminicola), ergot (*Claviceps fusiformis*), and smut (*Tolyposporum penicillariae*). Male sterility found stable across seasons and sites in India. Mean plant height approx. 1.4 m, 50% flowering 50 days. Panicles small, approx 17 cm. Seed large, 10.5 g 1000-1, shape globular, color grey brown. Node and internode color green, anther color creamy.

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 Xhuveli, Agricultural University of Tirana, Dept. of Agronomy, Rr."Myslym Shyri", Tirana, Albania. Received 09/1996.

**PI 596511 QUAR. *Zea mays* L. ssp. *mays***

Cultivated. Al 021. Collected 08/25/1996 in Albania. Latitude 40 deg. 32' 44'' N. Longitude 19 deg. 25' 6'' E. Elevation 20 m. Vlore, open market. Produced in Babice. Early maturing. Resistant to drought. Height 1-1.5m. Kernels mixed on cob, dark and light yellow.

**PI 596512 QUAR. *Zea mays* L. ssp. *mays***

Cultivated. Al 022. Collected 08/25/1996 in Albania. Latitude 40 deg. 32' 44'' N. Longitude 19 deg. 25' 6'' E. Elevation 20 m. Vlore, open market. Produced in Dukas, Mallakaster district. Early maturing. Resistant to drought. Kernels predominantly white, some yellow.

**PI 596513 QUAR. *Zea mays* L. ssp. *mays***

Landrace. Al 014. Collected 08/24/1996 in Albania. Latitude 40 deg. 38' 0'' N. Longitude 19 deg. 31' 0'' E. Elevation 20 m. South of Fier, Novosele, home of M. Beqo, relatives of Lufter Xhuveli. Shared from stored seed supply from home garden. Popcorn type, old landrace. Pod 15 cm long x 3 cm diam. Uniform kernel size.

The following were developed by A. Hadjichristodoulou, Agricultural Research Institute, Ministry of Agriculture & Natural Resources, Nicosia, Cyprus; S.L. Dwivedi, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Resources Program, Patancheru P.O., Andhra Pradesh 502 324, India; S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India; Johnny C. Wynne, North Carolina Agric. Research Service, North Carolina State University, Box 7643, Raleigh, North Carolina 27695-7643, United States; G. Alexandrou, Agricultural Research Institute, Nicosia, Cyprus; Chr. Theodorides, Agricultural Research Institute, P.O. Box 2016, Nicosia, Cyprus; M. Mouzouris, Agricultural Research Institute, Nicosia, Cyprus. Received 02/12/1997.

**PI 596514. *Arachis hypogaea* L.**

Breeding. Pureline. "NIKOKLIA"; ICGV 88438. GP-84. Pedigree - GP Nc 343/NC Ac 17367. Belongs to Virginia botanical group but differs in other characteristics. Growth habit decumbent 3. Leaves ovate, medium-sized, green to light green. Pods large, two seeded, beak and constriction moderate, reticulation moderate to prominent. Seed pale tan. Meat content 71% and 100-seed mass 103 g. Protein content 27% and oil 50% with O/L ratio 2.2.

**PI 596515. *Arachis hypogaea* L.**

Breeding. Pureline. "KOUKLIA"; ICGV 89214. GP-85. Pedigree - ICGV 87123/ICG 6150 F2-B2-B2-B2-B2-B3. Belongs to Virginia botanical group but differs in other characteristics. Growth habit erect. Leaves obovate, large-sized, and dark green. Pods large, two-seeded, reticulation prominent, beak slight to absent, and no constriction. Seed light tan. Meat content 70% and 100-seed mass 102 g. Protein content 25% and oil 53% with O/L ration 1.4.

**PI 596516. *Arachis hypogaea* L.**

Breeding. Pureline. "GIGAS"; ICGV 91098. GP-86. Pedigree - ICGV 86564/ICGV 87152 F2-B2-B2-B3-B2-B1-B3-B1. Belongs to Virginia botanical group but differs in other characteristics. Growth habit decumbent 3 to erect. Leaves obovate, medium-sized, and dark green. Pods large, two-seeded, beak and constriction moderate, and reticulation prominent. Seed pale tan. Meat content 65% and 100-seed mas 127 g. Protein content 27% and oil 52% with O/L ratio 1.2.

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 01/27/1997.

**PI 596517. *Syringa* hybrid**

Cultivated. NA 62973. Pedigree - *Syringa* indet./*Syringa oblata*.

The following were donated by I. Forbes, USDA-ARS, Georgia Coastal Plains Exp. Sta., P.O. Box 948, Tifton, Georgia 31793-0948, United States; Homer D. Wells, USDA, ARS, Coastal Plain Experiment Station, Plant Pathology Dept., Tifton, Georgia 31793, United States. Received 1962.

**PI 596518. *Lupinus angustifolius* L.**

Cultivar. "RANCHER"; 60-206. CV-2. Pedigree - Seed increase of five F3 plants derived from a selected F2 plant out of a three-way cross S-13 x (Blanco x 54-202-1C). Disease resistant forage variety, resistant to gray leaf spot (*Stemphylium solani* and *S. botryosum*) and anthracnose (*Glomerella cingulata*). Low alkaloid, flowers and seed white, absence of purple pigment in cotyledons with light green foliage. Seed yield good in north-central Florida where gray leaf spot is epidemic every year. In absence of disease injury at Tifton, forage yield, quality, and seed prod. equalled Borre and Blanco. Highly palatable to beef animals with good digestibility (62.9%). No more resistant than Blanco or Borre to injury by low temp.

The following were collected by Richard Worthington, P.O. Box 13331, El Paso, Texas 79913, United States. Received 09/07/1997.

**PI 596519. *Solanum jamesii* Torr.**

Wild. WOR 25779. Collected 09/07/1996 in New Mexico, United States. Elevation 1700 m. Luna Co. Cedar Mountains, North side of Cedar Mountain (8.5 air miles NE of Hachita) (T27S, R13W, Sec. 9).

The following were collected by David Hammond, North Arizona University, Flagstaff, Arizona, United States. Received 09/19/1996.

**PI 596520. *Solanum fendleri* A. Gray**

Wild. HAMM 11067. Collected 09/19/1996 in Arizona, United States. Elevation 2740 m. Apache Co. AZ 373 at Hall Creek (Tributary of Little Colorado River), north of Greer. Plants amongst broken volcanic rock about 10-15 feet above stream. Growing in full sun.

The following were donated by Drew Ivers, Land O'Lakes, Inc., R.R. 2, Webster City, Iowa 50595, United States; Dave Gedge, 1307 Creekside Court, Idaho Falls, Idaho 83404, United States; Walter R. Fehr, Iowa State University, Office of Biotechnology, 1210 Molecular Biology Building, Ames, Iowa 50011, United States; A.F. Schmitthenner, Ohio State University, Dept. of Plant Pathology, Columbus, Ohio 43210, United States. Received 1983.

**PI 596521. *Glycine max* (L.) Merr.**

Breeding. A1. GP-18. Pedigree - Anoka x Mack. Group III maturity. Resistant race 3 *Phytophthora megasperma*. Flowers purple. Tawny pubescence. Seed has black hilum. Acceptable agronomic characteristics.

The following were donated by Walter R. Fehr, Iowa State University, Office of Biotechnology, 1210 Molecular Biology Building, Ames, Iowa 50011, United States; J.B. Bahrenfus. Received 1983.

**PI 596522. *Glycine max* (L.) Merr.**

Breeding. A2. GP-32. Pedigree - M63-17 x C1453. Resistant iron deficiency chlorosis on calcareous soils. Displays little or no yellowing on calcareous soils (average score 1.5 for resistance). White flowers. Gray pubescence. Brown pods at maturity. Shiny yellow seeds with yellow hila. Group I maturity. Best adapted 43 degrees to 44 degrees N Lat. Moderately susceptible bacterial blight, brown stem rot, and pod and stem blight. Susceptible purple stain, *phytophthora* rot, and soybean mosaic virus.

The following were donated by Walter R. Fehr, Iowa State University, Office of Biotechnology, 1210 Molecular Biology Building, Ames, Iowa 50011, United States; R. L. Clark, USDA-ARS, Regional Plant Introduction Station, Iowa State University, Ames, Iowa 50011, United States; L.C. Card; H. Tachibana, AR-SEA-USDA, Iowa State University, Ames, Iowa 50011, United States. Received 1983.

**PI 596523. *Glycine max* (L.) Merr.**

Breeding. A3. GP-34. Pedigree - C1426 x AP68-315. Moderate resistance brown stem rot. Desirable agronomic characteristics. Flowers purple. Gray pubescence. Brown pods at maturity. Shiny yellow seeds with yellow hila. Group I maturity. Moderately resistant pod and stem blight. Moderately susceptible bacterial blight. Susceptible purple stain, *phytophthora* rot and soybean mosaic virus.

The following were donated by Walter R. Fehr, Iowa State University, Office of Biotechnology, 1210 Molecular Biology Building, Ames, Iowa 50011, United States; J.B. Bahrenfus; H. Tachibana, AR-SEA-USDA, Iowa State University, Ames, Iowa 50011, United States. Received 1983.

**PI 596524. *Glycine max* (L.) Merr.**

Breeding. A4. GP-43. Pedigree - L15 x AP68-1016. Moderate resistance brown stem rot. Desirable agronomic characteristics. Flowers white. Brown pubescence. Brown pods at maturity. Seeds with shiny yellow seed coats. Brown hila. Group III maturity. Resistant race 1 phytophthora rot. Moderately resistant pod and stem blight. Moderately susceptible downy mildew and purple stain. Susceptible bacterial blight and soybean mosaic virus.

The following were donated by Earl Hammond, Iowa State University, Department of Food Science and Human Nutrition, 2312 Food Sciences Building, Ames, Iowa 50011-1060, United States; Walter R. Fehr, Iowa State University, Office of Biotechnology, 1210 Molecular Biology Building, Ames, Iowa 50011, United States. Received 1983.

**PI 596525. *Glycine max* (L.) Merr.**

Breeding. A6. GP-45. Pedigree - Derived from crosses involving PI 68423, PI 80476, and PI 85671. Mutant with fatty acid composition unique to species. Approx. sixfold higher percentage stearic acid than other soybean genotypes evaluated. Flowers purple. Brown pubescence. Brown pods at maturity. Shiny yellow seeds with black hila. Inferior agronomic characteristics.

The following were donated by Walter R. Fehr, Iowa State University, Office of Biotechnology, 1210 Molecular Biology Building, Ames, Iowa 50011, United States; B.K. Voss; S. Rodriguez de Ciano, University of Puerto Rico, Dept. of Agronomy, Mayaguez, Puerto Rico. Received 1983.

**PI 596526. *Glycine max* (L.) Merr.**

Breeding. A7. GP-50. Pedigree - Selection from breeding population AP9. Outstanding resistance to iron-deficiency chlorosis on calcareous soil (average calcareous rating 1.1). Flowers purple. Gray pubescence. Tan pods at maturity. Dull yellow seeds with yellow hila.

The following were donated by Hans-Henning Mundel, Agriculture Canada, Lethbridge Research Station, Crop Sciences Section, Research Station, Lethbridge, Alberta T1J 4B1, Canada; Harvey D. Voldeng, Agriculture Canada, Ottawa Research Station, Plant Research Center, CEF, Ottawa, Ontario K1A 0C6, Canada; J. F. Seitzer, Kleinwanzlebener Saatzucht, Einbeck-Hannover, Germany. Received 1986.

**PI 596527. *Glycine max* (L.) Merr.**

Breeding. Lesoy 273. GP-92. Pedigree - Williams/3/Wayne/0-52-903//Portage/4/840-7-3. Averages 41.9% seed protein and 18.9% oil level. Group 00 maturity. Seed yield average 97.7%. Mature plant height average 69 cm. Moderate lodging. Indeterminate plant type. Tawny pubescence. Pods brown. Flowers white. Seeds yellow with dark brown hila. Ave.

weight 164 mg. Good resistance to shattering. Under heavy infection phytophthora rot, moderate field resistance. For use as productive early maturing line. Excellent height and moderate seed protein level.

The following were donated by Beet Sugar Development Foundation, P.O. Box 538, Fort Collins, Colorado 80521, United States. Received 1972.

**PI 596528. *Beta vulgaris* L. ssp. *vulgaris***

Cultivated. NSL 81601; RS-2B. Product of selection in Chile for resistance to yellow wilt.

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 04/28/1995.

**PI 596529. *Beta vulgaris* L.**

Cultivated. "Bordo 237"; W6 16898. Collected 1994 in Armenia. Type of variety Bordo (Concult Bordo). High yielding (800 c/ha). Early to middle ripening, good for keeping (storing), tasty, deep red color, light rings hardly noticeable.

The following were donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; M. Okhovat, University of Tehran, Faculty of Agriculture, Karaj, Iran; Production and Breeding Seed Institute, Gene Bank, Karaj, Iran. Received 12/27/1995.

**PI 596530. *Beta vulgaris* L.**

Cultivated. W6 17620. From Safiabad (near Dezful), Khuzestan Province. Called Labu in Farsi.

The following were donated by Nebraska Crop. Imp. Assn., Nebraska, United States. Received 1961.

**PI 596531. *Vicia villosa* Roth ssp. *villosa***

Cultivar. MADISON.

The following were collected by Bill Smith, Smith Nursery, Charles City, Iowa, United States. Donated by Michael Knudson, USDA, NRCS, Plant Materials Center, 3308 University Drive, Bismarck, North Dakota 58504-7564, United States; Dale Herman, North Dakota State University, Department of Plant Sciences, Loftsgard Hall, Fargo, North Dakota 58105, United States. Received 02/13/1997.

**PI 596532. *Salix exigua* Nutt.**

Rootstock. "Silver Sands"; ND-3902; 9035212. Collected 1983 in Iowa, United States. Latitude 43 deg. 3' 59'' N. Longitude 92 deg. 40' 20'' W. Elevation 309 m. Smith Nursery, Charles City. Hardy, native, perennial, suckering shrub. Height 4-5 ft. Reproduction vegetative. Coldest plant



hardiness zone 3. Growing season in frost free days 120. Soil texture silty to clay.

The following were developed by Robert Busch, USDA, ARS, University of Minnesota, Dept. of Agronomy & Plant Genetics, St. Paul, Minnesota 55108, United States; Ian B. Edwards, Pioneer Overseas Corporation, 6800 Pioneer Parkway, Box 316, Johnston, Iowa 50131, United States; Don V. McVey, USDA, ARS, University of Minnesota, Cereal Rust Laboratory, St. Paul, Minnesota 55105, United States; D.D. Warnes, University of Minnesota, Morris, Minnesota 56267, United States; G. Hareland, USDA, ARS, Fargo, North Dakota 58105, United States; R.D. Wilcoxson, University of Minnesota, Dept. of Plant Pathology, St. Paul, Minnesota 55108, United States; Jochum Wiersma, University of Minnesota, Northwest Experiment Station, 108 Agricultural Research Center, Crookston, Minnesota 56716, United States; G. Linkert, University of Minnesota, St. Paul, Minnesota 55108, United States; R. Dill-Macky, University of Minnesota, St. Paul, Minnesota 55108, United States; H. Schmidt, Pioneer Hi-Bred International, Moorhead, Minnesota 56500, United States. Received 02/03/1997.

**PI 596533. *Triticum aestivum* L., nom. cons.**

Cultivar. Pureline. "BAC UP"; MN2535. CV-854. Pedigree - Nuy Bay/Pioneer 2375//Marshall. Hard red spring wheat. Resistant to Fusarium Head Blight (scab). Lower yielding and recommended to be used on up to 15% of acreage where scab is expected to be a problem. Exhibits highest grain volume weight and highest protein content of all spring wheat cultivars. Plant height medium, early to head. Exhibits severe leaf tip burn associated with Lr34. Resistant to leaf and stem rust. Resistant to shattering. Gliadin profile similar to Pioneer 2375. Resistant to several types of scab and its spread in the spike. Kernel resistance to shriveling.

The following were developed by Jose Fernandez-Martinez, Instituto de Agricultura Sostenible, Alameda del Obispo s/n, Apartado 4084, Cordoba, Spain; Juan Dominguez, Agriresearch Center C.I.F.A., Finca Alameda del Obispo, P.O. Box 4240, Cordoba, Spain; A. De Haro, Instituto de Agricultura Sostenible, CSIC, Apartado 4084, Cordoba, Cordoba 14080, Spain; R. Garcia-Ruiz, Centro de Investigacion y Desarrollo Agrario (CIDA), Dept. of Breeding and Agronomy, Junta de Andalucia, Cordoba, Cordoba 14080, Spain; L. Velasco, Instituto de Agricultura Sostenible, Apartado 4084, Cordoba, Cordoba 14080, Spain; M. del Rio, Centro de Investigacion y Desarrollo Agrario (CIDA), Dept. of Breeding and Agronomy, Junta de Andalucia, Cordoba, Cordoba, Spain; J. Munoz, Instituto de Agricultura Sostenible, Apartado 4084, Cordoba, Cordoba 14080, Spain. Donated by Jose Fernandez-Martinez, Instituto de Agricultura Sostenible, Alameda del Obispo s/n, Apartado 4084, Cordoba, Spain. Received 02/03/1997.

**PI 596534. *Brassica carinata* A. Braun**

Breeding. BC-853-1. GP-14. Pedigree - Selection from UC77-1309. High yielding line under southern Spain rainfed conditions with average 64% more seed yield than Canola check cultivars. High resistance to pod shattering. High erucic acid, seed oil 468 g Kg-1, and low glucosinolate 98 umol g-1. Seed yellow to brown, average 1000-seed weight 3.4 g, seed oil and protein contents 468 g Kg-1 and 242 g Kg-1 respectively.

Maturity approx. 30 days later than Duplo. Height 1.65 m.

**PI 596535. *Brassica carinata* A. Braun**

Breeding. BC-815-2. GP-15. Pedigree - Selection from UC77-1284. High yielding line under southern Spain rainfed conditions with average 68% more seed yield than Canola check cultivars. High resistance to pod shattering. Seed oil erucic acid 370 g Kg-1 and glucosinolate 141 umol g-1. Seed yellow to brown, average 1000-seed weight 4.0 g, protein content 285 g Kg-1 and oil 394 g Kg-1. Maturity approx. 20 days later than Duplo. Height 1.6 m.

**PI 596536. *Brassica carinata* A. Braun**

Breeding. BC-876-2. GP-16. Pedigree - Selection from UC77-1283. High yielding line under southern Spain rainfed conditions with average 71% more seed yield than Canola check cultivars. High resistance to pod shattering. High erucic acid 448 g Kg-1 seed oil and high glucosinolate 128 umol g-1 seed. Seed brown, average 1000-seed weight 3.9 g, seed oil and protein 378 g Kg-1 and 250 g Kg-1, respectively. Maturity approx. 20 days later than Duplo. Height 1.6 m.

**PI 596537. *Brassica carinata* A. Braun**

Breeding. BC-738-5. GP-17. Pedigree - Selection from UC77-1321. High yielding line under southern Spain rainfed conditions with average 46% more seed yield than Canola check cultivars. High resistance to pod shattering. Seeds large, yellow to brown, 1000-seed weight 6.5 g, high protein 296 g Kg-1, oil 385 g Kg-1. High erucic acid 461 g Kg-1 seed oil and glucosinolate 126 umol g-1 seed. Maturity approx 45 days later than Duplo. Height 1.7 m.

**PI 596538. *Brassica carinata* A. Braun**

Breeding. BC-834-2. GP-18. Pedigree - Selection from UC77-1308. Under southern Spain rainfed conditions yielded 17% more seed than Canola check cultivars. High resistance to pod shattering. Seed yellow, average 1000-seed weight 3.3 g, high oil 425 g Kg-1, high erucic acid 471 g Kg-1 seed oil, low glucosinolate 102 umol g-1, and protein 232 g Kg-1. Maturity approx. 30 days later than Duplo. Height 1.75 m.

**PI 596539. *Brassica carinata* A. Braun**

Breeding. BC-831-2. GP-19. Pedigree - Selection from UC77-1300. Under southern Spain rainfed conditions yielded 6% more seed than Canola check cultivars. High resistance to pod shattering. Seed yellow, average 1000-seed weight 4.6 g, high oil 424 g Kg-1, high sum of oil and protein 689 g Kg-1, low fiber 152 g Kg-1 ADF, high erucic acid 474 g Kg-1 seed oil, high glucosinolate 157 umol g-1 seed. Maturity approx. 30 days later than Duplo. Height 1.6 m.

The following were developed by David Hildebrand, University of Kentucky, Dept. of Agronomy, Lexington, Kentucky 40506, United States; Todd Pfeiffer, University of Kentucky, Department of Agronomy, N-122 Agricultural Science Building, Lexington, Kentucky 40546-0091, United States; E.C. Lacefield, University of Kentucky, Dept. of Agronomy, Lexington, Kentucky 40546, United States. Received 02/10/1997.

**PI 596540. *Glycine max* (L.) Merr.**

Breeding. Camp-1x2. GP-184. Pedigree - Camp2 x (Vance2 x L2-3). Similar to Camp in morphological and agronomic characteristics. Differs from Camp by incorporation of 1x2 lipoxygenase null allele which conditions the absence of lipoxygenase-2. Leaflets narrow, flower purple, pubescence gray, pods tan at maturity, determinate stem termination. Seeds yellow with yellow hila, average 72 mg/seed.

The following were developed by Berlin D. Nelson, North Dakota State University, Dept. of Plant Pathology, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States; T.C. Helms, North Dakota State University, Crop & Weed Science Department, 333 Walster Hall, Fargo, North Dakota 58105-5051, United States. Received 02/11/1997.

**PI 596541. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Traill"; ND90-2624. CV-371; PVP 9700293. Pedigree - M82-996 x Sigco KG20. Maturity Group O indeterminate adapted as a full season cultivar from 46-48 degree N lat. Mid-way between Maturity Group O and OO with no major gene resistant to *Phytophthora sojae*. High yield and iron chlorosis tolerance. Flowers purple, pubescence tawny, pods brown at maturity. Seed coat yellow, hila yellow, coat luster intermediate.

The following were developed by P. T. Nordquist, University of Nebraska, West Central Research & Ext. Center, Route 4, Box 46A, North Platte, Nebraska 69101, United States. Received 02/14/1997.

**PI 596542. *Sorghum bicolor* (L.) Moench**

Cultivar. "NP40". Pedigree - PI 550607 and PI 550610 crossed to Univ. Nebraska ms3ms3 genetic male sterile lines. Resistance to greenbug biotype I and E. Unknown tolerance or susceptibility to pathogens. Still segregating for height. Some remaining high tannin genotypes. Segregates for ms3 genetic male sterility.

**PI 596543. *Zea mays* L. ssp. *mays***

Cultivar. "N-pH-P". Pedigree - White Alequat, San Geronimo, PN6, PPS4, and 3036-1-1 mated to germplasm adapted to Nebraska. Resulting genotypes were intermated to produce population. Tolerance to alkali soils when grown on Cozad silt loam, saline-sodic (Typic Haplustolls) with average pH 8.3. Can be used as base for population development of saline-sodic soil tolerance as well as germplasm base for inbred parent line development for sodic-alkali tolerance. Severely chlorotic at the 4- to 5-leaf stage. Approx. 3 weeks after tolerant genotypes recover chlorophyll production and continue relatively normal growth.

The following were developed by Milton E. McDaniel, Texas A&M University, Dept. of Soil & Crops Sciences, College Station, Texas 77843, United States; Mark D. Lazar, Texas A&M University Agric. Res. & Ext. Ctr., 6500 Amarillo Blvd. West, Amarillo, Texas 79106, United States; W.D. Worrall, Texas A&M University Agric. Res. & Ext. Ctr., P.O. Box 1658, Vernon, Texas 76385, United States; David S. Marshall, Texas A&M University, Research & Extension Center, 17360 Coit Road, Dallas, Texas 75252-6599, United States; Lloyd R. Nelson, Texas Agricultural Experiment Station, The Texas A&M University

System, Agricultural Research and Extension Center, Overton, Texas 75684-0290, United States; Russell L. Sutton, Texas A&M University, Texas A&M University Res. & Ext. Center, 17360 Coit Road, Dallas, Texas 75252, United States; L.W. Rooney, Texas A&M University, 17360 Coit Road, Dallas, Texas 75252, United States. Received 02/14/1997.

**PI 596544. *Triticum aestivum* L., nom. cons.**  
Cultivar. "TAM 301"; TX89D9627. CV-855; PVP 9700242. Pedigree - Mit/Kavkaz. Released 1995. Hard red winter wheat. Awned, semi-dwarf, brown chaff. Leaf rust resistance genes Lr1, Lr2a, Lr10, Lr13, Lr25, and Lr 34 to *Puccinia recondita*. Highly resistant to leaf blotch (*Septoria tritici*), powdery mildew (*Erysiphegraminis tritici*). Adapted to wheat growing areas of Texas.

The following were developed by Rijk Zwaan Zaadteelt en Zaadhandel B.V., Meo Voto Beheer BV, De Lier, Netherlands. Received 12/27/1996.

**PI 596545. *Lactuca sativa* L.**  
Cultivar. "LORETTA". PVP 9700069.

The following were developed by Green Genes, Inc., United States. Received 12/30/1996.

**PI 596546. *Medicago sativa* L.**  
Cultivar. "RUNNER II". PVP 9700070.

The following were developed by California Planting Cotton Seed Distr., 30597 Jack Ave., Shafter, California 93263, United States. Received 12/23/1996.

**PI 596547. *Gossypium hirsutum* L.**  
Cultivar. "CPCSD ACALA C-141". PVP 9700071.

**PI 596548. *Gossypium hirsutum* L.**  
Cultivar. "CPCSD ACALA C-143". PVP 9700072.

The following were developed by Pennsylvania State University, Pennsylvania Agricultural Experiment Station, State College, Pennsylvania, United States. Received 01/02/1997.

**PI 596549. *Agrostis stolonifera* var. *palustris* (Huds.) Farw.**  
Cultivar. "PENN G-6". PVP 9700073.

The following were developed by Coastal Seeds, Inc., United States. Received 01/08/1997.

**PI 596550. *Lactuca sativa* L.**  
Cultivar. "MARGARITA". PVP 9700075.

The following were developed by Holden's Foundation Seeds, Inc., United

States. Received 01/07/1997.

**PI 596551. *Zea mays* L. ssp. *mays***  
Cultivar. "LH242". PVP 9700076.

**PI 596552. *Zea mays* L. ssp. *mays***  
Cultivar. "LH263". PVP 9700077.

**PI 596553. *Zea mays* L. ssp. *mays***  
Cultivar. "LH283". PVP 9700078.

The following were developed by International Marketing Service, Inc., United States. Received 01/08/1997.

**PI 596554. *Festuca arundinacea* Schreb.**  
Cultivar. "TALISMAN". PVP 9700079.

The following were developed by Holden's Foundation Seeds, Inc., United States. Received 01/06/1997.

**PI 596555. *Zea mays* L. ssp. *mays***  
Cultivar. "LH228". PVP 9700080.

**PI 596556. *Zea mays* L. ssp. *mays***  
Cultivar. "QH101". PVP 9700081.

The following were developed by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Elias M. Elias, North Dakota State University, Dept of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58104-5051, United States. Received 06/19/1997.

**PI 596557. *Triticum turgidum* L.**  
Cultivar. Pureline. "BEN". PVP 9700083; CV-858. Pedigree - D8024/MONROE. High yielding, high test weight 772.2 kg m<sup>-3</sup>, stiff strawed, daylength sensitive durum wheat. Plant height and maturity medium. Spikes long, awned, oblong, mid-dense, and erect. Kernels amber, large sized 42.4 mg. Strong gluten and semolina protein 137 g kg<sup>-1</sup>. Resistant to stem rust (*Puccinia graminis*) and leaf rust (*P. recondita*). Good resistance to tan spot (*Pyrenophora tritici-repentis*).

The following were developed by DeKalb-Pfizer Genetics, United States. Received 01/17/1997.

**PI 596558. *Zea mays* L. ssp. *mays***  
Cultivar. "3DHA9". PVP 9700084.

The following were developed by Waller Flowerseed Company, P.O. Box 935, 4th and Obispo Streets, Guadalupe, California 93434, United States. Received 01/17/1997.

**PI 596559. *Catharanthus roseus* (L.) G. Don**  
Cultivar. "PACIFICA DEEP ORCHID". PVP 9700085.

The following were developed by HybriTech Seed International, Inc., A Unit of Monsanto Company, United States. Received 01/14/1997.

**PI 596560. *Triticum aestivum* L., nom. cons.**  
Cultivar. "BIG DAWG". PVP 9700086.

The following were developed by Waller Flowerseed Company, P.O. Box 935, 4th and Obispo Streets, Guadalupe, California 93434, United States. Received 01/17/1997.

**PI 596561. *Catharanthus roseus* (L.) G. Don**  
Cultivar. "PACIFICA PINK". PVP 9700087.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449, Hubbard, Oregon 97032, United States. Received 01/21/1997.

**PI 596562. *Lolium perenne* L.**  
Cultivar. "ROADRUNNER". PVP 9700088.

The following were developed by Sure-Grow Seed, Inc., United States. Received 01/23/1997.

**PI 596563. *Gossypium hirsutum* L.**  
Cultivar. "SURE-GROW 96". PVP 9700089.

**PI 596564. *Gossypium hirsutum* L.**  
Cultivar. "SURE-GROW 180". PVP 9700090.

**PI 596565. *Gossypium hirsutum* L.**  
Cultivar. "SURE-GROW 209". PVP 9700091.

**PI 596566. *Gossypium hirsutum* L.**  
Cultivar. "SURE-GROW 248". PVP 9700092.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 12/04/1996.

**PI 596567. *Sorghum bicolor* (L.) Moench**  
Cultivar. "PH4KNYE". PVP 9700093.

The following were developed by Whitetail Institute of North America, Inc., United States. Received 01/09/1997.

**PI 596568. *Trifolium repens* L.**  
Cultivar. "ADVANTAGE". PVP 9700094.

The following were developed by DeKalb-Pfizer Genetics, United States.  
Received 01/24/1997.

**PI 596569. *Zea mays* L. ssp. *mays***  
Cultivar. "FBLLGRA". PVP 9700095.

The following were developed by Rogers Seed Company, Research Center, 6338  
Highway 20-26, Nampa, Idaho 83687, United States. Received 01/30/1997.

**PI 596570. *Phaseolus vulgaris* L.**  
Cultivar. "BENCHMARK". PVP 9700096.

**PI 596571. *Phaseolus vulgaris* L.**  
Cultivar. "INDY GOLD". PVP 9700097.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland,  
California, United States. Received 01/31/1997.

**PI 596572. *Lactuca sativa* L.**  
Cultivar. "SHINING STAR". PVP 9700098.

The following were developed by Barenbrug's Zaadhandel N.V., Arnhem,  
Netherlands. Received 01/13/1997.

**PI 596573. *Poa pratensis* L.**  
Cultivar. "BARCELONA". PVP 9700099.

**PI 596574. *Poa pratensis* L.**  
Cultivar. "BARONIE". PVP 9700100.

**PI 596575. *Poa pratensis* L.**  
Cultivar. "BARUZO". PVP 9700101.

The following were developed by Louisiana State University, Louisiana Agr.  
Exp. Sta., Baton Rouge, Louisiana 70803, United States. Received 02/06/1997.

**PI 596576. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivar. "QUICKPICK PINKEYE". PVP 9700103.

The following were developed by John Bodger & Sons Company, United States.  
Received 02/07/1997.

**PI 596577. *Tagetes patula* L.**  
Cultivar. "LITTLE HERO FIRE". PVP 9700107.

**PI 596578. *Tagetes patula* L.**  
Cultivar. "SAFARI RED". PVP 9700108.

The following were developed by University of Arkansas, Arkansas Agr. Exp. Sta., Fayetteville, Arkansas 72701, United States. Received 01/23/1997.

**PI 596579. *Gossypium hirsutum* L.**  
Cultivar. "PM 1330 BG/RR". PVP 9700109.

**PI 596580. *Gossypium hirsutum* L.**  
Cultivar. "PM 1330 BG". PVP 9700110.

**PI 596581. *Gossypium hirsutum* L.**  
Cultivar. "PM 1330 RR". PVP 9700111.

The following were developed by University of Illinois, Agricultural Exp. Stat., Urbana, Illinois 61803, United States. Received 02/11/1997.

**PI 596582. *Avena sativa* L.**  
Cultivar. "CHAPS". PVP 9700120.

**PI 596583. *Avena sativa* L.**  
Cultivar. "RODEO". PVP 9700121.

The following were developed by Louisiana State University, Louisiana Agr. Exp. Sta., Baton Rouge, Louisiana 70803, United States. Received 01/23/1997.

**PI 596584. *Gossypium hirsutum* L.**  
Cultivar. "PM 1215 BG". PVP 9700122.

**PI 596585. *Gossypium hirsutum* L.**  
Cultivar. "PM 1215 RR". PVP 9700123.

**PI 596586. *Gossypium hirsutum* L.**  
Cultivar. "PM 1220 BG". PVP 9700124.

**PI 596587. *Gossypium hirsutum* L.**  
Cultivar. "PM 1220 BG/RR". PVP 9700125.

**PI 596588. *Gossypium hirsutum* L.**  
Cultivar. "PM 1220 RR". PVP 9700126.

**PI 596589. *Gossypium hirsutum* L.**  
Cultivar. "PM 1244 BG". PVP 9700127.

**PI 596590. *Gossypium hirsutum* L.**  
Cultivar. "PM 1244 BG/RR". PVP 9700128.

**PI 596591. *Gossypium hirsutum* L.**  
Cultivar. "PM 1244 RR". PVP 9700129.

**PI 596592. *Gossypium hirsutum* L.**  
Cultivar. "PM 1560 BG". PVP 9700130.

**PI 596593. *Gossypium hirsutum* L.**



Cultivar. "PM 1560 BG/RR". PVP 9700131.

**PI 596594. *Gossypium hirsutum* L.**

Cultivar. "PM 1560 RR". PVP 9700132.

The following were developed by Ian Ray, New Mexico State University, College Of Agriculture & Home Economics, Department of Agronomy and Horticulture, Las Cruces, New Mexico 88003-8003, United States. Received 02/18/1997.

**PI 596595. *Medicago sativa* L. ssp. *sativa***

Breeding. Population. NMCOMP81-BAA1. Pedigree - 35 clone synthetic originating from New Mexico Common, Mesilla, UC Cibola, Beltsville-6, Baron, Turkistan, and El Unico. Forage yield equaled the highest yielding entry in variety trials at two locations in southern New Mexico over three years. Resistant to blue alfalfa aphid 62.4% (resistant check CUF 101 = 70%), Moderate resistance to spotted alfalfa aphid 42.4% (resistant check Kanza = 70%). Fall dormancy not tested, pedigrees indicate semi-dormant.

The following were developed by Thomas E. Devine, USDA, ARS, Plant Molecular Biology Lab., Building 006, Room 118, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 01/13/1997.

**PI 596596. *Glycine max* (L.) Merr.**

Breeding. Population. BARC-13. GP-258. Pedigree - Emerald X silage parents PA7-1-1, PA10-1-1, PA20-1-1, and PA24-1-1. Heterogeneous population segregating for maturity, height, lodging resistance, seed size, and green seed coat and embryo color. Possible source of vegetable type soybeans.

The following were developed by Victor E. Vallega, Istituto Sperimentale per la Cerealicoltura, Via Cassia 176, Roma, Latium 00191, Italy. Received 03/10/1997.

**PI 596597. *Triticum durum* Desf.**

Genetic. Pureline. V. 966846; NEAR ISOGENIC: AWNLESS; NSGC 6348. Pedigree - PI 355491/Valriccardo. Awnless component of near-isogenic pair. Awned component see: V. 966871. Seed from F8 plants; bulked/increased from one F6 row. Tall semidwarf, early.

**PI 596598. *Triticum durum* Desf.**

Genetic. Pureline. V. 966871; NEAR ISOGENIC: AWNED; NSGC 6349. Pedigree - PI 355491/Valriccardo. Awned component of near-isogenic pair. Awnless component see: V. 966846. Seed from F8 plants; bulked/increased from one F6 row. Tall semidwarf, early.

**PI 596599. *Triticum durum* Desf.**

Genetic. Pureline. V. 967001; NEAR ISOGENIC: AWNLESS; NSGC 6350. Pedigree - PI 355491/Valriccardo. Awnless component of near-isogenic pair. Awned component see: V. 967086. Seed from F8 plants; bulked/increased from one F6 row. Tall semidwarf, early.

- PI 596600. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967086; NEAR ISOGENIC: AWNED; NSGC 6351. Pedigree - PI 355491/Valriccardo. Awned component of near-isogenic pair. Awnless component see: V. 967001. Seed from F8 plants; bulked/increased from one F6 row. Tall semidwarf, early.
- PI 596601. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967026; NEAR ISOGENIC: AWNLESS; NSGC 6352. Pedigree - PI 355491/Valriccardo. Awnless component of near-isogenic pair. Awned component see: V. 967056. Seed from F8 plants; bulked/increased from one F6 row. Semidwarf, early.
- PI 596602. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967056; NEAR ISOGENIC: AWNED; NSGC 6353. Pedigree - PI 355491/Valriccardo. Awned component of near-isogenic pair. Awnless component see: V. 967026. Seed from F8 plants; bulked/increased from one F6 row. Semidwarf, early.
- PI 596603. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967176; NEAR ISOGENIC: AWNLESS; NSGC 6354. Pedigree - PI 355491/Valriccardo. Awnless component of near-isogenic pair. Awned component see: V. 967151. Seed from F8 plants; bulked/increased from one F6 row. Semidwarf, early.
- PI 596604. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967151; NEAR ISOGENIC: AWNED; NSGC 6355. Pedigree - PI 355491/Valriccardo. Awned component of near-isogenic pair. Awnless component see: V. 967176. Seed from F8 plants; bulked/increased from one F6 row. Semidwarf, early.
- PI 596605. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967306; NEAR ISOGENIC: AWNLESS; NSGC 6356. Pedigree - PI 355491/Aldura. Awnless component of near-isogenic pair. Awned component see: V. 967271. Seed from F7 plants; bulked/increased from one F5 row. Medium tall, early.
- PI 596606. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967271; NEAR ISOGENIC: AWNED; NSGC 6357. Pedigree - PI 355491/Aldura. Awned component of near-isogenic pair. Awnless component see: V. 967306. Seed from F7 plants; bulked/increased from one F5 row. Medium tall, early.
- PI 596607. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967221; NEAR ISOGENIC: AWNLESS; NSGC 6358. Pedigree - PI 355491/Valriccardo. Awnless component of near-isogenic pair. Awned component see: V. 967246. Seed from F8 plants; bulked/increased from one F6 row. Tall semidwarf, early.
- PI 596608. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967246; NEAR ISOGENIC: AWNED; NSGC 6359. Pedigree - PI 355491/Valriccardo. Awned component of near-isogenic pair. Awnless component see: V. 967221. Seed from F8 plants; bulked/increased from one F6 row. Tall semidwarf, early.
- PI 596609. *Triticum durum* Desf.**

- Genetic. Pureline. V. 967416; NEAR ISOGENIC: AWNLESS; NSGC 6360.  
Pedigree - PI 355491/Aldura. Awnless component of near-isogenic pair.  
Awned component see: V. 967386. Seed from F7 plants; bulked/increased  
from one F5 row. Medium tall, medium early.
- PI 596610. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967386; NEAR ISOGENIC: AWNED; NSGC 6361. Pedigree  
- PI 355491/Aldura. Awned component of near-isogenic pair. Awnless  
component see: V. 967416. Seed from F7 plants; bulked/increased from one  
F5 row. Medium tall, medium early.
- PI 596611. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967341; NEAR ISOGENIC: AWNLESS; NSGC 6362.  
Pedigree - PI 355491/Aldura. Awnless component of near-isogenic pair.  
Awned component see: V. 967366. Seed from F7 plants; bulked/increased  
from one F5 row. Medium tall, medium early.
- PI 596612. *Triticum durum* Desf.**  
Genetic. Pureline. V. 967366; NEAR ISOGENIC: AWNED; NSGC 6363. Pedigree  
- PI 355491/Aldura. Awned component of near-isogenic pair. Awnless  
component see: V. 967341. Seed from F7 plants; bulked/increased from one  
F5 row. Medium tall, medium early.
- PI 596613. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966093; NSGC 6364. Pedigree - PI  
355491/Valriccardo. Awnless, semidwarf, medium early.
- PI 596614. *Triticum durum* Desf.**  
Breeding. Pureline. V. 965936; NSGC 6365. Pedigree - PI  
355491/Valriccardo. Awnless, short semi-dwarf, medium early.
- PI 596615. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966272; NSGC 6366. Pedigree - PI  
355491/Valriccardo. Awnless, semidwarf, medium early.
- PI 596616. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966131; NSGC 6367. Pedigree - PI  
355491/Valriccardo. Awnless, semidwarf, high kernel weight.
- PI 596617. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966499; NSGC 6368. Pedigree - PI 355491/Aldura.  
Awnless, medium tall, medium early.
- PI 596618. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966301; NSGC 6369. Pedigree - PI  
355491/Valriccardo. Awnless, semidwarf, late.
- PI 596619. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966691; NSGC 6370. Pedigree - PI 355491/Aldura.  
Awnless, medium tall, late.
- PI 596620. *Triticum durum* Desf.**  
Breeding. Pureline. V. 966527; NSGC 6371. Pedigree - PI 355491/Aldura.  
Awnless, medium tall, early.

**PI 596621. *Triticum durum* Desf.**  
Breeding. Pureline. V. 967136; NSGC 6372. Pedigree - PI 355491/Valriccardo. Awnless, tall semidwarf, early.

**PI 596622. *Triticum durum* Desf.**  
Breeding. Pureline. V. 967291; NSGC 6373. Pedigree - PI 355491/Aldura. Awnless, medium tall, early.

The following were developed by North American Plant Breeders, Inc., Ames, Iowa, United States. Received 1979.

**PI 596623. *Hordeum vulgare* L. *ssp. vulgare***  
Cultivar. Pureline. "BOLD". PVP 7800093.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States. Received 1979.

**PI 596624. *Triticum aestivum* L., nom. cons.**  
Cultivar. Pureline. "5466". PVP 7700106.

The following were developed by Lloyd R. Nelson, Texas Agricultural Experiment Station, The Texas A&M University System, Agricultural Research and Extension Center, Overton, Texas 75684-0290, United States. Received 02/24/1997.

**PI 596625. *Lolium multiflorum* Lam.**  
Cultivar. "LM 257"; TXR 91-SR6EI. Pedigree - From sister line of TAM 90 which is from a polycross of GULF, MARSHALL, and TX-R-78-2. 2N annual ryegrass. Tall, leaves wide, tillers profusely. Released in South Africa due to its late season, high yield growth potential. Resistant to crown rust (*Puccinia coronata*). High temperature seed dormancy, good reseeding potential. In South Africa produced higher yields and growth curve later than Midmar, produced forage April through early January. High infection with fungal endophyte (*Acremonium lolii*), no detrimental animal effects observed.

The following were developed by Gary L. Windham, USDA, ARS, Crop Science Research Lab., P. O. Box 5367, Mississippi State, Mississippi 39762, United States; W. Paul Williams, USDA-ARS, Box 9555, 344 Dorman Hall, Mississippi State, Mississippi 39762, United States. Donated by W. Paul Williams, USDA-ARS, Box 9555, 344 Dorman Hall, Mississippi State, Mississippi 39762, United States. Received 12/10/1996.

**PI 596626. *Zea mays* L. *ssp. mays***  
Breeding. Inbred. Mp709. GP-341. Pedigree - Selfed within open pollinated variety Old Raccoon (PI 540778) for eight generations. Maturity classification AES 1100. Resistant to southern root-knot nematode, rated 0.1 and Ab24E (susceptible check) rated 3.5 on a scale of 0-5, where 0 indicated no egg masses and 5 more than 100 egg masses. For peanut root-knot nematode rated 0.2 and Ab24E 3.3. Height medium, kernels and cob white.

**PI 596627. *Zea mays* L. ssp. *mays***

Breeding. Inbred. Mp710. GP-342. Pedigree - Selfed within open pollinated variety Old Raccoon (PI 540778) for eight generations. Maturity classification AES 1100. Resistant to southern root-knot nematode, rated 0.9 and Ab24E (susceptible check) rated 3.5 on scale of 0-5, where 0 indicated no egg masses and 5 more than 100 egg masses. For peanut root-knot nematode rated 0.0 and Ab24E 3.3. Height medium, kernels and cob white.

**PI 596628. *Zea mays* L. ssp. *mays***

Breeding. Inbred. Mp711. GP-343. Pedigree - Selfed within open pollinated variety Tebeau (PI 540756) for eight generations. Maturity classification AES 1100. Resistant to southern root-knot nematode, rated 0.7 and Ab24E (susceptible check) rated 3.5 on scale of 0-5, where 0 indicated no egg masses and 5 more than 100 egg masses. For peanut root-knot nematode rated 0.2 and Ab24E 3.3. Height medium, kernels and cob white.

**PI 596629. *Zea mays* L. ssp. *mays***

Breeding. Inbred. Mp712. GP-344. Pedigree - Selfed within open pollinated variety Tebeau (PI 540756) for eight generations. Maturity classification AES 1000. Resistant to southern root-knot nematode, rated 0.8 and Ab24E (susceptible check) rated 3.5 on scale of 0-5, where 0 indicated no egg masses and 5 more than 100 egg masses. For peanut root-knot nematode rated 0.2 and Ab24E 3.3. Height medium, kernels and cob white.

The following were developed by Mark Uebersax, Michigan State University, 135 Food Science Building, East Lansing, Michigan 48824-1224, United States; George L. Hosfield, USDA, ARS, Michigan State University, Department of Crop & Soil Science, East Lansing, Michigan 48824, United States; Jim Kelly, Michigan State University, Department of Crop & Soil Science, East Lansing, Michigan 48824, United States; Greg Varner, Dry Edible Bean Research, Advisory Board, 3066 S. Thomas Road, Saginaw, Michigan 48603, United States; J. Taylor, Michigan State University, Dept. of Crop and Soil Sci., East Lansing, Michigan 48824, United States. Received 02/25/1997.

**PI 596630. *Phaseolus vulgaris* L.**

Cultivar. Pureline. "MACKINAC"; N93296. CV-143. Pedigree - Avanti / N90435. Growth habit upright type-II, indeterminate. Height avg. 55 cm. Seed ovoid, avg. 21 g/100 seed, size, shape, color and canning quality similar to Avanti. Mid-season, maturing 95 d after planting and 2 d later than Avanti. Resistant to lodging, rust, bean common mosaic virus, anthracnose races 65 and 73 to which Avanti is susceptible. Tolerance to white mold equivalent to Avanti. Susceptible to Michigan isolates of root rot and common blight. Outyielded Avanti by 6% over four years at 20 locations in Michigan.

The following were developed by Milton E. McDaniel, Texas A&M University, Dept. of Soil & Crops Sciences, College Station, Texas 77843, United States; Mark D. Lazar, Texas A&M University Agric. Res. & Ext. Ctr., 6500 Amarillo Blvd. West, Amarillo, Texas 79106, United States; John W. Sij, Texas A&M

University Agric. Res. & Ext. Ctr., Route 7, Box 999, Beaumont, Texas 77713, United States; W.D. Worrall, Texas A&M University Agric. Res. & Ext. Ctr., P.O. Box 1658, Vernon, Texas 76385, United States; David S. Marshall, Texas A&M University, Research & Extension Center, 17360 Coit Road, Dallas, Texas 75252-6599, United States; Lloyd R. Nelson, Texas Agricultural Experiment Station, The Texas A&M University System, Agricultural Research and Extension Center, Overton, Texas 75684-0290, United States; Russell L. Sutton, Texas A&M University, Texas A&M University Res. & Ext. Center, 17360 Coit Road, Dallas, Texas 75252, United States. Received 03/03/1997.

**PI 596631. *Avena sativa* L.**

Cultivar. Pureline. "DALLAS"; TX89D7213. CV-346; PVP 9700244. Pedigree - Coker 84-27/H422//H833. Winter hardy, adapted to all winter oat growing regions of U.S. Resistant to ice nucleation-active bacterium *Pseudomonas syringae*. Moderate resistance to barley yellow dwarf virus and subsequent tolerance to freezing at -12 degrees C. Good or better freeze tolerance than Coker 716, Norline, and Walken. Juvenile growth habit semi-prostrate to erect. Mature stem diameter medium and yellow. Leaves semi-erect, blue-green, and slightly ciliate margins. Ligules present. Panicle shape equilateral and size medium.

The following were developed by Timothy D. Phillips, University of Kentucky, Department of Agronomy, Agricultural Science Building-North, Lexington, Kentucky 40546-0091, United States; Georgia Eizenga, USDA-ARS, Rice Research Station, P.O. Box 287, Stuttgart, Arkansas 72160, United States. Received 03/11/1997.

**PI 596632. *Festuca arundinacea* Schreb.**

Genetic. K1-50. GS-1. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 34.9%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

**PI 596633. *Festuca arundinacea* Schreb.**

Genetic. K2-6. GS-2. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 50.9%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

**PI 596634. *Festuca arundinacea* Schreb.**

Genetic. K2-10. GS-3. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 42.8%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

**PI 596635. *Festuca arundinacea* Schreb.**

Genetic. K2-12. GS-4. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 86.8%, which indicates dehiscent anthers and male fertility. Same profile of banding patterns for 46 probe-enzyme combinations as K2-15 and K2-16.

**PI 596636. *Festuca arundinacea* Schreb.**

Genetic. K2-15. GS-5. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 90.0%, which

indicates dehiscent anthers and male fertility. Same profile of banding patterns for 46 probe-enzyme combinations as K2-12 and K2-16.

**PI 596637. *Festuca arundinacea* Schreb.**

Genetic. K2-16. GS-6. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 89.5%, which indicates dehiscent anthers and male fertility. Same profile of banding patterns for 46 probe-enzyme combinations as K2-12 and K2-15.

**PI 596638. *Festuca arundinacea* Schreb.**

Genetic. K2-36. GS-7. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 57.9%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

**PI 596639. *Festuca arundinacea* Schreb.**

Genetic. K3-1. GS-8. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 47.7%, which indicates dehiscent anthers and male fertility. Same profile of banding patterns for 46 probe-enzyme combinations as K3-5 and K3-6.

**PI 596640. *Festuca arundinacea* Schreb.**

Genetic. K3-5. GS-9. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 48.8%, which indicates dehiscent anthers and male fertility. Same profile of banding patterns for 46 probe-enzyme combinations as K3-1 and K3-6.

**PI 596641. *Festuca arundinacea* Schreb.**

Genetic. K3-6. GS-10. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 56.6%, which indicates dehiscent anthers and male fertility. Same profile of banding patterns for 46 probe-enzyme combinations as K3-1 and K3-5.

**PI 596642. *Festuca arundinacea* Schreb.**

Genetic. K5. GS-11. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 56.4%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

**PI 596643. *Festuca arundinacea* Schreb.**

Genetic. K38. GS-12. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 56.3%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

**PI 596644. *Festuca arundinacea* Schreb.**

Genetic. K46. GS-13. Pedigree - Selected from somaclones derived from Kenwell. Monosomic, self-fertile and pollen stainability 71.0%, which indicates dehiscent anthers and male fertility. Unique profile of banding patterns for 46 probe-enzyme combinations.

The following were collected by Todd Wehner, North Carolina State University, Department of Horticultural Science, P.O. Box 7609, Raleigh, North Carolina 27695-7609, United States; James D. McCreight, USDA, ARS, Agricultural

Research Station, 1636 E. Alisal Street, Salinas, California 93905, United States; Roger Ellis, Agricultural Research Council, Plant Genetics Resources Unit, Private Bag X05, South Africa; Mariana Jooste, Agricultural Research Council, Plant Genetics Resources Unit, Private Bag X05, South Africa.  
Received 01/14/1997.

**PI 596645. *Zehneria marlothii* (Cogn.) R. Fern. & A. Fern.**

Wild. 2. Collected 04/27/1996 in Transvaal, South Africa. Latitude 25 deg. 16' 17" S. Longitude 28 deg. 17' 22" E. Elevation 1000 m. 3km north of Carousel Hotel along old main road to Warmbath growing in *Acacia caffra* bush. Savanna biome, springbok flats turf veld. Cluster of three small yellow flowers. Mature fruit red, small, globular, no netting or markings, fruit length 4mm, fruit diameter 3mm. Skin color green turning red, flesh color yellow.

**PI 596646. *Momordica balsamina* L.**

Wild. 3. Collected 04/27/1996 in Transvaal, South Africa. Latitude 24 deg. 42' 38" S. Longitude 28 deg. 32' 5" E. Elevation 1130 m. Junction of Nylstroom-Deelkraal road and N1 Pretoria-Potgieters. On bank of highway ramp. Savanna biome, mixed bush veld. Sloping bank, disturbed soil. Flowers cream, fruit immature. Fruit size small, globular and tapered on both ends, length 34 mm, diameter 29 mm, no netting. Markings warts forming ridges, skin color light green, warts white, flesh color green. Seed yellow-tan, size 11 x 7, covered with sheath.

**PI 596647. *Momordica balsamina* L.**

Wild. 4. Collected 04/27/1996 in Transvaal, South Africa. Latitude 24 deg. 42' 33" S. Longitude 28 deg. 34' 56" E. Elevation 1096 m. Along fence row on Nylstroom to Boekenhout road, 5km east of N1 along Boekenhout/Blindefintein road on local farm of Mr. Van Dyke. Savanna biome, mixed bush veld. Mature fruit orange, green skin with white warts changing to orange with orange warts, warts forming ridges, no netting. Fruit size small, globular with tapered blossom, fruit length 37mm, diameter 30 mm. Strong distinct odor from vine, *Cucurbita foetidissima*-like, but not as strong. Flesh color green-white/white-orange, seed black with red placenta, seed size 11 x 7.

**PI 596648. *Momordica balsamina* L.**

Wild. 7. Collected 04/27/1996 in Transvaal, South Africa. Latitude 24 deg. 40' 6" S. Longitude 28 deg. 45' 10" E. Elevation 1121 m. Naboomspruit, growing on fence row and tree, 9.2km south of Mosdene Private National Reserve, Nylstrom/Roedtan turn-off to Boekenhout Station. Savanna biome, mixed bush veld, southeast slope. Flowers creamy yellow. Skin color green turning to orange, markings warts forming ridges, no netting. Small fruit, globular with tapered blossom end, fruit length 38 mm, diameter 25mm. Flesh color white-yellow, seed color tan with red covering, seed size small.

**PI 596649. *Zehneria marlothii* (Cogn.) R. Fern. & A. Fern.**

Wild. 9. Collected 04/27/1996 in Transvaal, South Africa. Latitude 24 deg. 19' 0" S. Longitude 28 deg. 55' 2" E. Elevation 1123 m. Rest stop/picnic site on road from Naboomspruit to Potgietersrus (18km south of Potgietersrus), near turn-off to Chroomyn. Savanna biome, mixed bush veld, northeast slope. No flowers, mature fruit red, no markings, no



netting. Small globular fruit, length 8 mm, diameter 8 mm. Skin red, flesh red, seed dark brown, seed size 3 x 5.

**PI 596650. *Momordica balsamina* L.**

Wild. 11. Collected 04/28/1996 in Transvaal, South Africa. Latitude 23 deg. 59' 37'' S. Longitude 28 deg. 37' 3'' E. Elevation 982 m. Alongside road R518 to Marken, 41.8km northwest of Potgietersrus. Savanna biome, mixed bush veld, east sloping hill. Area appeared to have been burned off. Plants on both sides of road. Flowers and mature orange fruit with soft spine markings, no netting. Fruit shape globular both ends tapered, fruit size small, length 35 mm, diameter 25 mm. Skin light green grey, flesh green, seed tan, seed size 10 x 6.

**PI 596651. *Momordica balsamina* L.**

Wild. 14. Collected 04/28/1996 in South Africa. Latitude 23 deg. 36' 3'' S. Longitude 28 deg. 23' 30'' E. Elevation 985 m. On fence alongside road R518 to Potgietersrus, 100.4km from Potgietersrus (<1km SE of Marken). Savanna biome, mixed bush veld, northwest sloping hill. Mature small fruit, green grey skin, no netting, markings warts forming ridges, fruit length 40 mm, diameter 27 mm, globular tapered on both ends. Flesh green, seed tan, seed size 10 x 8.

**PI 596652. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**

Wild. 19. Collected 04/28/1996 in South Africa. Latitude 23 deg. 37' 38'' S. Longitude 27 deg. 45' 3'' E. Elevation 1021 m. Alongside road R510 to Stockport, approx. 6km north of Elisras, just north of junction with R518. Savanna biome, arid sweet bush veld, south slope. Red Kalahari sand. Skin light green grey, markings conical spines (warts), warts randomly distributed, approx. 7 mm long, no netting. Small fruit, oval-elliptical, length 95 mm, diameter 65 mm. Flesh green-orange placenta, seed white, seed size 10 x 6.

**PI 596653. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***

Wild. 20. Collected 04/28/1996 in South Africa. Latitude 23 deg. 37' 38'' S. Longitude 27 deg. 45' 3'' E. Elevation 1021 m. Alongside road R510 to Stockport, approximately 6km north of Elisras, just north of junction with R518. Savanna biome, arid sweet bush veld, south slope. Red Kalahari sand. Fruit medium, bitter, globular, skin dark green yellow-green stripe, no markings or netting, fruit length 110 mm, diameter 100 mm. Flesh white, seed dark brown, seed size 10 x 5.

**PI 596654. *Coccinia sessilifolia* (Sond.) Cogn.**

Wild. 21. Collected 04/28/1996 in South Africa. Latitude 23 deg. 37' 38'' S. Longitude 27 deg. 45' 3'' E. Elevation 1021 m. Alongside road R510 to Stockport, approximately 6km north of Elisras, just north of junction with R518. Savanna biome, arid sweet bush veld, southeast slope. Red Kalahari sand. Skin light green turning orange, fruit small, long tapered at both ends, cream-yellow with long spot markings, no netting, fruit length 105 mm, diameter 29 mm. Flesh yellow, fibrous, placenta red, seed tan-grey, seed size 9 x 5.

**PI 596655. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**

Wild. 22. Collected 04/28/1996 in South Africa. Latitude 23 deg. 31' 40'' S. Longitude 27 deg. 42' 31'' E. Elevation 900 m. Alongside road R510 to Stockport, 16.1km northwest of Elisras. Savanna biome, arid

sweet bush veld, southeast slope. Tuberos roots at many nodes. Vines spreading. Only a few fruit, small oval-elliptical, skin green-ivory white, conical spine markings, no netting, fruit length 80 mm, diameter 50 mm. Flesh white, placenta yellow, seed tan.

- PI 596656. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 23. Collected 04/28/1996 in South Africa. Latitude 23 deg. 31' 40'' S. Longitude 27 deg. 42' 31'' E. Alongside road R510 to Stockport, 18km northwest of Elisras. No vine. One fruit, picked up next to road verge 2km N of TJ.15. Savanna biome, arid sweet bush veld, southeast slope. Small globular shaped fruit, skin green-dark-stripe, no markings or netting, fruit length 110 mm, diameter 123 mm. Flesh white, seed black-brown, seed size 9 x 5.
- PI 596657. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 24. Collected 04/28/1996 in South Africa. Latitude 23 deg. 24' 28'' S. Longitude 27 deg. 41' 27'' E. Elevation 840 m. Alongside road R572 38.9km north of Elisras, approximately 1.5km from junction of R510 and R572, 1.5km N of R510 along R572 to Swartwater. Savanna biome, arid sweet bush veld, plain. Fruit small oval-elliptical, skin ivory white, conical spine markings, no netting, fruit length 115 mm, diameter 97 mm. Flesh white, placenta yellow, seed white, seed size 13 x 7.
- PI 596658. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 25. Collected 04/28/1996 in South Africa. Latitude 23 deg. 19' 6'' S. Longitude 27 deg. 42' 16'' E. Elevation 785 m. Alongside dirt road by entrance to 'Newlands' farm between R572 and R510, 5.62km from turn-off to Speculate, route designations recently changed. 5.2km west along Spekulasie turn-off from R572 Rarm Newlands. Savanna biome, arid sweet bush veld, north sloping hill. Mature fruit green turning yellow, small globular shaped, skin light green grey, no markings or netting, fruit length 128 mm, diameter 142 mm. Flesh yellow-white, seed black-brown with white tip, seed size 10 x 5.
- PI 596659. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 26. Collected 04/29/1996 in South Africa. Latitude 23 deg. 47' 40'' S. Longitude 27 deg. 42' 29'' E. Elevation 845 m. Roadside R510 18km south of Elisras in route to Thabazimbi R510. Savanna biome, mixed bush veld, southwest roadside, ravine/kloof. Fruit small globular shaped, skin dark green with yellow-green stripe, no markings or netting, fruit length 108 mm, diameter 110 mm. Flesh white, seed white.
- PI 596660. Unident-Cucurbitaceae sp.**  
Wild. 28. Collected 04/29/1996 in Transvaal, South Africa. Latitude 24 deg. 30' 21'' S. Longitude 26 deg. 55' 10'' E. Elevation 936 m. Thabazimb. Alongside road D1309 to Rooibokraal 16km north from intersection of Sentrum to Zeerust road and Oostemoed to Rooibokraal road. Savanna biome, arid sweet bush veld, plain. Fruit small oblate shaped. Seeds button-like.
- PI 596661. *Momordica balsamina* L.**  
Wild. 34. Collected 04/29/1996 in Transvaal, South Africa. Latitude 24 deg. 38' 29'' S. Longitude 26 deg. 23' 3'' E. Elevation 904 m. West of intersection of roads from Marico River crossing, 2km west of Deerdeport and Madikwe River Lodge intersection. Distributed along roadside going

west. Savanna biome, arid sweet bush veld, east roadside slope. Fruit small globular, tapered on both ends, skin light green, warts forming ridges markings, no netting, fruit length 30 mm, diameter 23 mm, flesh green.

**PI 596662. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 37. Collected 04/29/1996 in Transvaal, South Africa. Latitude 24 deg. 38' 34'' S. Longitude 26 deg. 22' 7'' E. Elevation 866 m. West of intersection of roads from Marico River crossing, 4km west of Deerdeport and Madikwe River Lodge intersection. Distributed along roadside going west. Savanna biome, arid sweet bush veld, northeast roadside slope. Fruit small globular, skin dark green with yellow-green stripe, yellow spots with random stripe markings, no netting, flesh white, seed black.

**PI 596663. *Coccinia sessilifolia* (Sond.) Cogn.**  
Wild. 40. Collected 04/30/1996 in Transvaal, South Africa. Latitude 26 deg. 4' 26'' S. Longitude 24 deg. 56' 7'' E. Elevation 863 m. Alongside Mafikeng-Bray road R375, 42.6km northwest along R375 to Vergelegen from R27 Stella/Mmabatho turn off. Savanna biome, Kalahari Thorn veld, east roadside slope. Small long fruit tapered at both ends, skin light green grey, stiff conical spine markings, no netting, fruit length 64 mm, diameter 30 mm. Seed tan, size 9 x 4.

**PI 596664. *Zehneria marlothii* (Cogn.) R. Fern. & A. Fern.**  
Wild. 41. Collected 04/30/1996 in Cape Province, South Africa. Latitude 26 deg. 4' 26'' S. Longitude 24 deg. 56' 7'' E. Elevation 863 m. Alongside Mafikeng-Bray road R375, 42.6km northwest along R375 to Vergelegen from R27 Stella/Mmabatho turn off. Savanna biome, Kalahari Thorne veld east roadside slope. Fruit small, acorn-like, long and tapered at both ends, skin red, no markings or netting, fruit length 12 mm, diameter 6 mm. Fruit capsule red, seed brown, seed size 5 x 3.

**PI 596665. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Landrace. 44. Collected 04/30/1996 in Transvaal, South Africa. Latitude 26 deg. 0' 29'' S. Longitude 24 deg. 47' 14'' E. Elevation 1175 m. Alongside Mafikeng-Bray road R375, 59.7km northwest along R375 to Vergelegen from R27 Stella/Mmabatho turn off. Savanna biome, Kalahari Thorn veld, southeast roadside slope. Fruit small oval-elliptical, skin green with yellow spots, no markings or netting, fruit length 190 mm, diameter 155 mm. Flesh white/yellow, sweet, seed white tan, seed size 15 x 7.

**PI 596666. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 45. Collected 04/30/1996 in Transvaal, South Africa. Latitude 26 deg. 0' 29'' S. Longitude 24 deg. 47' 14'' E. Elevation 1175 m. Alongside Mafikeng-Bray road R375, 59.7km, 42.6km northwest along R375 to Vergelegen from R27 Stella/Mmabatho turn off. Savanna biome, Kalahari Thorn veld, southeast roadside slope. Fruit small oval-elliptical, skin green with white spots, no markings or netting, fruit length 150 mm, diameter 80 mm. Flesh green-white, seed black brown, seed size 9 x 5.

**PI 596667. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 47. Collected 04/30/1996 in Cape Province, South Africa. Latitude 25 deg. 56' 19'' S. Longitude 24 deg. 32' 0'' E. Elevation 1122 m. Alongside Mafikeng-Bray road R375 91.2km west of Mmabotha, at Ratelbeen

farm entrance, 90km northwest along R375 to Vergelegen from R27 Stella/Mmabatho farm Ratelbeen. Savanna biome, Kalahari Thorn veld, southeast roadside slope. Fruit small oblate, skin dark green with yellow-green stripes, many stripes, slight lobe markings, no netting, fruit length 95 mm, diameter 125 mm. Flesh green, seed light brown mottled, seed size 10 x 5.

- PI 596668. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 48. Collected 04/30/1996 in Transvaal, South Africa. Latitude 25 deg. 56' 19'' S. Longitude 24 deg. 32' 0'' E. Elevation 1122 m. Alongside Mafikeng-Bray road R375 91.2km west of Mmabotha, at Ratelbeen farm entrance. 90km northwest along R375 to Vergelegen from R27 Stella/Mmabatho farm Ratelbeen. Savanna biome, Kalahari Thorn veld, southeast roadside slope. Fruit small oblate, skin dark green with yellow green stripe, wide yellow stripe markings, no netting, fruit length 88 mm, diameter 115 mm. Flesh green, seed dark brown, seed size 9 x 5.
- PI 596669. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 49. Collected 04/30/1996 in Cape Province, South Africa. Latitude 25 deg. 56' 19'' S. Longitude 24 deg. 32' 0'' E. Elevation 1122 m. Alongside Mafikeng-Bray road R375 91.2km west of Mmabotha, at Ratelbeen farm entrance. 90km northwest along R375 to Vergelegen from R27 Stella/Mmabatho farm Ratelbeen. Savanna biome, Kalahari Thorn veld, southeast roadside slope. Fruit small oblong, skin dark green with yellow-green stripe, narrow yellow stripe markings, no netting, fruit length 110 mm, diameter 95 mm. Flesh green, seed dark brown, seed size 10 x 5.
- PI 596670. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 51. Collected 04/30/1996 in Cape Province, South Africa. Latitude 25 deg. 43' 40'' S. Longitude 24 deg. 6' 46'' E. Elevation 1167 m. Alongside Mafikeng-Bray road R375 143.5km west of Mmabotha. 16km west of Vergelegen in route to Bray along R572. Savanna biome, Kalahari Thorn veld, east roadside slope. Fruit small globular, skin yellow-green, yellow-green stripe markings, no netting, fruit length 125 mm, diameter 140 mm. Flesh white, seed olive-green with black stripes.
- PI 596671. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 53. Collected in South Africa. Latitude 25 deg. 36' 52'' S. Longitude 23 deg. 53' 38'' E. Elevation 1205 m. Alongside Mafikeng-Bray road R375 171.3km west of Mmabotha. 26km east of Bray along R572 to Vergelegen. Savanna biome, Kalahari Thorn veld, east roadside slope. Fruit small globular, skin dark green, no markings or netting, fruit length 130 mm, diameter 142 mm. Flesh white, seed dull green.
- PI 596672. *Momordica balsamina* L.**  
Wild. 54. Collected in South Africa. Latitude 25 deg. 36' 52'' S. Longitude 23 deg. 53' 38'' E. Elevation 1205 m. Alongside Mafikeng-Bray road R375 171.3km west of Mmabotha. 26km east of Bray along R572 to Vergelegen. Savanna biome, Kalahari Thorn veld, east roadside slope. Fruit small globular, tapered at both ends, skin light green grey, warts forming ridges markings, no netting, fruit diameter 142 mm. Flesh green.
- PI 596673. *Coccinia sessilifolia* (Sond.) Cogn.**

- Wild. 57. Collected 05/01/1996 in South Africa. Latitude 25 deg. 37' 27'' S. Longitude 23 deg. 40' 57'' E. Elevation 1104 m. Bray-Tosca road (R378) 20.2km south of Bray in route to Tosca. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small oval-elliptical, skin light green grey, light green spots forming stripes, no markings or netting, fruit length 114 mm, diameter 35 mm. Flesh red, red around seeds, seed white tan.
- PI 596674. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 59. Collected 05/01/1996 in South Africa. Latitude 25 deg. 47' 43'' S. Longitude 23 deg. 41' 55'' E. Elevation 1116 m. Bray-Tosca road (R378) 40.9km southeast of Bray in route to Tosca. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small oblong, skin light green, conical spine markings, no netting, fruit length 7 mm, diameter 53 mm. Flesh green, seed white tan, seed cell yellow.
- PI 596675. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 60. Collected 05/01/1996 in South Africa. Latitude 25 deg. 47' 43'' S. Longitude 23 deg. 41' 55'' E. Elevation 1116 m. Bray-Tosca road (R378) 40.9km southeast of Bray in route to Tosca. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small globular, skin yellow green, yellow-green mottle markings, no netting, fruit length 130 mm, diameter 125 mm. Flesh green, seed grey green.
- PI 596676. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 61. Collected 05/01/1996 in South Africa. Latitude 25 deg. 47' 43'' S. Longitude 23 deg. 41' 55'' E. Elevation 1116 m. Bray-Tosca road (R378) 40.9km southeast of Bray in route to Tosca. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small oblate, skin yellow green, stripes dark green and light yellow, yellow-green mottle markings, no netting, fruit length 125 mm, diameter 135 mm. Flesh yellow, seed black brown.
- PI 596677. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 62. Collected 05/01/1996 in South Africa. Latitude 25 deg. 47' 43'' S. Longitude 23 deg. 41' 55'' E. Elevation 1116 m. Bray-Tosca road (R378) 40.9km southeast of Bray in route to Tosca. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small oblate, skin yellow green, yellow-green mottle markings, no netting, fruit length 130 mm, diameter 118 mm. Flesh green, bitter, seed light brown.
- PI 596678. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 65. Collected 05/01/1996 in Cape Province, South Africa. Latitude 25 deg. 52' 31'' S. Longitude 23 deg. 56' 17'' E. Elevation 1259 m. Growing in abandoned watermelon field 71km Bray-Tosca road (R378), 3km northwest of Tosca along R378 to Terra Firma. Savanna biome, Kalahari Thorn veld, southeast cultivated slope. Fruit small oblong, skin light green, conical spine markings, no netting, fruit length 75 mm, diameter 55 mm. Flesh green, seed cell orange, seed white tan.
- PI 596679. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 66. Collected 05/02/1996 in Cape Province, South Africa. Latitude 27 deg. 15' 20'' S. Longitude 23 deg. 2' 43'' E. Elevation 1045 m. Alongside Kuruman-Hotazel road R31 to Hotazel, 52km northwest of Kuruman. Savanna biome, Kalahari Thorn veld, roadside plain. Fruit

small oblate, skin dark green, yellow-green stripe, no markings or netting, fruit length 90 mm, flesh green.

- PI 596680. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 67. Collected 05/02/1996 in Cape Province, South Africa. Latitude 27 deg. 15' 20'' S. Longitude 23 deg. 2' 42'' E. Elevation 1045 m. Alongside Kuruman-Hotazel road R31 to Hotazel, 52km northwest of Kuruman. Savanna biome, Kalahari Thorn veld, roadside plain. Fruit small globular, skin dark green with yellow-green stripe, no markings or netting, fruit length 170 mm, diameter 135 mm. Flesh green, seed dark mottled brown, seed size 10 x 5.
- PI 596681. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 71. Collected 05/02/1996 in South Africa. Latitude 27 deg. 11' 31'' S. Longitude 22 deg. 28' 23'' E. Elevation 1256 m. VanZylsru, alongside Sanstaal-Debeden road 25km south of Sanstaal to Cosa Turlberg Nature Reserve/Dedeben. Savanna biome, Kalahari Thorn veld, north roadside slope. Fruit large oblong, skin light green, conical spine markings, no netting, fruit length 120mm, diameter 100 mm. Flesh green, seed cell yellow, seed white tan, seed size 10 x 5.
- PI 596682. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 75. Collected 05/03/1996 in South Africa. Latitude 26 deg. 20' 27'' S. Longitude 20 deg. 35' 29'' E. Elevation 936 m. Roadside 16.5km north of Twee Rivieren along Mata Mata road Houmoed Windmill, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld, east roadside dune slope. Fruit small globular, skin dark green with stripe, no markings or netting, fruit length 110 mm, diameter 130 mm. Flesh green, seed white tan, seed size 10 x 6.
- PI 596683. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 77. Collected 05/03/1996 in South Africa. Latitude 26 deg. 2' 45'' S. Longitude 20 deg. 23' 38'' E. Elevation 927 m. Track 4.0km west of Twee Rivieren-Mata Mata road in route to Kamqau Pan (Rietbrak turn W) 57.5km north of Twee Rivieren in route to Kamqua Pan, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld, north dune slope. Fruit small oblong, skin light green, conical spine markings, no netting, root approximately 1.3m long. Flesh green, seed cell yellow, seed white tan.
- PI 596684. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 79. Collected 05/03/1996 in South Africa. Latitude 25 deg. 59' 23'' S. Longitude 20 deg. 23' 57'' E. Elevation 1003 m. Track 3.3km northeast of Kamqua on dune road to Dikbaardskolk, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld southwest dune slope. Mature fruit light yellow and spiny, small oblong shaped, skin light green, conical spine markings, no netting, fruit length 87 mm, diameter 70 mm. Flesh green, seed white tan, seed size 10 x 6.
- PI 596685. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 80. Collected 05/03/1996 in South Africa. Latitude 25 deg. 59' 23'' S. Longitude 20 deg. 23' 57'' E. Elevation 1003 m. Track 3.3km northeast of Kamqua on dune road to Dikbaardskolk, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld, southwest dune slope. Mature fruit light yellow and less spiny with warts, small oblong shaped, skin light green, conical spine markings, no netting, fruit length 93 mm,

diameter 70 mm. Flesh green, seed white tan, seed size 11 x 6.

- PI 596686. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 82. Collected 05/03/1996 in South Africa. Latitude 25 deg. 59' 23'' S. Longitude 20 deg. 23' 57'' E. Elevation 1003 m. Track 3.3km northeast of Kamqua on dune road to Dikbaardskolk, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld, southwest dune slope. Skin completely yellow at maturity, striping visible at maturity. Fruit small globular shaped, skin dark green with yellow-green stripe, no markings or netting, fruit length 94 mm, diameter 115mm. Flesh green, seed dark mottled brown, seed size 12 x 7.
- PI 596687. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 84. Collected 05/03/1996 in South Africa. Latitude 25 deg. 50' 24'' S. Longitude 20 deg. 28' 8'' E. Elevation 922 m. Track 23.4km northeast of Kamqua on dune road to Dikbaardskolk, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld, southwest dune slope. Fruit small globular, skin dark green with yellow-green stripe, no markings or netting, fruit length 110 mm, diameter 120 mm. Flesh green, seed dark mottled brown, seed size 10 x 6.
- PI 596688. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 85. Collected 05/03/1996 in South Africa. Latitude 25 deg. 50' 24'' S. Longitude 20 deg. 28' 8'' E. Elevation 922 m. Track 23.4km northeast of Kamqua on dune road to Dikbaardskolk, Aoub River bed. Nama-Karoo biome, Kalahari Thorn veld, southwest dune slope. Fruit small oval-elliptical, skin light green, conical spine markings, no netting, fruit length 90 mm, diameter 67 mm. Flesh green, seed cell yellow, seed white tan, seed size 11 x 7.
- PI 596689. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 87. Collected 05/03/1996 in South Africa. Latitude 25 deg. 48' 15'' S. Longitude 20 deg. 28' 30'' E. Elevation 902 m. 2km north of dune road in route to Bitter Pan (service road). Nama-Karoo biome, Kalahari Thorn veld, depression. Fruit small globular, skin dark green with yellow-green srippte, no markings or netting, fruit length 110 mm, diameter 121 mm. Flesh green, core pale yellow, seed dark mottled brown, seed size 10 x 6.
- PI 596690. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 89. Collected 05/04/1996 in South Africa. Latitude 27 deg. 5' 58'' S. Longitude 20 deg. 35' 31'' E. Elevation 902 m. Gordonias, 34.5km south of R310 T-intersection along R360 to Upington. Nama-Karoo biome, Kalahari Thorn veld, roadside dune. Fruit small oval-elliptical, skin light green, conical spine markings, no netting, fruit length 90 mm, diameter 73 mm. Flesh green, seed cell yellow, seed buff, seed size 10 x 7.
- PI 596691. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 91. Collected 05/04/1996 in South Africa. Latitude 27 deg. 8' 53'' S. Longitude 20 deg. 40' 20'' E. Elevation 762 m. Gordonias, 44.5km south of R310 T-intersection along R360 to Upington. Nama-Karoo biome, Kalahari Thorn veld, northwest roadside dune slope. Fruit small oblong, skin dark green with stripe, soft spine markings, no netting, fruit length 65 mm, diameter 30 mm. Flesh green, core yellow, seed white tan,

seed size 4 x 2.

- PI 596692. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 94. Collected 05/04/1996 in Cape Province, South Africa. Latitude 27 deg. 26' 13'' S. Longitude 20 deg. 47' 42'' E. Elevation 888 m. Approximately 128km northeast of Upington on R360 to Kalahari Gemsbok National Park. Nama-Karoo biome, Kalahari Thorn veld, roadside dune crest. Fruit small globular, skin dark green with stripe, no markings or netting, fruit length 80 mm, diameter 100 mm. Flesh green, core yellow, seed dark mottled brown, seed size 10 x 6.
- PI 596693. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 102. Collected 05/05/1996 in South Africa. Latitude 28 deg. 22' 43'' S. Longitude 22 deg. 37' 55'' E. 33.4km north of junction of Witsand-Olifantshoek roads from Groblershoop and Griquatown, Panvlei farm. 30.4km north of Witsand in route to Olifantshoek. East side of road. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small globular, skin light green, conical spine markings, no netting, fruit length 112 mm, diameter 110 mm. Flesh green, seed cell yellow, seed white tan, seed size 10 x 6.
- PI 596694. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey**  
Wild. 103. Collected 05/05/1996 in South Africa. Latitude 28 deg. 22' 43'' S. Longitude 22 deg. 37' 55'' E. 33.4km north of junction of Witsand-Olifantshoek roads from Groblershoop and Griquatown, Panvlei farm. 30.4km north of Witsand in route to Olifantshoek. West side of road. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small globular, very spiny, skin light green, conical spine markings, no netting, fruit length 115 mm, diameter 82 mm. Flesh green, seed cell yellow, seed white tan, seed size 9 x 6.
- PI 596695. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 104. Collected 05/05/1996 in South Africa. Latitude 28 deg. 22' 43'' S. Longitude 22 deg. 37' 55'' E. 33.4km north of junction of Witsand-Olifantshoek roads from Groblershoop and Griquatown, Panvlei farm. 30.4km north of Witsand in route to Olifantshoek. Savanna biome, Kalahari Thorn veld, northeast roadside slope. Fruit small globular, skin dark green with yellow-green stripe, no markings or netting, fruit length 115 mm, diameter 135 mm. Flesh green, seed white tan, seed size 10 x 6.
- PI 596696. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus***  
Wild. 112. Collected 05/06/1996 in Transvaal, South Africa. Latitude 24 deg. 38' 42'' S. Longitude 26 deg. 21' 36'' E. Elevation 990 m. 30.3 km east of R46 on the Derdepoort road. 29km northeast of Zeerust/Gaborone road to Derdepoort, 4km west of Derdepoort intersection. Savanna biome, arid sweet bush veld, north roadside slope. Fruit small globular, skin dark green with yellow-green stripe, no markings or netting, fruit length 115 mm, diameter 95 mm. Seed light to dark brown.

The following were developed by J. Joordens Zaadhandel B.V., Netherlands.  
Received 1979.

**PI 596697. *Dactylis glomerata* L.**



Cultivar. "DOLCEA". PVP 7200134.

**PI 596698. *Festuca rubra* ssp. *fallax* (Thuill.) Nyman**  
Cultivar. "JADE". PVP 7200132.

The following were developed by A.L. Tozer Ltd., United Kingdom. Received 1979.

**PI 596699. *Lactuca sativa* L.**  
Cultivar. "TANIA". PVP 7800026.

The following were developed by Crites-Moscow Growers, Inc., 212 8th, P.O. Box 8912, Moscow, Idaho 83843, United States. Received 1979.

**PI 596700. *Pisum sativum* L.**  
Cultivar. "LANCE". PVP 7900011.

The following were developed by University of Missouri., Missouri Agr. Exp Sta., Columbia, Missouri 65201, United States. Received 1979.

**PI 596701. *Festuca arundinacea* Schreb.**  
Cultivar. "MISSOURI-96". PVP 7800091; CV-15.

The following were developed by Cannors Seed Corporation, Lewisville, Idaho, United States. Received 1979.

**PI 596702. *Pisum sativum* L.**  
Cultivar. "NO. 9888 FREEZER". PVP 7800059.

The following were developed by Zelder B.V., 6595 N W, Ottersum, Netherlands. Received 1979.

**PI 596703. *Festuca rubra* ssp. *fallax* (Thuill.) Nyman**  
Cultivar. "PARITA". PVP 7800088.

The following were developed by Quali-Sel, Inc., United States. Received 1979.

**PI 596704. *Lactuca sativa* L.**  
Cultivar. "MISSION". PVP 7800084.

The following were developed by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1979.

**PI 596705. *Lactuca sativa* L.**  
Cultivar. "CRISPY". PVP 7900016.

The following were developed by Quali-Sel, Inc., United States. Received 1979.

**PI 596706. *Lactuca sativa* L.**  
Cultivar. "AMARAL 78". PVP 7800082.

The following were developed by Rogers Brothers Seed Company, P.O. Box 4727, Boise, Idaho 83711-0727, United States. Received 1979.

**PI 596707. *Pisum sativum* L.**  
Cultivar. "NOVELLA". PVP 7900044.

**PI 596708. *Pisum sativum* L.**  
Cultivar. "PARLAY". PVP 7900047.

The following were developed by A.G. Gustafson, United States. Received 1979.

**PI 596709. *Pisum sativum* L.**  
Cultivar. "KOSTA". PVP 7900049.

The following were developed by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 1979.

**PI 596710. *Lactuca sativa* L.**  
Cultivar. "COOLGUARD". PVP 7900017.

The following were developed by Sunseeds Genetics Inc., Hollister, California 95024, United States. Received 1979.

**PI 596711. *Lactuca sativa* L.**  
Cultivar. "COMMANDER". PVP 7900067.

The following were developed by Rogers Brothers Seed Company, P.O. Box 4727, Boise, Idaho 83711-0727, United States. Received 1979.

**PI 596712. *Pisum sativum* L.**  
Cultivar. "TEMPER". PVP 7900048.

The following were developed by J. Joordens Zaadhandel B.V., Netherlands. Received 1979.

**PI 596713. *Festuca rubra* ssp. *fallax* (Thuill.) Nyman**  
Cultivar. "MENUET". PVP 7100046.

The following were developed by Howard Bowman, Montana State University, Dept. of Plant & Soil Sciences, Bozeman, Montana 59717, United States. Received 03/07/1997.

**PI 596714. *Phalaris canariensis* L.**

Cultivar. Pureline. "LEWDAN". Pedigree - Selection from PI 170622. Seed yield high. Seed size large, elliptic, glossy and color varies from pale straw when immature to olive green at maturity. Seed threshes free of the lemma and palea during harvesting and conditioning. Stature short 45-60 cm, inflorescence compact. Selected for production of bird seed.

The following were collected by Shirley A. Graham, Kent State University, Dept. of Biological Sciences, Kent, Ohio 44242-0001, United States. Donated by Anson E. Thompson, USDA, ARS, 4331 E. Broadway Road, Phoenix, Arizona 85040, United States. Received 01/09/1986.

**PI 596715. *Cuphea graciliflora* Koehne**

Wild. Graham 719; AZ 0071; Ames 4860. Collected 09/01/1981 in Nayarit, Mexico. Elevation 500 m. 10 km E of Jalcocotan on road to Santa Cruz, NW of Tepic. Dense tropical deciduous thickets on slopes S of road. Floral tube varies red to red-yellow-green. Sprawling to erect.

Unknown source. Received 01/09/1986.

**PI 596716. *Cuphea glutinosa* Cham. & Schltdl.**

Ames 4924.

The following were collected by Shirley A. Graham, Kent State University, Dept. of Biological Sciences, Kent, Ohio 44242-0001, United States. Received 11/07/1988.

**PI 596717. *Cuphea heterophylla* Benth.**

Wild. S. Graham 998; Ames 9971. Collected 10/10/1988 in Mexico, Mexico. Elevation 2400 m. 7 km N of Tenancingo on Hwy 55. Pine-oak slopes. Petals varying in color from salmon red to nearly pink.

**PI 596718. *Cuphea angustifolia* Jacq. ex Koehne**

Wild. S. Graham 1006; Ames 9978. Collected 10/11/1988 in Veracruz, Mexico. Elevation 1400 m. Western town limits of Cd. Mendoza on Hwy. 55. Abundant in low, wet pasture.

The following were collected by Steven J. Knapp, Oregon State University, Department of Crop & Soil Science, Crop Science Building, 451C, Corvallis, Oregon 97331, United States. Received 01/12/1989.

**PI 596719. *Cuphea aequipetala* Cav.**

Wild. 82686322; AQ003; Ames 10114. Collected 08/26/1986 in Mexico. Elevation 2012 m. Seed collected 1 km on dirt road west off of Highway 85, 2 km north of Zimapan.

The following were donated by Gudrun M. Christenson, 1691 North Foxburrow Loop, Crystal River, Florida 32629, United States. Received 01/10/1990.

**PI 596720. *Cuphea* sp.**

Wild. Ames 12679.

The following were collected by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; G. Pedralli, Centro Internacional de Mejoramiento de Maiz y Trigo, 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 596721. *Cuphea calophylla* var. *mesostemon* (Koehne) Lourteig**  
Wild. GP-WWR 003002; BRA 002224; Ames 15473. Collected 10/29/1989 in Parana, Brazil. Latitude 25 deg. 33' S. Longitude 49 deg. 14' W. Elevation 920 m. Between zoological park & Rio Iguacu, Parque Iguacu, S. of City. Curitiba. Steep roadside at forest edge, red clays.

**PI 596722. *Cuphea calophylla* var. *mesostemon* (Koehne) Lourteig**  
Wild. GP-WWR 003018; BRA 002330; Ames 15478. Collected 11/01/1989 in Parana, Brazil. Latitude 25 deg. 26' S. Longitude 49 deg. 19' W. Elevation 920 m. Ave. Candido Hartman, near Parque Barreique in Curitiba. Curitiba. Roadside and open pasture at forest edge, sands & gravels.

**PI 596723. *Cuphea calophylla* var. *mesostemon* (Koehne) Lourteig**  
Wild. GP-WWR 003247; BRA 003816; Ames 15512. Collected 12/02/1989 in Parana, Brazil. Latitude 26 deg. 7' S. Longitude 50 deg. 48' W. Elevation 815 m. 52 km NW Uniao da Vitoria toward Mateus do Sul. Fluvioipolis. Roadside, mixed vegetation, gravels.

The following were collected by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; G. Pedralli, EMBRAPA-CENARGEN, 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 596724. *Cuphea glutinosa* Cham. & Schltldl.**  
Wild. GP-WWR 003118; BRA 002895; Ames 15580. Collected 11/14/1989 in Santa Catarina, Brazil. Latitude 28 deg. 10' S. Longitude 49 deg. 43' W. Elevation 1080 m. 3 km NE Perico at Lanchonette-Bar Crivulo Tuinego. Perico. Roadside into steep pasture, vegetation open to moderate, soils sandy-rocky.

**PI 596725. *Cuphea glutinosa* Cham. & Schltldl.**  
Wild. GP-WWR 003156; BRA 003093; Ames 15585. Collected 11/19/1989 in Rio Grande do Sul, Brazil. Latitude 29 deg. 53' S. Longitude 50 deg. 43' W. Elevation 40 m. 37 km W Santa Antonio exit from BR290 toward Porto Alegre. Cachoeirinha. Roadside gravel, 1 m from pavement.

**PI 596726. *Cuphea glutinosa* Cham. & Schltldl.**  
Wild. GP-WWR 003158; BRA 003107; Ames 15586. Collected 11/19/1989 in Rio Grande do Sul, Brazil. Latitude 29 deg. 57' S. Longitude 51 deg. 6' W. Elevation 20 m. 15 km E Porto Alegre on BR290. Porto Alegre. Near bridge, growing between concrete slabs on abutment.

- PI 596727. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003162; BRA 003158; Ames 15587. Collected 11/22/1989 in Rio Grande do Sul, Brazil. Latitude 29 deg. 34' S. Longitude 50 deg. 45' W. Elevation 320 m. 10 km NW Taquara toward Sao Fransico de Paula. Taquara. Roadside ditch, gravels.
- PI 596728. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003163; BRA 003166; Ames 15588. Collected 11/22/1989 in Rio Grande do Sul, Brazil. Latitude 29 deg. 27' S. Longitude 50 deg. 40' W. Elevation 675 m. 33 km NW Taquara toward Sao Fransisco da Paula. Sao Fransisco da Paula. Roadside area, in compacted gravel & asphalt chunks.
- PI 596729. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003165; BRA 003174; Ames 15589. Collected 11/23/1989 in Rio Grande do Sul, Brazil. Latitude 29 deg. 18' S. Longitude 51 deg. 20' W. Elevation 285 m. 10 km SW Farroupilha between Sao Sebastiao do Cai & Farroupilha. Farroupilha. Roadside grassy area, gravels.
- PI 596730. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003184; BRA 003301; Ames 15595. Collected 11/27/1989 in Rio Grande do Sul, Brazil. Latitude 28 deg. 12' S. Longitude 50 deg. 46' W. Elevation 685 m. BR116 at Rio Pelotas between Vacaria & Lages at border. Rio Pelotas. Roadside to along river bank.
- PI 596731. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003228; BRA 003662; Ames 15603. Collected 12/01/1989 in Santa Catarina, Brazil. Latitude 27 deg. 3' S. Longitude 50 deg. 28' W. Elevation 1025 m. 15 km N Ponte Alta do Norte on BR116. Ponte Alta do Norte. Roadside area, mixed vegetation, clay loams.
- PI 596732. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003232; BRA 003701; Ames 15604. Collected 12/01/1989 in Santa Catarina, Brazil. Latitude 27 deg. 1' S. Longitude 50 deg. 30' W. Elevation 1180 m. 9 km W inters. BR116 & rd. to Lebon Regis. Santa Cecilia. Open grassland, moderate slope, clay loams.

The following were collected by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; G. Pedralli, EMBRAPA-CENARGEN, Brasilia, Federal District, Brazil. Donated by L. Coradin, Centro Nacional de Recursos Geneticos, Empresa Brasileira de Pesquisa, Agropecuaria, CEP 70.000, Brasilia, Federal District, Brazil. Received 05/06/1991.

- PI 596733. *Cuphea glutinosa* Cham. & Schltddl.**  
 Wild. GP-WWR 003272; BRA 004022; Ames 15678. Collected 12/06/1989 in Parana, Brazil. Latitude 24 deg. 45' S. Longitude 50 deg. 0' W. Elevation 1030 m. 57 km N Ponte Grossa toward Jaguariaiva on PR151. Pirai do Sul. Open grassland to drained wetlands, clays.

The following were collected by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, 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, United States; Campos. Received 09/30/1991.

**PI 596734. *Cuphea schumannii* Koehne**

Wild. WR-AC 3503; Ames 17783. Collected 09/11/1991 in Oaxaca, Mexico. Latitude 18 deg. 8' N. Longitude 97 deg. 52' W. Elevation 126 m. 55.8 km ENE Teotitlan toward Huautla on Mex 182. Steep rocky roadside. Both sides of road extending up several m above road.

The following were collected by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, 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, United States. Received 09/30/1991.

**PI 596735. *Cuphea wrightii* A. Gray var. *wrightii***

Wild. WR-AC 3506; Ames 17786. Collected 09/12/1991 in Oaxaca, Mexico. Latitude 17 deg. 51' N. Longitude 96 deg. 51' W. Elevation 209 m. 21.3 km ENE San Juan Bautista Cuicatlan toward Concepcion Papalo. Along level roadside area to above switch back. Rocky clay loam. Along level roadside area to above switch back.

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, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

**PI 596736. *Cuphea lanceolata* W. T. Aiton**

Wild. RWCF 27; Ames 21536. Collected 10/05/1993 in Guanajuato, Mexico. Latitude 21 deg. 15' N. Longitude 100 deg. 18' W. Elevation 1880 m. Approx. 6.5 km SE La Canada de Moreno. Near La Canada de Moreno. Brushy pasture. Rocky, black clay loam. Assoc. *Tithonia*, *Zinnia peruviana*, *Tagetes*, *Ipomoea*,. Large scattered.

**PI 596737. *Cuphea lanceolata* W. T. Aiton**

Wild. RWCF 29; Ames 21537. Collected 10/06/1993 in Guanajuato, Mexico. Latitude 20 deg. 52' N. Longitude 100 deg. 51' W. Elevation 2050 m. Approx. 1.7 km SW intersection road to Guanajuato from Presa Allende. Unimproved road 6.4 km NW Presa Allende. Extends to below collection site of Ames 21547. Near Canada de La Virgen. Shrubby dry pasture. Soil rocky clay. Assoc. species *Cuphea wrightii*, *Zinnia bicolor*, *Opuntia*, *Veronia*, *Rhus*, woody composites. Population very small. Lower petals edged w/ light purple.

**PI 596738. *Cuphea lanceolata* W. T. Aiton**

Wild. RWCF 37; Ames 21538. Collected 10/07/1993 in Queretaro, Mexico. Latitude 20 deg. 23' N. Longitude 99 deg. 56' W. Elevation 2020 m. Edge of abandoned field 100 m S of rd. 6.1 km E hwy 120 on rd. to Cerro Gordo from San Juan del Rio. Near San Juan del Rio. Soil sandy. Assoc. species Tagetes, Sanvitalia procumbens, Gnaphalium, Tithonia. Population small.

The following were developed by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Germany. Donated by Myra Manoah, Ministry of Agriculture, The Volcani Center, The Israel Gene Bank for Agricultural Crops, Bet Dagan, Israel. Received 06/27/1994.

**PI 596739. *Cuphea viscosissima* Jacq.**  
Cultivated. Israel Gene Bank #56-356; Ames 22118.

The following were collected by Jardin Botanique de la Ville, 1 Avenue Albert-Premier, Dijon, France. Donated by Myra Manoah, Ministry of Agriculture, The Volcani Center, The Israel Gene Bank for Agricultural Crops, Bet Dagan, Israel. Received 06/27/1994.

**PI 596740. *Cuphea viscosissima* Jacq.**  
Cultivated. Israel Gene Bank #56-269; Ames 22119. Collected in France.

The following were developed by Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Lab., P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 03/12/1997.

**PI 596741. *Helianthus annuus* L.**  
Breeding. Population. Rf ANN-19. GP-197. Pedigree - cms 89\*2 (*Helianthus annuus*)/ANN-19 (*H. annuus*) F2. Plants 86% single-headed, height 93 cm. Flowering (50%) 70 days after planting, self-compatibility (seed set under bags) 40%, viable pollen staining 98%, 100 seed weight 4.6 g, test weight 425 kg/m<sup>3</sup>, and oil content 454 g/kg. Interspecific hybrid. See pedigree for species.

**PI 596742. *Helianthus annuus* L.**  
Breeding. Population. Rf ANN-48. GP-198. Pedigree - cms HA 89\*2 (*Helianthus annuus*)/ANN-48 (*H. annuus*) F2. Plants 93% single-headed, height 82 cm. Flowering (50%) 68 days after planting, self-compatibility (seed set under bags) 65%, viable pollen staining 96%, 100 seed weight 5.3 g, test weight 386 kg/m<sup>3</sup>, and oil content 489 g/kg. Interspecific hybrid. See pedigree for species.

**PI 596743. *Helianthus annuus* L.**  
Breeding. Population. Rf ANN-783. GP-199. Pedigree - cms HA 89\*2 (*Helianthus annuus*)/ANN-783 (*H. annuus*) F2. Plants 76% single-headed, height 82 cm. Flowering (50%) 69 days after planting, self-compatibility (seed set under bags) 71%, viable pollen staining 98%, 100 seed weight 6.5 g, test weight 360 kg/m<sup>3</sup>, and oil content 428 g/kg. Interspecific hybrid. See pedigree for species.

- PI 596744. *Helianthus annuus* L.**  
Breeding. Population. Rf ANN-892. GP-200. Pedigree - cms HA 89\*2  
(*Helianthus annuus*)/ANN-892 (*H. annuus*) F2. Plants 86% single-headed,  
height 90 cm. Flowering (50%) 71 days after planting, self-compatibility  
(seed set under bags) 89%, viable pollen staining 97%, 100 seed weight  
6.2 g, test weight 451 kg/m<sup>3</sup>, and oil content 443 g/kg. Interspecific  
hybrid. See pedigree for species.
- PI 596745. *Helianthus annuus* L.**  
Breeding. Population. Rf ANN-1064. GP-201. Pedigree - cms HA 89\*2  
(*Helianthus annuus*)/ANN-1064 (*H. annuus*) F2. Plants 90% single-headed,  
height 85 cm. Flowering (50%) 70 days after planting, self-compatibility  
(seed set under bags) 78%, viable pollen staining 96%, 100 seed weight  
5.6 g, test weight 386 kg/m<sup>3</sup>, and oil content 440 g/kg. Interspecific  
hybrid. See pedigree for species.
- PI 596746. *Helianthus annuus* L.**  
Breeding. Population. Rf ANN-1742. GP-202. Pedigree - cms HA 89\*2  
(*Helianthus annuus*)/ANN-1742 (*H. annuus*) F2. All plants single-headed,  
height 74 cm. Flowering (50%) 74 days after planting. Self-compatibility  
(seed set under bags) 56%, viable pollen staining 97%, 100 seed weight  
5.5 g, test weight 386 kg/m<sup>3</sup>, and oil content 411 g/kg. Interspecific  
hybrid. See pedigree for species.
- PI 596747. *Helianthus annuus* L.**  
Breeding. Population. Rf ARG-420. GP-203. Pedigree - cms HA 89\*2  
(*Helianthus annuus*)/ARG-420 (*H. argophyllus*) F2. All plants  
single-headed, height 71 cm. Flowering (50%) 71 days after planting,  
self-compatibility (seed set under bags) 50%, viable pollen staining  
98%, 100 seed weight 4.6 g, test weight 425 kg/m<sup>3</sup>, and oil content 486  
g/kg. Interspecific hybrid. See pedigree for species.
- PI 596748. *Helianthus annuus* L.**  
Breeding. Population. Rf ARG-1575. GP-204. Pedigree - cms HA 89\*2  
(*Helianthus annuus*)/ARG-1575 (*H. argophyllus*) F2. Plants 82%  
single-headed, height 72 cm. Flowering (50%) 72 days after planting,  
self-compatibility (seed set under bags) 54%, viable pollen staining  
97%, 100 seed weight 5.0 g, test weight 354 kg/m<sup>3</sup>, and oil content 458  
g/kg. Interspecific hybrid. See pedigree for species.
- PI 596749. *Helianthus annuus* L.**  
Breeding. Population. Rf PRA-417. GP-205. Pedigree - cms 89\*2  
(*Helianthus annuus*)/PRA-417 (*H. praecox* ssp. *runyonii*) F2. Plants 89%  
single-headed, height 72 cm. Flowering (50%) 72 days after planting,  
self-compatibility (seed set under bags) 53%, viable pollen staining  
95%, 100 seed weight 6.3 g, test weight 451 kg/m<sup>3</sup>, and oil content 453  
g/kg. Interspecific hybrid. See pedigree for species.
- PI 596750. *Helianthus annuus* L.**  
Breeding. Population. Rf TUB-346. GP-206. Pedigree - cms HA 89\*2  
(*Helianthus annuus*)/TUB-346 (*H. tuberosus*) F2. Plants 94% single-headed,  
height 70 cm. Flowering (50%) 70 days after planting, self-compatibility  
(seed set under bags) 77%, viable pollen staining 95%, 100 seed weight  
4.2 g, test weight 386 kg/m<sup>3</sup>, and oil content 474 g/kg. Interspecific  
hybrid. See pedigree for species.



The following were developed by Mark Uebersax, Michigan State University, 135 Food Science Building, East Lansing, Michigan 48824-1224, United States; George L. Hosfield, USDA, ARS, Michigan State University, Department of Crop & Soil Science, East Lansing, Michigan 48824, United States; Jim Kelly, Michigan State University, Department of Crop & Soil Science, East Lansing, Michigan 48824, United States; Greg Varner, Dry Edible Bean Research, Advisory Board, 3066 S. Thomas Road, Saginaw, Michigan 48603, United States; J. Taylor, Michigan State University, Dept. of Crop and Soil Sci., East Lansing, Michigan 48824, United States; R.A. Long, County Extension, 151 E. Huron Avenue, Rogers City, Michigan 49779, United States. Received 02/18/1997.

**PI 596751. Phaseolus vulgaris L.**

Cultivar. Pureline. "RED HAWK". CV-144. Pedigree - Charlevoix/Montcalm//Montcalm. Determinate bush variety with plants averaging 51cm in height. Equivalent to Montcalm in lodging resistance and flower color. Full-season maturing 99 d after planting and 5 d earlier than Montcalm. Outyields Montcalm by 5%. Resistant to rust, bean common mosaic virus and to all known North American races of anthracnose, similar to Isles. Equivalent to Montcalm in tolerance to Minnesota isolates of halo blight, and common blight. Susceptible to Michigan root rot isolates. Exhibits superior canning quality equivalent to Montcalm.

The following were developed by Glenn R. Buss, Virginia Polytechnic Institute, and State University, Virginia Agr. Exp. Sta., Blacksburg, Virginia 24061-0404, United States; G. Ma, Virginia Polytechnic Institute and State University, Dept. of Crop and Soil Environmental Sciences, Blacksburg, Virginia 24061, United States; P. Chen, Virginia Polytechnic Institute and State University, Dept. of Crop and Soil Environmental Sciences, Blacksburg, Virginia 24061, United States; S. A. Tolin, Virginia Polytechnic Institute and State University, Dept. of Crop and Soil Sciences, Blacksburg, Virginia 24061, United States. Received 03/14/1997.

**PI 596752. Glycine max (L.) Merr.**

Breeding. Pureline. V94-5152. GP-185. Pedigree - Essex X PI 486355. Maturity group V, maturing about one day later than Hutcheson. Plant height about 80cm. Released as germplasm because it contains a gene that confers total resistance to soybean mosaic virus strains G1 through G7. The gene is at a locus that has not been reported and does not appear to be present in any U.S. cultivars. Growth habit determinate. Flowers purple, pubescence gray, and pod walls brown. Seeds dull yellow with imperfect black hila.

The following were developed by Hague-Igloo Vegetable Seeds, Inc., United States. Received 03/25/1997.

**PI 596753. Phaseolus vulgaris L.**

Cultivar. "IGLOO"; P.L.S. 77. PVP 9700133.

The following were developed by H & H Seed Company, Inc., United States.  
Received 03/25/1997.

**PI 596754. *Cynodon dactylon* (L.) Pers.**  
Cultivar. "MAJESTIC". PVP 9700134.

The following were developed by University of Minnesota, Minnesota Agr. Exp. Sta., St. Paul, Minnesota 55108, United States. Received 03/25/1997.

**PI 596755. *Avena sativa* L.**  
Cultivar. "JIM". PVP 9700135.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 03/25/1997.

**PI 596756. *Lactuca sativa* L.**  
Cultivar. "BAJA". PVP 9700136.

**PI 596757. *Lactuca sativa* L.**  
Cultivar. "RED TIDE". PVP 9700137.

The following were developed by B.R. Wells, University of Arkansas, Department of Agronomy, 115 Plant Sci. Bldg., Fayetteville, Arkansas 72701, United States; Karen A.K. Moldenhauer, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; Fleet N. Lee, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; John Bernhardt, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; Robert H. Dilday, USDA, ARS, Rice Research & Extension Center, P.O. Box 287, Stuttgart, Arkansas 72160, United States; Kenneth Gravois, University of Arkansas, Agricultural Experiment Station, P.O. Box 351, Stuttgart, Arkansas 72160, United States; M.M. Blocker, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; P.C. Rohman, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; R.J. Norman, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; T.A. McMinn, University of Arkansas, Rice Res. & Ext. Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States. Received 03/25/1997.

**PI 596758. *Oryza sativa* L.**  
Cultivar. Pureline. "DREW"; RU9201176. CV-108; PVP 9700138. Pedigree - Newbonnet/Katy. Released 1996. Resistant to rice blast (*Pyricularia grisea*), races 1B-1, 1B-45, 1B-49, 1B-54, 1C-17, 1E-1, 1G-1, and 1H-1 rating a 1, 1, 2, 1, 2, 0, 1 and 1, respectively, on a disease scale 0=least susceptible, 9=most susceptible. Similar height and maturity to parents Newbonnet and Katy. Plants have erect culms, green erect flag leaves and glabrous lemma, palea and leaf blades. Kernels straw colored with colorless to purple apiculi which fades at maturity.

The following were developed by Novartis Seeds, Inc., United States. Received

03/25/1997.

**PI 596759. *Medicago sativa* L.**  
Cultivar. "RAINIER". PVP 9700139.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 03/25/1997.

**PI 596760. *Gossypium hirsutum* L.**  
Cultivar. "PM 2200 RR". PVP 9700140.

**PI 596761. *Gossypium hirsutum* L.**  
Cultivar. "PM 2326 RR". PVP 9700141.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449, Hubbard, Oregon 97032, United States. Received 03/25/1997.

**PI 596762. *Lolium perenne* L.**  
Cultivar. "CITATION III". PVP 9700142.

**PI 596763. *Lolium perenne* L.**  
Cultivar. "PST-2DLM". PVP 9700143.

The following were developed by Sure-Grow Seed, Inc., United States. Received 03/25/1997.

**PI 596764. *Gossypium hirsutum* L.**  
Cultivar. "SURE-GROW 821". PVP 9700144.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 03/25/1997.

**PI 596765. *Lactuca sativa* L.**  
Cultivar. "NERO". PVP 9700145.

**PI 596766. *Lactuca sativa* L.**  
Cultivar. "ROMO". PVP 9700146.

The following were developed by Pennsylvania State University, Pennsylvania Agricultural Experiment Station, State College, Pennsylvania, United States. Received 03/25/1997.

**PI 596767. *Agrostis stolonifera* var. *palustris* (Huds.) Farw.**  
Cultivar. "PENN G-1". PVP 9700147.

The following were developed by Harris Moran Seed Company, United States. Received 03/25/1997.

**PI 596768. *Lactuca sativa* L.**

Cultivar. "ALPHA II". PVP 9700148.

**PI 596769. *Lactuca sativa* L.**  
Cultivar. "LOBOS". PVP 9700149.

The following were developed by South Dakota State University, Dept. of Horticulture and Forestry, Brookings, South Dakota 57007, United States. Received 03/25/1997.

**PI 596770. *Triticum aestivum* L., nom. cons.**  
Cultivar. "OXEN". PVP 9700150.

The following were developed by J.G. Boswell Company, Cottonseed Breeding, United States. Received 03/25/1997.

**PI 596771. *Gossypium hirsutum* L.**  
Cultivar. "PHYTOGEN 33-ACALA". PVP 9700152.

The following were developed by DeKalb-Pfizer Genetics, United States. Received 03/25/1997.

**PI 596772. *Zea mays* L. ssp. *mays***  
Cultivar. "FEBS". PVP 9700153.

**PI 596773. *Zea mays* L. ssp. *mays***  
Cultivar. "F361". PVP 9700154.

**PI 596774. *Zea mays* L. ssp. *mays***  
Cultivar. "NL085B". PVP 9700155.

**PI 596775. *Zea mays* L. ssp. *mays***  
Cultivar. "SNBK". PVP 9700156.

**PI 596776. *Zea mays* L. ssp. *mays***  
Cultivar. "01CSI6". PVP 9700157.

**PI 596777. *Zea mays* L. ssp. *mays***  
Cultivar. "17DHD12". PVP 9700158.

**PI 596778. *Zea mays* L. ssp. *mays***  
Cultivar. "17DHD5". PVP 9700159.

**PI 596779. *Zea mays* L. ssp. *mays***  
Cultivar. "17DIA1". PVP 9700160.

**PI 596780. *Zea mays* L. ssp. *mays***  
Cultivar. "17IKI3". PVP 9700161.

**PI 596781. *Zea mays* L. ssp. *mays***  
Cultivar. "29MIFI2". PVP 9700162.

**PI 596782. *Zea mays* L. ssp. *mays***

- Cultivar. "3INI2". PVP 9700163.
- PI 596783. *Zea mays* L. **ssp. mays**  
Cultivar. "3ISI2". PVP 9700164.
- PI 596784. *Zea mays* L. **ssp. mays**  
Cultivar. "4IBZ1A". PVP 9700165.
- PI 596785. *Zea mays* L. **ssp. mays**  
Cultivar. "79103A1". PVP 9700166.
- PI 596786. *Zea mays* L. **ssp. mays**  
Cultivar. "90DJD28". PVP 9700167.
- PI 596787. *Zea mays* L. **ssp. mays**  
Cultivar. "91CSI-1". PVP 9700168.
- PI 596788. *Zea mays* L. **ssp. mays**  
Cultivar. "91INH2". PVP 9700169.

The following were developed by Idaho Seed Bean Company, Inc., Idaho, United States. Received 03/25/1997.

- PI 596789. *Phaseolus vulgaris* L.  
Cultivar. "PINATA". PVP 9700171.

The following were developed by DeKalb-Pfizer Genetics, United States. Received 03/25/1997.

- PI 596790. *Glycine max* (L.) Merr.  
Cultivar. "CX292C". PVP 9700172.
- PI 596791. *Glycine max* (L.) Merr.  
Cultivar. "CX373". PVP 9700173.
- PI 596792. *Glycine max* (L.) Merr.  
Cultivar. "CX420C". PVP 9700174.
- PI 596793. *Glycine max* (L.) Merr.  
Cultivar. "CX470C". PVP 9700175.
- PI 596794. *Glycine max* (L.) Merr.  
Cultivar. "CX235C". PVP 9700176.
- PI 596795. *Glycine max* (L.) Merr.  
Cultivar. "CX132". PVP 9700177.
- PI 596796. *Glycine max* (L.) Merr.  
Cultivar. "CX205". PVP 9700178.
- PI 596797. *Glycine max* (L.) Merr.  
Cultivar. "CX363". PVP 9700179.

**PI 596798. *Glycine max* (L.) Merr.**  
Cultivar. "CX339C". PVP 9700180.

The following were developed by Garst Seed Company, United States. Received 03/25/1997.

**PI 596799. *Zea mays* L. ssp. *mays***  
Cultivar. "ZS01602". PVP 9700181.

The following were developed by University of Florida, Florida Agr. Exp. Sta., Department of Agronomy, Gainesville, Florida 32611, United States. Received 03/25/1997.

**PI 596800. *Arachis hypogaea* L.**  
Cultivar. "SunOleic 97R". PVP 9700182.

The following were developed by Svalof Weibull AB, Sweden. Received 03/25/1997.

**PI 596801. *Avena sativa* L.**  
Cultivar. "TRIPLE CROWN". PVP 9700183.

The following were developed by Harris Moran Seed Company, United States. Received 03/25/1997.

**PI 596802. *Lactuca sativa* L.**  
Cultivar. "CYPRESS". PVP 9700184.

The following were developed by Seed Source, Inc., United States. Received 03/25/1997.

**PI 596803. *Gossypium hirsutum* L.**  
Cultivar. "CONDOR". PVP 9700185.

The following were developed by University of Wisconsin, Wisconsin Agr. Exp. Station, Madison, Wisconsin, United States. Received 03/25/1997.

**PI 596804. *Avena sativa* L.**  
Cultivar. "GEM". PVP 9700186.

The following were donated by Virginia Walbot, Stanford University, Department of Biological Sciences, Stanford, California 94305-5020, United States. Received 01/25/1990.

**PI 596805. *Oryza sativa* L.**  
Genetic. FAMILY 14; F 00219. Genes pur apiculus stigma semi-tall.  
Nucbkgd sativa offi cytoplasm sativa exp. anthocyanin.

The following were donated by Fleet N. Lee, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States. Received 01/24/1990.

**PI 596806. *Oryza sativa* L.**

Cultivar. "DIAMANTE"; F 00273; 2717. Developed in Chile.

The following were developed by S.S. Virmani, International Rice Research Institute, Los Banos, Laguna, Manila, Luzon, Philippines. Received 10/19/1990.

**PI 596807. *Oryza sativa* L.**

Breeding. IR62829A; F 658.

The following were donated by Ruth Marie Moore, Casilla 237, Loja, Loja, Ecuador. Received 05/08/1991.

**PI 596808. *Oryza sativa* L.**

Landrace. Tropical Rice; F 891. Collected in Ecuador. Elevation 1000 m. Local variety.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 07/05/1991.

**PI 596809. *Oryza sativa* L.**

Cultivar. IRRI 55491; "DEOKJEOKJODO"; BE 3499; F 1236. Developed in Korea, South.

The following were collected by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 07/05/1991.

**PI 596810. *Oryza sativa* L.**

Cultivated. IRRI 5075; SHORT GRAIN; BE 3499; F 1003; NSGC 1527. Collected in Thailand.

**PI 596811. *Oryza sativa* L.**

Cultivated. IRRI 10969; "ROJOFOTSY 738"; BE 3499; F 1100; NSGC 1574. Collected in Madagascar.

**PI 596812. *Oryza sativa* L.**

Cultivated. IRRI 11000; "AVO 742"; BE 3499; F 1103; NSGC 1577. Collected in Madagascar.

The following were donated by N.I. Vavilov All-Russian Scientific Res., Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Russian Federation. Received 06/02/1992.

**PI 596813. *Oryza sativa* L.**

Cultivated. WIR 3419; BE-3789; Q 29023B. Collected in Azerbaijan.

**PI 596814. *Oryza sativa* L.**

Cultivated. 36 5070; BE-3789; Q 29040B. Collected in Afghanistan.

The following were donated by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/05/1992.

**PI 596815. *Oryza sativa* L.**

Cultivated. 376; BE-4102; Q 29153. Collected in Cambodia.

The following were donated by Bhuwon Sthapit, Lumle Agricultural Centre, P.O. Box No.1, Pokhara, Anchal, Nepal. Received 07/17/1992.

**PI 596816. *Oryza sativa* L.**

Cultivar. "JUMLI MARSHI"; BE-4158; Q 29199. Developed in Nepal. Cold tolerant Nepalese indigenous variety.

**PI 596817. *Oryza sativa* L.**

Cultivar. "SETO BHAKUNDE"; BE-4150; Q 29208B. Developed in Nepal. Highly cold tolerant, inbred lines. Source = Lumle Agric. Centre.

**PI 596818. *Oryza sativa* L.**

Cultivar. "BHIM DHAN"; BE-4150; Q 29210B. Developed in Nepal. Moderately cold tolerant, inbred lines. Source = Pakhribas Agric. Centre.

**PI 596819. *Oryza sativa* L.**

Cultivar. "BHATTE"; BE-4150; Q 29211B. Developed in Nepal. Cold tolerant, inbred lines. Source = Lumle Agric. Centre.

**PI 596820. *Oryza sativa* L.**

Cultivar. "SABITRI"; BE-4150; Q 29216. Developed in Nepal. Highly cold susceptible, inbred lines. Source = Lumle Agric. Centre.

**PI 596821. *Oryza sativa* L.**

Cultivar. "KHUMAL-4"; BE-4150; Q 29217. Developed in Nepal. Moderately cold tolerant, inbred lines. Source = Central Div. of Plant Breeding & Biotechnology.

**PI 596822. *Oryza sativa* L.**

Cultivar. "KHUMAL-5"; BE-4150; Q 29218. Developed in Nepal. Cold tolerant, inbred lines. Source = Central Div. of Plant Breeding & Biotechnology.

**PI 596823. *Oryza sativa* L.**

Cultivar. "KHUMAL-9"; BE-4150; Q 29220. Developed in Nepal. Cold tolerant, inbred lines. Source = Central Div. of Plant Breeding & Biotechnology.

**PI 596824. *Oryza sativa* L.**

Cultivar. "KALO"; BE-4150; Q 29228. Developed in Nepal. Inbred line. Source = Lumle Agric. Centre.



- PI 596825. *Oryza sativa* L.**  
Cultivar. "RADHA-9"; BE-4150; Q 29230. Developed in Nepal. Cold susceptible, inbred line. Source = National Rice Research Programme.
- PI 596826. *Oryza sativa* L.**  
Cultivar. "RADHA-7"; BE-4150; Q 29231. Developed in Nepal. Cold susceptible, inbred line. Source = National Rice Research Programme.
- PI 596827. *Oryza sativa* L.**  
Cultivated. IR-44595; BE-4150; Q 29233. Collected in Nepal. Moderately cold susceptible, inbred line. Source = Lumle Agric. Centre.
- PI 596828. *Oryza sativa* L.**  
Cultivated. NR-10163; BE-4150; Q 29237. Collected in Nepal. Moderately cold tolerant, inbred line. Source = Central Div. of Plant Breeding & Biotechnology.
- PI 596829. *Oryza sativa* L.**  
Cultivated. NR-13155; BE-4150; Q 29239. Collected in Nepal. Moderately cold susceptible, inbred line. Source = Lumle Agric. Centre.
- PI 596830. *Oryza sativa* L.**  
Cultivar. "KALO DHAN"; BE-4150; Q 29243. Developed in Nepal. Cold susceptible, inbred line. Source = Lumle Agric. Centre.
- PI 596831. *Oryza sativa* L.**  
Cultivar. "RABIJA"; BE-4150; Q 29245. Developed in Nepal. Moderately cold tolerant, inbred line. Source = Lumle Agric. Centre.

The following were developed by National Rice Research Centre, Strada Percetto 27030, Castello D'Arogn, Italy. Received 07/29/1992.

- PI 596832. *Oryza sativa* L.**  
Cultivar. "ARBORIO PRECOCE"; BE-4116; Q 29255. Cultivar name means 'Early Rice'.
- PI 596833. *Oryza sativa* L.**  
Cultivar. "GRALDO"; BE-4116; Q 29270.

The following were donated by N.I. Vavilov All-Russian Scientific Res. Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Russian Federation. Received 09/25/1992.

- PI 596834. *Oryza sativa* L.**  
Cultivar. WIR 7648; "DAL'RIS 7"; BE-4264; Q 29430. Developed in Russian Federation. Labelled '*Oryza sativa* L. v. *italica*'.
- PI 596835. *Oryza sativa* L.**  
Cultivar. WIR 6778; "DAL'RIS 13"; BE-4268; Q 29431. Developed in Russian Federation. Labelled '*Oryza sativa* L. v. *italica*'.
- PI 596836. *Oryza sativa* L.**  
Cultivar. WIR-8556; "DARIJ 8"; BE-4264; Q 29432. Developed in Russian

Federation.

**PI 596837. *Oryza sativa* L.**

Cultivar. WIR 3959; "PRIMORSKIJ 7"; BE-4264; Q 29433A. Developed in Russian Federation. Labelled '*Oryza sativa* L. v. *vulgaris*'.

**PI 596838. *Oryza sativa* L.**

Breeding. WIR 3962; SUBJANTOCEROS 12187; BE-4264; Q 29434. Developed in Russian Federation. Labelled '*Oryza sativa* L. v. *subjanthoceros*'.

The following were donated by National Scientific Committee of China, Beijing, China. Received 11/02/1992.

**PI 596839. *Oryza sativa* L.**

Cultivar. "TE QING NO. 2"; 1; BE-4308; Q 29459. Developed in China.

**PI 596840. *Oryza sativa* L.**

Cultivar. "GUANG LU AI NO. 4"; 2; BE-4308; Q 29460. Developed in China.

**PI 596841. *Oryza sativa* L.**

Cultivar. "TIE GU AI NO. 31"; 3; BE-4308; Q 29461. Developed in China.

The following were collected by International Rice Research Institute, Cambodia Project, Cambodia. Donated by Don Groth, Rice Research Station, Louisiana State University, Agric. Exp. Station, P.O. Box 1429, Crowley, Louisiana 70429-1429, United States. Received 02/11/1993.

**PI 596842. *Oryza glaberrima* Steud.**

Landrace. IRRI 102557; DG84117; Q 29692. Collected in Liberia. Latitude 7 deg. 45' 0'' N. Longitude 10 deg. 0' 0'' W. Gissi, Chaysenei, Lofa County.

The following were developed by International Rice Research Institute, Cambodia Project, Cambodia. Donated by Paul A. Counce, University of Arkansas, Northeast Research & Extension Center, P.O. Box 48, Keiser, Arkansas 72351, United States. Received 02/18/1993.

**PI 596843. *Oryza sativa* L.**

Breeding. R92-3097-1; 82 GF SUGARY; Q 29748.

**PI 596844. *Oryza sativa* L.**

Breeding. R92-3098-1; EM5 SUGARY; Q 29749.

**PI 596845. *Oryza sativa* L.**

Breeding. R92-3099-1; EM20 SHRUNKEN-1S; Q 29750.

The following were donated by Reinmar Tejeira, Universidad de Panama, Department of Agricultural Sciences, PSC # 7 Box 284, Apo Aa, Panama. Received 04/14/1993.

**PI 596846. *Oryza sativa* L.**

Cultivar. "IDIAP-863"; BE-4616; Q 30459. Developed in Panama. Pedigree - Pedigree for 'S-863-117' = IR8/PK203. This pedigree enclosed with IDIAP-863. Long grain, yield Kg/ha 6442, milling % head-total 68-72, good seedling vigor, days to 5% heading 93, height 108 cm. Resistant to lodging. Mod. resistant to Blast, Sheath Blight, and Narrow Br. Leaf Spot. Mod. susceptible to Brown Leaf Spot.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596847. *Oryza sativa* L.**

Breeding. AS13744; REP. I PLOT NO. 101; BE-4872; Q 32057. Developed in India. 63 days to heading. 101 cm plant height. 3 pacp at maturity.

**PI 596848. *Oryza sativa* L.**

Breeding. BG850-2; REP. I PLOT. NO. 103; BE-4872; Q 32059. Developed in Sri Lanka. Pedigree - BG380/BG367-4. 83 days to heading, 101 cm plant height. 3 pacp at maturity.

**PI 596849. *Oryza sativa* L.**

Breeding. BR4608-R1-R2-R3; REP. I PLOT. NO. 104; BE-4872; Q 32060. Developed in Bangladesh. Pedigree - TPI/IR19746-26-2-3-3-2. 75 days to heading. 129 cm plant height. 3 pacp at maturity.

**PI 596850. *Oryza sativa* L.**

Breeding. IET11754; REP. I PLOT NO. 106; BE-4872; Q 32062. Developed in India. Pedigree - IR29/Ngoba. 87 days to heading. 114 cm plant height. 3 pacp at maturity.

The following were developed by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596851. *Oryza sativa* L.**

Breeding. IR19670-263-3-2-2-1; REP. I PLOT NO. 107; BE-4872; Q 32063. Pedigree - R.Heenati/4\*IR4432-53-3. 90 days to heading. 105 cm plant height. 3 pacp at maturity.

**PI 596852. *Oryza sativa* L.**

Breeding. IR49457-33-1-2-2-2; REP. I PLOT NO. 108; BE-4872; Q 32064. Pedigree - IR18348-36-3-3/IR34679-7-2//IR29723-143-3-2-1. 88 days to heading. 89 cm plant height. 3 pacp at maturity.

**PI 596853. *Oryza sativa* L.**

Breeding. IR53301-133-1-1-2; REP. I PLOT NO. 109; BE-4872; Q 32065. Pedigree - IR24632-34-2/IR28224-3-2-3-2. 89 days to heading. 108 cm plant height. 3 pacp at maturity.

**PI 596854. *Oryza sativa* L.**

Breeding. IR53970-74-1-2-1; REP. I PLOT NO. 110; BE-4872; Q 32066. Pedigree - IR31906-67-1-1-2-2/IR31802-48-2-2-2//IR41985-111-3-2-2. 87 days to heading. 80 cm plant height. 3 pacp at maturity.

**PI 596855. *Oryza sativa* L.**

Breeding. IR56279-C2-99-2-3-2; REP. I PLOT NO. 111; BE-4872; Q 32067.  
Pedigree - COMPOSITE CROSS. 90 days to heading. 76 cm plant height. 1  
pacp at maturity.

**PI 596856. *Oryza sativa* L.**

Breeding. IR56381-139-2-2; REP. I PLOT NO. 112; BE-4872; Q 32068.  
Pedigree - IR28239-94-2-3-6-2/IR64. 83 days to heading. 96 cm plant  
height. 1 pacp at maturity.

**PI 596857. *Oryza sativa* L.**

Breeding. IR57298-31-2-2; REP. I PLOT NO. 113; BE-4872; Q 32069.  
Pedigree - IR35293-125-3-3-3/IR24632-34-2//IR35366-28-3-1-2-2. 79 days  
to heading. 82 cm plant height. 3 pacp at maturity.

**PI 596858. *Oryza sativa* L.**

Breeding. IR64616H; REP. I PLOT NO. 114; BE-4872; Q 32070. Pedigree -  
IR62829A/IR29723-143-3-2-1R.

The following were donated by International Rice Research Institute, P.O. Box  
933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596859. *Oryza sativa* L.**

Breeding. OM296; REP I PLOT NO. 116; BE-4872; Q 32072. Developed in  
Vietnam. Pedigree - THAN NONG DO/IR48. 83 days to heading. 74 cm plant  
height. 3 pacp at maturity.

**PI 596860. *Oryza sativa* L.**

Breeding. OM576; REP. I PLOT NO. 117; BE-4872; Q 32073. Developed in  
Vietnam. Pedigree - HUNGARI/IR48. 79 days to heading. 88 cm plant  
height. 3 pacp at maturity.

**PI 596861. *Oryza sativa* L.**

Breeding. RP1699-26-1-1; REP. I PLOT NO. 119; BE-4872; Q 32075.  
Developed in India. Pedigree - KRASNODARSKI 424/RASI. 90 days to  
heading. 105 cm plant height. 3 pacp at maturity.

**PI 596862. *Oryza sativa* L.**

Breeding. RP2428-132-24-11-148; REP. I PLOT NO. 120; BE-4872; Q 32076.  
Developed in India. Pedigree - Rasi/Dular. 78 days to heading. 84 cm  
plant height. 3 pacp at maturity.

**PI 596863. *Oryza sativa* L.**

Cultivar. "SANHUANGZHAN NO. 2"; REP. I PLOT NO. 122; BE-4872; Q 32078.  
Developed in China. Pedigree - IR9965-48-2/TUANHUANGZHAN. 87 days to  
heading. 85 cm plant height. 5 pacp at maturity.

**PI 596864. *Oryza sativa* L.**

Cultivar. "SHUI XIU 11"; REP. I PLOT NO. 123; BE-4872; Q 32079.  
Developed in China. Pedigree - CE21/XIANG-HU//CE25. 65 days to heading.  
64 cm plant height. 3 pacp at maturity.

**PI 596865. *Oryza sativa* L.**

Breeding. S1324-1E-PN-3-1-9; REP. I PLOT NO. 124; BE-4872; Q 32080.  
Developed in Indonesia. Pedigree - Cisadane/IR4427-51-6-3. 86 days to

heading. 109 cm plant height. 3 pacp at maturity.

**PI 596866. *Oryza sativa* L.**

Breeding. S969B-265-1-4-1; REP. I PLOT NO. 125; BE-4872; Q 32081.  
Developed in Indonesia. Pedigree - S55C-31-2/S263. 87 days to heading.  
91 cm plant height. 3 pacp at maturity.

**PI 596867. *Oryza sativa* L.**

Cultivar. "TAI SEN YU 255"; REP. I PLOT NO. 126; BE-4872; Q 32082.  
Developed in Taiwan. Pedigree - Taichung Sen  
10//IR29/I-Geo-Gen//Taichung Sen 10. 88 days to heading. 91 cm plant  
height. 3 pacp at maturity.

**PI 596868. *Oryza sativa* L.**

Cultivar. "TAICHUNG SEN GLUTINOUS 1"; REP. I PLOT NO. 127; BE-4872; Q  
32083. Developed in Taiwan. 90 days to heading. 92 cm plant height. 3  
pacp at maturity.

**PI 596869. *Oryza sativa* L.**

Breeding. BRB223-2-2-2-1; REP. I PLOT NO. 101; BE-4872; Q 32147.  
Developed in Bangladesh. Pedigree - BR2/IR36. 91 days to heading. 126  
cm plant height. 3 pacp at maturity.

**PI 596870. *Oryza sativa* L.**

Breeding. BR1543-1-1-1-1; REP. I PLOT NO. 103; BE-4872; Q 32149.  
Developed in Bangladesh. Pedigree - BR3/KN-1B-361-8-6-9-4-4. 96 days to  
heading. 139 cm plant height. 2 pacp at maturity.

**PI 596871. *Oryza sativa* L.**

Breeding. BR1725-13-7-1-2; REP. I PLOT NO. 104; BE-4872; Q 32150.  
Developed in Bangladesh. Pedigree - BR11/ARC10550. 92 days to heading.  
128 cm plant height. 3 pacp at maturity.

**PI 596872. *Oryza sativa* L.**

Breeding. BR827-35-2-1; REP. I PLOT NO. 105; BE-4872; Q 32151. Developed  
in Bangladesh. Pedigree - BR51-46-1/IR2863-48-2. 95 days to heading.  
119 cm plant height. 3 pacp at maturity.

**PI 596873. *Oryza sativa* L.**

Cultivar. "FARO 37"; REP. I PLOT NO. 106; BE-4872; Q 32152. Developed in  
Nigeria. Pedigree - TOX494-3696/TOX711//BG6812. 96 days to heading. 98  
cm plant height. 3 pacp at maturity.

The following were developed by International Rice Research Institute, P.O.  
Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596874. *Oryza sativa* L.**

Breeding. IR36892-163-1-2-2-1; REP. I PLOT NO. 107; BE-4872; Q 32153.  
Pedigree - IR21818-1-2/IR19660-274-3-3-1-3. 104 days to heading. 111 cm  
plant height. 3 pacp at maturity.

**PI 596875. *Oryza sativa* L.**

Breeding. IR49461-181-2-3-2; REP. I PLOT NO. 108; BE-4872; Q 32154.  
Pedigree - IR19661-364-1-2-3/IR3259-PP5-160-3//IR34583-75-1. 98 days to

heading. 105 cm plant height. 3 pacp at maturity.

**PI 596876. *Oryza sativa* L.**

Breeding. IR51673-77-1-2-2; REP. I PLOT NO. 109; BE-4872; Q 32155.  
Pedigree - IR24594-204-1-3-2-6-2/IR28224-3-2-3-2. 95 days to heading.  
114 cm plant height. 3 pacp at maturity.

**PI 596877. *Oryza sativa* L.**

Breeding. IR53960-219-2-1-3-1; REP. I PLOT NO. 110; BE-4872; Q 32156.  
Pedigree - IR31892-46-3-2/IR28222-9-2-2-2-2//IR28224-3-2-3-2. 102 days  
to heading. 106 cm plant height. 3 pacp at maturity.

**PI 596878. *Oryza sativa* L.**

Breeding. IR58115-11-1-3-2; REP. I PLOT NO. 111; BE-4872; Q 32157.  
Pedigree - IR39334-50-2-1-3-2/IR32453-20-3-2-2. 95 days to heading. 106  
cm plant height. 3 pacp at maturity.

**PI 596879. *Oryza sativa* L.**

Breeding. IR58773-35-3-1-2; REP. I PLOT NO. 112; BE-4872; Q 32158.  
Pedigree - IR40720-72-1-2/IR32453-20-3-2-2//IR24594-204-1-3-2--6-2. 96  
days to heading. 86 cm plant height. 1 pacp at maturity.

**PI 596880. *Oryza sativa* L.**

Breeding. IR59601-301-3-6; REP. I PLOT NO 113; BE-4872; Q 32159.  
Pedigree - IR42029-38-1-3-3-2/IR44699-21-1-3-4. 95 days to heading. 93  
cm plant height. 3 pacp at maturity.

**PI 596881. *Oryza sativa* L.**

Breeding. IR64615H; REP. I PLOT NO. 114; BE-4872; Q 32160. Pedigree -  
IR58025A/IR29723-143-3-2-1R. 93 days to heading. 112 cm plant height.  
Hybrid rice.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596882. *Oryza sativa* L.**

Cultivar. "ITA 234"; REP. I PLOT NO. 115; BE-4872; Q 32161. Developed in  
Nigeria. 93 days to heading. 102 cm plant height. 3 pacp at maturity.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Valle, Colombia. Donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596883. *Oryza sativa* L.**

Breeding. P2060F4-2-5-1B; REP. I PLOT NO. 118; BE-4872; Q 32164.  
Pedigree - CICA 7//IR36/CICA 9. 106 days to heading. 106 cm plant  
height. 3 pacp at maturity.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

- PI 596884. *Oryza sativa* L.**  
Breeding. RP1579-1901-82-57; REP. I PLOT NO. 119; BE-4872; Q 32165.  
Developed in India. Pedigree - Phalguna/ARC 6650. 101 days to heading.  
94 cm plant height. 3 pacp to maturity.
- PI 596885. *Oryza sativa* L.**  
Breeding. RP1821-5-17-2; REP. I PLOT NO. 120; BE-4872; Q 32166.  
Developed in India. Pedigree - OS4/Phalguna. 105 days to heading. 108  
cm plant height. 3 pacp at maturity.
- PI 596886. *Oryza sativa* L.**  
Breeding. RP2095-5-7-34; REP. I PLOT NO. 121; BE-4872; Q 32167.  
Developed in India. Pedigree - Vikram/Andrewsali. 94 days to heading.  
112 cm plant height. 3 pacp at maturity.
- PI 596887. *Oryza sativa* L.**  
Breeding. RP2151-221-4-2-4; REP. I PLOT NO. 122; BE-4872; Q 32168.  
Developed in India. Pedigree - IR8/BJ1//IR22///CR98-7216. 96 days to  
heading. 110 cm plant height. 3 pacp at maturity.
- PI 596888. *Oryza sativa* L.**  
Breeding. RP1278-129-635-8; REP. I PLOT NO. 123; BE-4872; Q 32169.  
Developed in India. Pedigree - RP6-516-34-1-8/Khonorollo. 96 days to  
heading. 121 cm plant height. 3 pacp at maturity.
- PI 596889. *Oryza sativa* L.**  
Breeding. RP2184-218-677-20; REP. I PLOT NO.124; BE-4872; Q 32170.  
Developed in India. Pedigree - RP79-9/Salumpikit. 104 days to heading.  
118 cm plant height. 3 pacp at maturity.
- PI 596890. *Oryza sativa* L.**  
Breeding. SPRLR80075-PSL-36-2-2; REP. I PLOT NO. 125; BE-4872; Q 32171.  
Developed in Thailand. 91 days to heading. 100 cm plant height. 3 pacp  
at maturity.
- PI 596891. *Oryza sativa* L.**  
Breeding. TNAU801793; REP. I PLOT NO. 126; BE-4872; Q 32172. Developed  
in India. Pedigree - C041/C039. 91 days to heading. 84 cm plant height.  
3 pacp at maturity.
- PI 596892. *Oryza sativa* L.**  
Breeding. TNAU831520; REP. I PLOT NO. 127; BE-4872; Q 32173. Developed  
in India. Pedigree - RY2/IR36. 92 days to heading. 102 cm plant height.  
3 pacp at maturity.
- PI 596893. *Oryza sativa* L.**  
Cultivar. "VILLAGUAY P.A."; REP. I PLOT NO. 128; BE-4872; Q 32174.  
Developed in Argentina. Pedigree - H78(44)/H118//Dawn/IR594-34. 91 days  
to heading. 115 cm plant height. 3 pacp at maturity.
- PI 596894. *Oryza sativa* L.**  
Breeding. BG1222; BE-4872; Q 32237. Developed in Sri Lanka. Pedigree -  
BG379-2/IR13439-191-1-2-1. 85 days to heading. 96 cm plant height. 3  
pacp at maturity.

- PI 596895. *Oryza sativa* L.**  
Breeding. BG1321; BE-4872; Q 32238. Developed in Sri Lanka. Pedigree - B3-1026/B2-3739. 77 days to heading. 95 cm plant height. 3 pacp at maturity.
- PI 596896. *Oryza sativa* L.**  
Cultivar. "BR-IRGA 414"; BE-4872; Q 32240. Developed in Brazil. 68 days to heading. 79 cm plant height. 3 pacp at maturity.
- PI 596897. *Oryza sativa* L.**  
Breeding. BR1543-5-1-2-3; BE-4872; Q 32241. Developed in Bangladesh. Pedigree - BR3/KN-1B-361-8-6-9-4-4. 87 days to heading. 134 cm plant height. 4 pacp at maturity.
- PI 596898. *Oryza sativa* L.**  
Breeding. B6287G-MR-24; BE-4872; Q 32243. Developed in Indonesia. Pedigree - IR50/Pontianak//B1050/Cisadane. 90 days to heading. 100 cm plant height. 2 pacp at maturity.
- PI 596899. *Oryza sativa* L.**  
Breeding. B6975F-MR-5-1-2; BE-4872; Q 32244. Developed in Indonesia. Pedigree - B3622\*2/2\*Bogowonto//Arias. 90 days to heading. 109 cm plant height. 3 pacp at maturity.
- PI 596900. *Oryza sativa* L.**  
Cultivar. "CL SELECCION 72B"; BE-4872; Q 32248. Developed in Brazil. 69 days to heading. 73 cm plant height. 3 pacp at maturity.
- PI 596901. *Oryza sativa* L.**  
Cultivar. "CL SELECCION 88"; BE-4872; Q 32249. Developed in Brazil. 68 days to heading. 77 cm plant height. 4 pacp at maturity.
- PI 596902. *Oryza sativa* L.**  
Breeding. CNTLR80076-44-1-1-1; BE-4872; Q 32250. Developed in Thailand. Pedigree - IR8234-14T-2-0/RST40-2-2. 87 days to heading. 93 cm plant height. 3 pacp at maturity.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Valle, Colombia. Donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

- PI 596903. *Oryza sativa* L.**  
Breeding. CT7949-3-3-1P-M-1P; BE-4872; Q 32251. Pedigree - I8420/IART120//IR21015-72-3-3-3-1. 85 days to heading. 92 cm plant height. 3 pacp at maturity.
- PI 596904. *Oryza sativa* L.**  
Breeding. CT8008-3-12-3P-M-1P; BE-4872; Q 32252. Pedigree - 17719/5738//IR21015-72-3-3-3-1. 85 days to heading. 84 cm plant height. 3 pacp at maturity.
- PI 596905. *Oryza sativa* L.**  
Breeding. CT8249-2-7-2-M-1P; BE-4872; Q 32253. Pedigree -



38409-1/38941-1//P4278-F2-80-4-1X. 90 days to heading. 84 cm plant height. 3 pacp at maturity.

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**PI 596906. *Oryza sativa* L.**

Breeding. CU8068; BE-4872; Q 32254. Developed in Cuba. 89 days to heading. 91 cm plant height. 5 pacp at maturity.

**PI 596907. *Oryza sativa* L.**

Cultivar. "DR29"; BE-4872; Q 32255. Developed in Pakistan. Pedigree - IR662/IR710-PD1-PD3-PC2. 89 days to heading. 98 cm plant height. 5 pacp at maturity.

**PI 596908. *Oryza sativa* L.**

Cultivar. "ECIA 128"; BE-4872; Q 32256. Developed in Cuba. Pedigree - 5006//3555/Camponi. 89 days to heading. 97 cm plant height. 3 pacp at maturity.

**PI 596909. *Oryza sativa* L.**

Breeding. GZ1368-5-4; BE-4872; Q 32257. Developed in Egypt. 90 days to heading. 93 cm plant height. 3 pacp at maturity.

**PI 596910. *Oryza sativa* L.**

Breeding. H187-17-2-1; BE-4872; Q 32258. Developed in Argentina. Pedigree - Dawn/Zenith//H122//Dawn/IR594-34. 88 days to heading. 92 cm plant height. 5 pacp at maturity.

**PI 596911. *Oryza sativa* L.**

Breeding. H232-44-1-1; BE-4872; Q 32259. Developed in Argentina. Pedigree - Sin Nombre//IR22454-3/H99 (SIN NOMBRE= 'nameless'). 84 days to heading. 94 cm plant height. 4 pacp at maturity.

**PI 596912. *Oryza sativa* L.**

Breeding. H239-35-1-3-1; BE-4872; Q 32260. Developed in Argentina. Pedigree - CI9708/H135-23-1-1. 86 days to heading. 72 cm plant height. 5 pacp at maturity.

**PI 596913. *Oryza sativa* L.**

Breeding. H244-44-1-1-1; BE-4872; Q 32261. Developed in Argentina. Pedigree - CI9708/H136-39-1. 84 days to heading. 87 cm plant height. 4 pacp at maturity.

**PI 596914. *Oryza sativa* L.**

Breeding. H256-76-1-1-1; BE-4872; Q 32262. Developed in Argentina. Pedigree - H126-26-1/Lucas P.A. 89 days to heading. 95 cm plant height. 4 pacp at maturity.

**PI 596915. *Oryza sativa* L.**

Breeding. H270-30-2-1-1; BE-4872; Q 32263. Developed in Argentina. Pedigree - Dwarf/unknown//Lucas P.A. 84 days to heading. 110 cm plant height. 4 pacp at maturity.

The following were developed by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

- PI 596916. *Oryza sativa* L.**  
Breeding. IR41985-111-3-2-2; BE-4872; Q 32264. Pedigree - IR4547-4-1-2/IR1905-81-3-1//IR25621-94-3-2. 80 days to heading. 84 cm plant height. 3 pacp at maturity.
- PI 596917. *Oryza sativa* L.**  
Breeding. IR47751-144-1-3-2; BE-4872; Q 32265. Pedigree - IR4563-52-1-3-6/IR25588-32-2//IR29506-60-3-3-2. 89 days to heading. 95 cm plant height. 3 pacp at maturity.
- PI 596918. *Oryza sativa* L.**  
Breeding. IR49517-15-2-2-1-2-2; BE-4872; Q 32266. Pedigree - IR24632-34-2/IR18348-36-3-3//IR25587-133-3-2-2-2. 88 days to heading. 93 cm plant height. 2 pacp at maturity.
- PI 596919. *Oryza sativa* L.**  
Breeding. IR50350-77-1-2-3-2; BE-4872; Q 32267. Pedigree - IR31787-41-2-2-3-3/IR24632-34-2. 97 days to heading. 82 cm plant height. 3 pacp at maturity.
- PI 596920. *Oryza sativa* L.**  
Breeding. IR50263-61-1-2-2; BE-4872; Q 32268. Pedigree - IR31868-64-2-3-3-3/IR32429-47-3-2-2. 80 days to heading. 87 cm plant height. 3 pacp at maturity.
- PI 596921. *Oryza sativa* L.**  
Breeding. IR52280-20-3-2-3; BE-4872; Q 32269. Pedigree - IR28222-9-2-2-2-2/IR31868-64-2-3-3-3//IR4563-52-1-3-6. 84 days to heading. 89 cm plant height. 4 pacp at maturity.
- PI 596922. *Oryza sativa* L.**  
Breeding. IR52297-64-3-2-2; BE-4872; Q 32270. Pedigree - IR31868-64-2-3-3-3/IR64//IR32429-47-3-2-2. 90 days to heading. 90 cm plant height. 3 pacp at maturity.
- PI 596923. *Oryza sativa* L.**  
Breeding. IR52350-81-3-1-2; BE-4872; Q 32271. Pedigree - IR35546-53-3-3-2/IR31868-64-2-3-3-3//IR31802-48-2-2-2. 83 days to heading. 90 cm plant height. 2 pacp at maturity.
- PI 596924. *Oryza sativa* L.**  
Breeding. IR53901-64-3-2-1; BE-4872; Q 32272. Pedigree - IR5657-33-2/IR32429-47-3-2-2//IR42015-83-3-2-2. 82 days to heading. 81 cm plant height. 3 pacp at maturity.
- PI 596925. *Oryza sativa* L.**  
Breeding. IR53912-98-1-2-2; BE-4872; Q 32273. Pedigree - IR13427-45-3-1-2-2-2/IR64//IR42015-83-3-2-2. 82 days to heading. 77 cm plant height. 3 pacp at maturity.
- PI 596926. *Oryza sativa* L.**

Breeding. IR53915-137-3-2-3; BE-4872; Q 32274. Pedigree - IR13427-45-3-1-2-2-2/IR31868-64-2-3-3-3//IR32429-122-3-1-2. 89 days to heading. 85 cm plant height. 3 pacp at maturity.

**PI 596927. *Oryza sativa* L.**

Breeding. IR53915-61-3-3-3; BE-4872; Q 32275. Pedigree - IR13427-45-3-1-2-2-2/IR31868-64-2-3-3-3//IR32429-122-3-1-2. 88 days to heading. 76 cm plant height. 3 pacp at maturity.

**PI 596928. *Oryza sativa* L.**

Breeding. IR53970-100-3-3-2; BE-4872; Q 32276. Pedigree - IR31906-67-1-1-2-2/IR31802-48-2-2-2//IR41985-111-3-2-2. 82 days to heading. 70 cm plant height. 3 pacp at maturity.

**PI 596929. *Oryza sativa* L.**

Breeding. IR53970-9-2-2-1; BE-4872; Q 32277. Pedigree - IR31906-67-1-1-2-2/IR31802-48-2-2-2//IR41935-111-3-2-2. 79 days to heading. 76 cm plant height. 2 pacp at maturity.

**PI 596930. *Oryza sativa* L.**

Breeding. IR54017-131-1-3-2; BE-4872; Q 32278. Pedigree - IR34679-7-2/IR32429-47-3-2-2//IR4201583-2-2. 86 days to heading. 81 cm plant height. 3 pacp at maturity.

**PI 596931. *Oryza sativa* L.**

Breeding. IR56450-28-2-2; BE-4872; Q 32279. Pedigree - IR41985-111-3-2-2/IR64. 85 days to heading. 91 cm plant height. 2 pacp at maturity.

**PI 596932. *Oryza sativa* L.**

Breeding. "IR58082-104-3-1"; BE-4872; Q 32280. Pedigree - IR28239-94-2-3-6-2/IR44595-70-2-2-3. 85 days to heading. 81 cm plant height. 2 pacp at maturity.

**PI 596933. *Oryza sativa* L.**

Breeding. IRIR8099-41-2-3; BE-4872; Q 32281. Pedigree - IR35366-90-3-2-1-2/IR24632-34-2. 87 days to heading. 92 cm plant height. 2 pacp at maturity.

**PI 596934. *Oryza sativa* L.**

Breeding. IR58100-144-3-2; BE-4872; Q 32282. Pedigree - IR35366-90-3-2-1-2/IR31868-64-2-3-3-3. 87 days to heading. 78 cm plant height. 3 pacp at maturity.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596935. *Oryza sativa* L.**

Breeding. J355-6-2-1-1; BE-4872; Q 32283. Developed in Dominican Republic. Pedigree - IR2793-80-1/J49-1-78. 87 days to heading. 78 cm plant height. 3 pacp at maturity.

**PI 596936. *Oryza sativa* L.**

Breeding. PNA1005-F4-88-1; BE-4872; Q 32285. Developed in Peru.

Pedigree - INTI/BKNLR75091-CNT-B3-RST-40-2-2. 85 days to heading. 89 cm plant height. 3 pacp at maturity.

**PI 596937. *Oryza sativa* L.**

Breeding. PNA1010-F4-23-2-1; BE-4872; Q 32287. Developed in Peru.  
Pedigree - INTI/PNA386-F4-341-1. 85 days to heading. 87 cm plant height.  
3 pacp at maturity.

The following were developed by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596938. *Oryza sativa* L.**

Breeding. PR23366-1; BE-4872; Q 32288. Pedigree - MRC5888-3462//IR50/IR64. 88 days to heading. 80 cm plant height. 4 pacp at maturity.

**PI 596939. *Oryza sativa* L.**

Breeding. PR23388-93; BE-4872; Q 32289. Pedigree - MRC17825-1390/IR841. 88 days to heading. 88 cm plant height. 3 pacp at maturity.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596940. *Oryza sativa* L.**

Breeding. RP2095-1-10-22; BE-4872; Q 32291. Developed in India.  
Pedigree - RPW-6-13/Andrewsali. 90 days to heading. 102 cm plant height.  
4 pacp at maturity.

**PI 596941. *Oryza sativa* L.**

Breeding. RP2151-173-1-8; BE-4872; Q 32292. Developed in India.  
Pedigree - IR8/BJ1//IR22//CR98-7216. 89 days to heading. 109 cm plant height. 4 pacp at maturity.

**PI 596942. *Oryza sativa* L.**

Breeding. RP2217-4766-67-1; BE-4872; Q 32293. Developed in India.  
Pedigree - IET7615/RP79-5. 79 days to heading. 97 cm plant height. 3 pacp at maturity.

**PI 596943. *Oryza sativa* L.**

Breeding. RP2263-934-592-5; BE-4872; Q 32294. Developed in India.  
Pedigree - Sona/ARC11554. 78 days to heading. 77 cm plant height. 3 pacp at maturity.

**PI 596944. *Oryza sativa* L.**

Breeding. RP2327-318-869; BE-4872; Q 32295. Developed in India.  
Pedigree - Atna/ARC5984. 82 days to heading. 97 cm plant height. 3 pacp at maturity.

**PI 596945. *Oryza sativa* L.**

Breeding. TNAU842805; BE-4872; Q 32297. Developed in India. Pedigree - TNAU9426-6/IR50. 85 days to heading. 88 cm plant height. 3 pacp at maturity.

**PI 596946. *Oryza sativa* L.**  
Breeding. TOPLOEA 58/76; BE-4872; Q 32298. Developed in Romania. 62 days to heading. 64 cm plant height. 4 pacp at maturity.

**PI 596947. *Oryza sativa* L.**  
Breeding. TOPLOEA 70/76; BE-4872; Q 32299. Developed in Romania. 60 days to heading. 58 cm plant height. 5 pacp at maturity.

The following were developed by International Institute of Tropical Agriculture, Maize Research Program, P.M.B. 5320, Ibadan, Nigeria. Donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596948. *Oryza sativa* L.**  
Breeding. TOX960-42-1; BE-4872; Q 32300. Pedigree - TOM 1-3/Gissi 27. 86 days to heading. 99 cm plant height. 3 pacp at maturity.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596949. *Oryza sativa* L.**  
Breeding. BR1704-6-3-3-4; REP. I PLOT NO. 102; BE-4872; Q 32307.  
Developed in Bangladesh. Pedigree - BR51-46-5-HR65//BR4-3C-51-2/IR5-114-3-1. 87 days to heading. 149 cm plant height. 3 pacp at maturity. Rated 9 for lodging.

**PI 596950. *Oryza sativa* L.**  
Breeding. BR1725-13-7-16; REP. I PLOT NO. 103; BE-4872; Q 32308.  
Developed in Bangladesh. Pedigree - BR11/ARC10550. 84 days to heading. 120 cm plant height. 3 pacp at maturity. Rated 7 for lodging. Moderately susceptible BLS.

**PI 596951. *Oryza sativa* L.**  
Breeding. RP1551-2-7-1; REP. I PLOT NO. 108; BE-4872; Q 32313. Developed in India. Pedigree - RP6-516-34-1-8/MR1523. 84 days to heading. 84 cm plant height. 3 pacp at maturity.

**PI 596952. *Oryza sativa* L.**  
Breeding. RP2095-5-8-31; REP. I PLOT NO. 110; BE-4872; Q 32315.  
Developed in India. Pedigree - Vikram/Andrewsali. 85 days to heading. 111 cm plant height. 3 pacp at maturity. Rated 5 for lodging. Moderately susceptible to SHB.

**PI 596953. *Oryza sativa* L.**  
Breeding. RP2151-2-11-5; REP. I PLOT NO. 111; BE-4872; Q 32316.  
Developed in India. Pedigree - IET4141/CR98-7216. 85 days to heading. 122 cm plant height. 3 pacp at maturity. Rated 1 for lodging.

**PI 596954. *Oryza sativa* L.**  
Breeding. RP2167-323-1-2; REP. I PLOT NO. 112; BE-4872; Q 32317.  
Developed in India. Pedigree - Basmati 370/RP2144. 85 days to heading. 111 cm plant height. 3 pacp at maturity.

**PI 596955. *Oryza sativa* L.**  
Breeding. RP2199-14-2-6-1; REP. I PLOT NO. 113; BE-4872; Q 32318.  
Developed in India. Pedigree - Phalguna/TKM6. 77 days to heading. 94 cm  
plant height. 3 pacp at maturity. Moderately resistant to RTV.

**PI 596956. *Oryza sativa* L.**  
Breeding. RP2235-200-91-62; REP. I PLOT NO. 114; BE-4872; Q 32319.  
Developed in India. Pedigree - IR50/Phalguna. 83 days to heading. 85 cm  
plant height. 4 pacp at maturity. Rated 3 for lodging. Moderately  
susceptible to BL & RTV.

**PI 596957. *Oryza sativa* L.**  
Breeding. RP2246-7-2; REP. I PLOT NO. 115; BE-4872; Q 32320. Developed  
in India. Pedigree - Pusa 2-21/Surekha. 79 days to heading. 96 cm plant  
height. 4 pacp at maturity. Susceptible to RTV. Mod. susceptible to BB.

**PI 596958. *Oryza sativa* L.**  
Breeding. RP260-228-1-1; REP. I PLOT NO. 116; BE-4872; Q 32321.  
Developed in India. Pedigree - IR8/Latisail. 78 days to heading. 107 cm  
plant height. 3 pacp at maturity.

The following were developed by International Rice Research Institute, P.O.  
Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596959. *Oryza sativa* L.**  
Breeding. C2757-22-1-1-1; ENTRY NO. 4; BE-4872; Q 32363. Pedigree -  
IR18348-36-3-3/C1612-82-2-2-1-2. 84 days to heading. 85 cm plant height.  
4 pacp at maturity.

**PI 596960. *Oryza sativa* L.**  
Breeding. C2764-10-2; ENTRY NO. 5; BE-4872; Q 32364. Pedigree -  
IR18348-36-3-3/C1064-13. 84 days to heading. 84 cm plant height. 3 pacp  
at maturity.

**PI 596961. *Oryza sativa* L.**  
Breeding. IR37344-AC800; ENTRY NO. 7; BE-4872; Q 32366. Pedigree -  
IR48/Suweon 290. 83 days to heading. 81 cm plant height. 3 pacp at  
maturity.

**PI 596962. *Oryza sativa* L.**  
Breeding. IR38499-CO-368-3-21-1; ENTRY NO. 8; BE-4872; Q 32367. Pedigree  
- Composite cross. 88 days to heading. 106 cm plant height. 2 pacp at  
maturity. Rated 3 for lodging.

**PI 596963. *Oryza sativa* L.**  
Breeding. IR39422-18-1-2-2; ENTRY NO. 9; BE-4872; Q 32368. Pedigree -  
IR60/IR10179-23-1-3//IR58. 83 days to heading. 92 cm plant height. 3  
pacp at maturity.

**PI 596964. *Oryza sativa* L.**  
Breeding. IR43549-56-41-3-1; ENTRY NO. 12; BE-4872; Q 32371. Pedigree -  
Black Gora/IR19058-107-1//IR9129-209-2-2-2-1/IR6402-OT- 7-0-0. 86 days  
to heading. 98 cm plant height. 2 pacp at maturity.

- PI 596965. *Oryza sativa* L.**  
Breeding. IR33592-62-1-3-3-2; ENTRY NO. 13; BE-4872; Q 32372. Pedigree - IR18348-36-3-3/IR1905-81-3-1//IR28128-45-2. 84 days to heading. 89 cm plant height. 3 pacp at maturity.
- PI 596966. *Oryza sativa* L.**  
Breeding. IR49708-11-2-3; ENTRY NO. 14; BE-4872; Q 32373. Pedigree - IR20992-7-2-2-2-2-3/IR26702-111-1//IR29706-94-1-3-2. 72 days to heading. 101 cm plant height. 3 pacp at maturity. Rated 9 for lodging.
- PI 596967. *Oryza sativa* L.**  
Cultivar. "IR 72"; ENTRY NO. 15; BE-4872; Q 32374. Pedigree - IR19661-9-2-3/IR15795-199-3-3//IR9129-209-2-2-2-1.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

- PI 596968. *Oryza sativa* L.**  
Breeding. LD180-16; ENTRY NO. 16; BE-4872; Q 32375. Developed in Sri Lanka. Pedigree - BW302/Basmati. 86 days to heading. 91 cm plant height. 3 pacp at maturity.
- PI 596969. *Oryza sativa* L.**  
Breeding. LD183-3; ENTRY NO. 17; BE-4872; Q 32376. Developed in Sri Lanka. Pedigree - BW300-6/IR50. 86 days to heading. 106 cm plant height. 3 pacp at maturity.
- PI 596970. *Oryza sativa* L.**  
Breeding. LD183-4; ENTRY NO. 18; BE-4872; Q 32377. Developed in Sri Lanka. Pedigree - BW300-6/IR50. 90 days to heading. 106 cm plant height. 3 pacp at maturity.
- PI 596971. *Oryza sativa* L.**  
Breeding. OR410-7; ENTRY NO. 19; BE-4872; Q 32378. Developed in India. Pedigree - IR28/Suphala//OR78-19. 85 days to heading. 91 cm plant height. 3 pacp at maturity.
- PI 596972. *Oryza sativa* L.**  
Breeding. RP2136-43-2; ENTRY NO. 20; BE-4872; Q 32379. Developed in India. Pedigree - IR8/RP633-519-1-3-8-1. 88 days to heading. 88 cm plant height. 3 pacp at maturity.
- PI 596973. *Oryza sativa* L.**  
Breeding. RP2415-203-5-1-2; ENTRY NO. 21; BE-4872; Q 32380. Developed in India. Pedigree - IR36/IC47321. 80 days to heading. 84 cm plant height. 3 pacp at maturity. Rated 2 for lodging.
- PI 596974. *Oryza sativa* L.**  
Breeding. CN839-102-8/2; ENTRY NO. 5; BE-4872; Q 32387. Developed in India. 80 days to heading. 138 cm plant height. 5 pacp at maturity. Rated 7 for lodging. Susceptible to BLS.
- PI 596975. *Oryza sativa* L.**  
Breeding. CT6741-CA-14; ENTRY NO. 6; BE-4872; Q 32388. Developed in

Chile. Pedigree - Lemont/Diamante//Quilla 65101. 79 days to heading. 75 cm plant height. 5 pacp at maturity.

**PI 596976. *Oryza sativa* L.**

Breeding. CT6742-22-5-4-M-3-M; ENTRY NO. 7; BE-4872; Q 32389. Developed in Chile. Pedigree - Lemont/Quilla 64117/Quilla 65101. 66 days to heading. 79 cm plant height. 5 pacp at maturity.

**PI 596977. *Oryza sativa* L.**

Breeding. CT6744-2-11-1-M-M; ENTRY NO. 8; BE-4872; Q 32390. Developed in Chile. Pedigree - Lemont/Quilla 66304//Quilla 65101. 78 days to heading. 84 cm plant height. 5 pacp at maturity.

**PI 596978. *Oryza sativa* L.**

Breeding. CT6746-11-2-2-M-1-M; ENTRY NO. 9; BE-4872; Q 32391. Developed in Chile. Pedigree - Lemont/Diamante//Diamante. 74 days to heading. 78 cm plant height. 5 pacp at maturity.

**PI 596979. *Oryza sativa* L.**

Breeding. H232-58-2; ENTRY NO. 10; BE-4872; Q 32392. Developed in Argentina. Pedigree - Sin Nombre (USA)/H126-26 (SIN NOMBRE = 'Nameless'). 82 days to heading. 96 cm plant height. 2 pacp at maturity.

**PI 596980. *Oryza sativa* L.**

Breeding. H274-10-1-1; ENTRY NO. 11; BE-4872; Q 32393. Developed in Argentina. Pedigree - Szarvasi K./Szojuznij//BBT50. 82 days to heading. 104 cm plant height. 2 pacp at maturity.

**PI 596981. *Oryza sativa* L.**

Breeding. H278-24-1-4; ENTRY NO. 12; BE-4872; Q 32394. Developed in Argentina. Pedigree - Chokoto/H161-18. 82 days to heading. 105 cm plant height. 2 pacp at maturity. Moderately susceptible to RTV.

The following were developed by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596982. *Oryza sativa* L.**

Breeding. IR13539-100-2-2-2-3; ENTRY NO. 14; BE-4872; Q 32396. Pedigree - Rathu Heenati/IR30(BPHS)//IR36. 84 days to heading. 76 cm plant height. 3 pacp at maturity.

**PI 596983. *Oryza sativa* L.**

Breeding. IR39537-45-3-2-3; ENTRY NO. 15; BE-4872; Q 32397. Pedigree - IR9129-209-2-2-2-1/IR19774-23-2-2-2//IR9729-67-3. 69 days to heading. 92 cm plant height. 1 pacp at maturity. rated 3 for lodging. Moderately susceptible to BLS. Mod. resistant to RTV.

**PI 596984. *Oryza sativa* L.**

Breeding. IR58581-AC4-4; ENTRY NO. 16; BE-4872; Q 32398. Pedigree - Ching Shi 15/Ta Mao Tao. 75 days to heading. 92 cm plant height. 3 pacp at maturity. Moderately susceptible to BLS.

**PI 596985. *Oryza sativa* L.**

Breeding. IR58581-AC4-5; ENTRY NO. 17; BE-4872; Q 32399. Pedigree -



Ching Shi 15/Ta Mao Tao. 75 days to heading. 93 cm plant height. 3 pacp at maturity.

**PI 596986. *Oryza sativa* L.**

Breeding. IR58586-AC16-1; ENTRY NO. 18; BE-4872; Q 32400. Pedigree - Cheolweon 31/Ta Mao Tao. 77 days to heading. 95 cm plant height. 2 pacp at maturity. Rated 9 for lodging. Moderately susceptible to BLS.

**PI 596987. *Oryza sativa* L.**

Breeding. IR58592-AC1-1; ENTRY NO. 19; BE-4872; Q 32401. Pedigree - Hua 110/Bja Naab. 81 days to heading. 122 cm plant height. 2 pacp at maturity.

**PI 596988. *Oryza sativa* L.**

Breeding. IR58592-AC1-4; ENTRY NO. 20; BE-4872; Q 32402. Pedigree - Hua 110/Bja Naab. 81 days to heading. 123 cm plant height. 2 pacp at maturity.

**PI 596989. *Oryza sativa* L.**

Breeding. IR58614-B-B-6-2; ENTRY NO. 21; BE-4872; Q 32403. Pedigree - NR10041-66-3-1/B2982B-SR-62-3-1-4. 83 days to heading. 95 cm plant height. 3 pacp at maturity.

**PI 596990. *Oryza sativa* L.**

Breeding. IR58614-B-B-8-2; ENTRY NO. 22; BE-4872; Q 32404. Pedigree - NR10041-66-3-1/B2982B-SR-3-1-4. 83 days to heading. 91 cm plant height. 3 pacp at maturity.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 596991. *Oryza sativa* L.**

Cultivar. "KUN XIAN"; ENTRY NO. 23; BE-4872; Q 32405. Developed in China. 83 days to heading. 100 cm plant height. 3 pacp at maturity. Rated 7 for lodging. Susceptible to BLS.

**PI 596992. *Oryza sativa* L.**

Breeding. K338-80-1-1-1; ENTRY NO. 24; BE-4872; Q 32406. Developed in India. Pedigree - AC71/KN-1B-361-BK-27-1. 74 days to heading. 112 cm plant height. 4 pacp at maturity. Rated 7 for lodging. Susceptible to SHB & RTV. Mod. Susceptible to BB.

**PI 596993. *Oryza sativa* L.**

Breeding. K39-2; ENTRY NO. 25; BE-4872; Q 32407. Developed in India. Pedigree - China 1039/IR580-19-2-3-3. 77 days to heading. 114 cm plant height. 4 pacp at maturity. Susceptible to BLS.

**PI 596994. *Oryza sativa* L.**

Breeding. K448-1-2; ENTRY NO. 27; BE-4872; Q 32409. Developed in India. Pedigree - Jukkoku/IET1444. 73 days to heading. 107 cm plant height. 5 pacp at maturity. Rated 3 for lodging. Susceptible to BLS.

**PI 596995. *Oryza sativa* L.**

Breeding. K449-2-1; ENTRY NO. 28; BE-4872; Q 32410. Developed in India.

Pedigree - IET1444/Jukkoku. 74 days to heading. 116 cm plant height. 5 pacp at maturity. Rated 5 for lodging. Susceptible to BLS.

**PI 596996. *Oryza sativa* L.**

Breeding. RP1670-7613-32; ENTRY NO. 30; BE-4872; Q 32412. Developed in India. Pedigree - M63-83/Cauvery. 69 days to heading. 76 cm plant height. 3 pacp at maturity. Moderately susceptible to RTV.

**PI 596997. *Oryza sativa* L.**

Breeding. SPTLR81366-PTG-27-1-2-1-1; ENTRY NO. 31; BE-4872; Q 32413. Developed in Thailand. Pedigree - RD8/BR51-282-8. 83 days to heading. 153 cm plant height. 4 pacp at maturity. Rated 9 for lodging.

**PI 596998. *Oryza sativa* L.**

Breeding. SPTLR81399-PTG-9-2-2-1-1; ENTRY NO. 32; BE-4872; Q 32414. Developed in Thailand. Pedigree - IR29/2\*BKNBR1030-28-1-5. 84 days to heading. 155 cm plant height. 4 pacp at maturity. 9 FOR LODGING.

**PI 596999. *Oryza sativa* L.**

Breeding. SR11451-T199; ENTRY NO. 33; BE-4872; Q 32415. Developed in Korea, South. Pedigree - RAC 3/Hamaasahi. 75 days to heading. 78 cm plant height. 5 pacp at maturity. Rated 5 for lodging. Susceptible to SHB & RTV.

**PI 597000. *Oryza sativa* L.**

Cultivar. "ARONGANA 688"; ENTRY NO. 35; BE-4872; Q 32417. Developed in India. 93 days to heading. 135 cm plant height. 4 pacp at maturity. Moderately susceptible to BB.

**PI 597001. *Oryza sativa* L.**

Cultivar. "H175"; ENTRY NO. 39; BE-4872; Q 32421. Collected in Argentina. Pedigree - H117-12/Lebonnet. 88 days to heading. 87 cm plant height. 5 pacp at maturity.

**PI 597002. *Oryza sativa* L.**

Breeding. H194-27-2-2-2; ENTRY NO. 41; BE-4872; Q 32423. Developed in Argentina. Pedigree - H172-F1/Sin Nombre (USA) (SIN NOMBRE MEANS 'Nameless'). 91 days to heading. 85 cm plant height. 3 pacp at maturity. Moderately susceptible to RTV.

**PI 597003. *Oryza sativa* L.**

Breeding. H239-103-1; ENTRY NO. 42; BE-4872; Q 32424. Developed in Argentina. Pedigree - C19708/H126-6. 90 days to heading. 83 cm plant height. 3 pacp at maturity.

**PI 597004. *Oryza sativa* L.**

Cultivar. "IRAT 44"; ENTRY NO. 43; BE-4872; Q 32425. Developed in Burkina Faso. Pedigree - IRAT 10/IRAT 13. 86 days to heading. 84 cm plant height. 3 pacp at maturity.

**PI 597005. *Oryza sativa* L.**

Breeding. IR25425-PLP9-1; ENTRY NO. 44; BE-4872; Q 32426. Developed in India. Pedigree - Leng Kwang/IR36. 73 days to heading. 135 cm plant height. 3 pacp at maturity. Rated 3 for lodging.

The following were developed by Yeongnam Crop Experimental Station, Milyang, Kyongsang Nam, Korea, South. Donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 597006. *Oryza sativa* L.**

Cultivar. "MILYANG 82"; ENTRY NO. 45; Namyongbyeon; NE-4872; Q 32427. Pedigree - Milyang 40/3/IR10157-76/Milyang 40//Milyang 43/IR5533. 89 days to heading. 87 cm plant height. 3 pacp at maturity. Moderately susceptible to BLS.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 597007. *Oryza sativa* L.**

Breeding. P3293; ENTRY NO. 46; BE-4872; Q 32428. Developed in Argentina. Pedigree - 5738//3224/Costa Rica. 106 days to heading. 89 cm plant height. 5 pacp at maturity.

**PI 597008. *Oryza sativa* L.**

Cultivar. "BARKAT"; K78-13; ENTRY NO. 48; BE-4872; Q 32430. Developed in India. Pedigree - Shinsei/China 971. 73 days to heading. 116 cm plant height. 3 pacp at maturity. Rated 3 for lodging. Moderately resistant to BB. Mod. susceptible to BLS.

**PI 597009. *Oryza sativa* L.**

Breeding. HR5824-B-3-2-3; ENTRY NO. 49; BE-4872; Q 32431. Developed in Korea, South. Pedigree - Akiyudaka/Suweon. 58 days to heading. 94 cm plant height. 2 pacp at maturity. Susceptible to RTV. Mod. susceptible to BB.

**PI 597010. *Oryza sativa* L.**

Breeding. HR6149-B-56-1-2; ENTRY NO. 50; BE-4872; Q 32432. Developed in Korea, South. Pedigree - Cheloweon 36/Saikai PL1. 69 days to heading. 85 cm plant height. 3 pacp at maturity.

**PI 597011. *Oryza sativa* L.**

Cultivar. "HSA 264"; ENTRY NO. 51; BE-4872; Q 32433. Developed in Hungary. 69 days to heading. 102 cm plant height. 3 pacp at maturity.

**PI 597012. *Oryza sativa* L.**

Cultivar. "JINJUBYEO"; ENTRY NO. 52; BE-4872; Q 32434. Developed in Korea, South. Pedigree - HR769//Palkeum/BL1. 57 days to heading. 63 cm plant height. 5 pacp at maturity.

**PI 597013. *Oryza sativa* L.**

Cultivar. "HWACHEONGBYEO"; ENTRY NO. 53; BE-4872; Q 32435. Developed in Korea, South. Pedigree - Suweon 298/Milyang 64. 64 days to heading. 78 cm plant height. 3 pacp at maturity. Susceptible to RTV.

**PI 597014. *Oryza sativa* L.**

Cultivar. "KOGANE-MASARI"; ENTRY NO. 55; BE-4872; Q 32436. Developed in Japan. 74 days to heading. 104 cm plant height. 3 pacp at maturity.

Moderately susceptible to SBWH.

**PI 597015. *Oryza sativa* L.**

Breeding. LINE 26; ENTRY NO. 56; BE-4872; Q 32437. Developed in China. 65 days to heading. 81 cm plant height. 2 pacp at maturity. Susceptible to RTV.

The following were developed by Yeongnam Crop Experimental Station, Milyang, Kyongsang Nam, Korea, South. Donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 597016. *Oryza sativa* L.**

Cultivar. "MILYANG 93"; ENTRY NO. 57; Sangnamnatyeo; BE-4872; Q 32438. 75 days to heading. 95 cm plant height. 2 pacp at maturity. Susceptible to RTV.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 597017. *Oryza sativa* L.**

Breeding. SR14338-27-4-1-3; ENTRY NO. 58; BE-4872; Q 32439. Developed in Korea, South. 64 days to heading. 86 cm plant height. 3 pacp at maturity.

The following were developed by Crop Experiment Station, Office of Rural Development, Suwon, Kyonggi, Korea, South. Donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 597018. *Oryza sativa* L.**

Cultivar. "SUWEON 313"; ENTRY NO. 60; Geumobyeo; BE-4872; Q 32441. Pedigree - Akitsu/Fuji 269. 68 days to heading. 82 cm plant height. 3 pacp at maturity. Resistance to RTV.

**PI 597019. *Oryza sativa* L.**

Cultivar. "SUWEON 349"; ENTRY NO. 61; Junbyeo; BE-4872; Q 32442. Pedigree - Inabawase/SR4084-5. 68 days to heading. 76 cm plant height. 3 pacp at maturity.

**PI 597020. *Oryza sativa* L.**

Cultivar. "SUWEON 361"; ENTRY NO. 62; BE-4872; Q 32443. Pedigree - SR4084-5-4-5-5/Sasanishiki. 63 days to heading. 76 cm plant height. 3 pacp to maturity. Resistance to RTV.

**PI 597021. *Oryza sativa* L.**

Cultivar. "SUWEON 362"; ENTRY NO. 63; BE-4872; Q 32444. Pedigree - Chugoku 69/Sangpungbyeo. 62 days to heading. 71 cm plant height. 3 pacp at maturity.

The following were donated by International Rice Research Institute, P.O. Box

933, Manila, Luzon 1099, Philippines. Received 08/23/1993.

**PI 597022. *Oryza sativa* L.**

Cultivar. "TOMIHIKARI"; ENTRY NO. 64; BE-4872; Q 32445. Developed in Japan. 60 days to heading. 87 cm plant height. 5 pacp to maturity.

**PI 597023. *Oryza sativa* L.**

Breeding. YR4473-16-2-1-1-3; ENTRY NO. 65; BE-4872; Q 32446. Developed in Korea, South. 62 days to heading. 74 cm plant height. 3 pacp at maturity. Moderate resistance to RTV.

**PI 597024. *Oryza sativa* L.**

Breeding. 79004-TR4-4-2-1-1; ENTRY NO. 66; BE-4872; Q 32447. Developed in Turkey. Pedigree - Baldo/K78-13. 73 days to heading. 104 cm plant height. 2 pacp at maturity.

**PI 597025. *Oryza sativa* L.**

Breeding. 79021-TR21-11-1-1-1; ENTRY NO. 67; BE-4872; Q 32448. Developed in Turkey. Pedigree - Delta/Rodina. 74 days to heading. 101 cm plant height. 3 pacp at maturity.

**PI 597026. *Oryza sativa* L.**

Breeding. 7906-TR21-1-1; ENTRY NO. 68; BE-4872; Q 32449. Developed in Turkey. Pedigree - Baldo/Ribe. 69 days to heading. 110 cm plant height. 3 pacp at maturity.

**PI 597027. *Oryza sativa* L.**

Breeding. 7913-TR34-1-1; ENTRY NO. 69; BE-4872; Q 32450. Developed in Turkey. Pedigree - Baldo/Komsomolski. 70 days to heading. 99 cm plant height. 3 pacp at maturity.

**PI 597028. *Oryza sativa* L.**

Breeding. 80099-TR242-4-1-1; ENTRY NO. 71; BE-4872; Q 32452. Developed in Turkey. Pedigree - Kuban 3/Rocca. 66 days to heading. 106 cm plant height. 3 pacp at maturity.

**PI 597029. *Oryza sativa* L.**

Breeding. 80110-TR4-1-1; ENTRY NO. 72; BE-4872; Q 32453. Developed in Turkey. Pedigree - Plovdiv/Rocca. 66 days to heading. 106 cm plant height. 3 pacp at maturity.

**PI 597030. *Oryza sativa* L.**

Breeding. 80116-TR259-9-1-1; ENTRY NO. 73; BE-4872; Q 32454. Developed in Turkey. Pedigree - Plovdiv-BE1/Baldo.

The following were donated by J. Perry Gustafson, USDA, ARS, University of Missouri, Department of Agronomy, Columbia, Missouri 65201, United States. Received 02/03/1994.

**PI 597031. *Oryza sativa* L.**

Breeding. BE-5083; Q 32851. Collected in Philippines. Pedigree - Taichung 65/IR20965-26-1-2 (BC1F1).

The following were donated by Don Groth, Rice Research Station, Louisiana State University, Agric. Exp. Station, P.O. Box 1429, Crowley, Louisiana 70429-1429, United States. Received 04/28/1994.

**PI 597032. *Oryza sativa* L.**

Cultivar. "KYEEMA"; BE-7045; Q 34849. Developed in Australia.

The following were donated by N.I. Vavilov All-Russian Scientific Res., Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Russian Federation. Received 04/28/1994.

**PI 597033. *Oryza sativa* L.**

Landrace. WIR 911; BE-6067; Q 34851. Collected in Primorye, Russian Federation. Received as *Oryza sativa* var. melanacara from the Primorskaya Province, dated 1991.

**PI 597034. *Oryza sativa* L.**

Cultivated. WIR 2462; BE-6067; Q 34852. Developed in Russian Federation. Received as *Oryza sativa* var. flavoacies from the Primorskaya Province, dated 1991.

**PI 597035. *Oryza sativa* L.**

Cultivar. WIR 4573; "SPUTNIK"; BE-6067; Q 34857. Developed in Russian Federation. Received as *Oryza sativa* var. zervaschanica from the Primorskaya Province, dated 1991.

**PI 597036. *Oryza sativa* L.**

Cultivar. WIR 6669; "PRIMANYCHSKIJ"; BE-6067; Q 34858. Developed in Russian Federation. Received as *Oryza sativa* var. suberythroceros from the Rostov Region, dated 1990.

The following were donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597037. *Oryza sativa* L.**

Cultivar. IRRI 51231; "CO 39"; BE-7120; Q 35025. Developed in India.

**PI 597038. *Oryza sativa* L.**

Cultivar. "IRAT 216"; BE-7120; Q 35029.

**PI 597039. *Oryza sativa* L.**

Cultivar. IRRI 19643; "IAC 47"; BE-7120; Q 35030. Developed in Brazil.

**PI 597040. *Oryza sativa* L.**

Cultivar. IRRI 39045; "IAC 165"; BE-7120; Q 35031. Developed in Brazil.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Valle, Colombia. Donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597041. *Oryza sativa* L.**  
Breeding. "CNA4130"; BE-7120; Q 35038.

The following were developed by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597042. *Oryza sativa* L.**  
Breeding. IR47686-18-7B; BE-7120; Q 35039.

The following were donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597043. *Oryza sativa* L.**  
Cultivar. "SHENSHOU IBARAKI 1"; BE-7120; Q 35040. Developed in Japan.

**PI 597044. *Oryza sativa* L.**  
Cultivar. IRRI 15046; "KU115"; BE-7120; Q 35041. Developed in Thailand.

**PI 597045. *Oryza sativa* L.**  
Cultivar. "HD14"; BE-7120; Q 35042. Developed in Australia.

**PI 597046. *Oryza sativa* L.**  
Cultivar. IRRI 50641; "CEYSVONI"; BE-7120; Q 35046. Developed in Suriname.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Valle, Colombia. Donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597047. *Oryza sativa* L.**  
Breeding. CT6196-33-10-4-15-M; BE-7120; Q 35051. Pedigree - COL 1 X M312A/IRAT 124/RHS 107-2-1-2-TB-1JM.

**PI 597048. *Oryza sativa* L.**  
Breeding. CT6947-1-1-1-7-M; BE-7120; Q 35052. Pedigree - TDX 1010-45-1/COL 1 X M312A/60143.

**PI 597049. *Oryza sativa* L.**  
Breeding. CT7244-9-2-1-52-1; BE-7120; Q 35053.

The following were donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597050. *Oryza sativa* L.**  
Cultivar. "SAMGANGBYEO"; BE-7120; Q 35054. Developed in Korea, South.

**PI 597051. *Oryza sativa* L.**

Cultivar. "SEOMJINBYEO"; BE-7120; Q 35055. Developed in Korea, South.

The following were developed by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/29/1994.

- PI 597052. *Oryza sativa* L.  
Breeding. C101LAC; BE-7120; Q 35056.
- PI 597053. *Oryza sativa* L.  
Breeding. C101A51; BE-7120; Q 35057.
- PI 597054. *Oryza sativa* L.  
Breeding. C102PKT; BE-7120; Q 35059.
- PI 597055. *Oryza sativa* L.  
Breeding. C104PKT; BE-7120; Q 35060.
- PI 597056. *Oryza sativa* L.  
Breeding. C105TTP-4-L23; BE-7120; Q 35061.

The following were donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

- PI 597057. *Oryza sativa* L.  
Cultivar. IRRI 40262; "TSUYUAKE"; BE-7120; Q 35073. Developed in Japan.
- PI 597058. *Oryza sativa* L.  
Cultivar. IRRI 40267; "BL 1"; BE-7120; Q 35078. Developed in Japan.
- PI 597059. *Oryza sativa* L.  
Cultivar. "MIYAZAKI"; BE-7120; Q 35080. Developed in Japan.
- PI 597060. *Oryza sativa* L.  
Cultivar. "KAGAHIKARI"; BE-7120; Q 35082. Developed in Japan.
- PI 597061. *Oryza sativa* L.  
Cultivar. IRRI 40258; "K2"; BE-7120; Q 35083. Developed in Japan.

The following were developed by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/29/1994.

- PI 597062. *Oryza sativa* L.  
Breeding. C103TTP; BE-7120; Q 35088.
- PI 597063. *Oryza sativa* L.  
Breeding. C104LAC; BE-7120; Q 35089.
- PI 597064. *Oryza sativa* L.  
Breeding. C101TTP-1; BE-7120; Q 35090.
- PI 597065. *Oryza sativa* L.



- Breeding. IRBB1 (XA-1); BE-7120; Q 35091. BLB isogenic line.
- PI 597066. *Oryza sativa* L.**  
Breeding. IRBB3 (XA-3); BE-7120; Q 35092. BLB isogenic line.
- PI 597067. *Oryza sativa* L.**  
Breeding. IRBB4 (XA-4); BE-7120; Q 35093. BLB isogenic line.
- PI 597068. *Oryza sativa* L.**  
Breeding. IRBB5 (XA-5); BE-7120; Q 35094. BLB isogenic line.
- PI 597069. *Oryza sativa* L.**  
Breeding. IRBB10 (XA-10); BE-7120; Q 35097. BLB isogenic line.
- PI 597070. *Oryza sativa* L.**  
Breeding. IRBB10 (XA-11); BE-7120; Q 35098. BLB isogenic line.
- PI 597071. *Oryza sativa* L.**  
Breeding. IRBB13 (XA-13); BE-7120; Q 35099. BLB isogenic line.
- PI 597072. *Oryza sativa* L.**  
Breeding. IRBB14 (XA-14); BE-7120; Q 35100. BLB isogenic line.
- PI 597073. *Oryza sativa* L.**  
Breeding. IR66740-ACI-6; BSI-16; BE-7120; Q 35101. New plant type.
- PI 597074. *Oryza sativa* L.**  
Breeding. IR66740-ACI-3; BSI-15; BE-7120; Q 35102. New plant type.
- PI 597075. *Oryza sativa* L.**  
Breeding. IR65598-112-2; BSI-10; BE-7120; Q 35103. New plant type.
- PI 597076. *Oryza sativa* L.**  
Breeding. IR65600-85-1-1; B 4128; BE-7120; Q 35104. New plant type.
- PI 597077. *Oryza sativa* L.**  
Breeding. IR64446-7-10-5; B 4013; BE-7120; Q 35105. New plant type.
- PI 597078. *Oryza sativa* L.**  
Breeding. IR65600-129-1-1; B 4142; BE-7120; Q 35106. New plant type.

The following were developed by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

- PI 597079. *Oryza sativa* L.**  
Breeding. TCCP266-2-49; BE-7120; Q 35108. Tolerance to salinity, alkalinity.

The following were developed by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/29/1994.

- PI 597080. *Oryza sativa* L.**

Breeding. IR50184-3B-8-2B-1; ST 2375; BE-7120; Q 35110. Tolerance to salinity, alkalinity.

**PI 597081. *Oryza sativa* L.**

Breeding. IR9202-25-1-3; BE-7120; Q 35112. Pedigree - IR2053-521-1-1/K116//KN-1B-361-1-8-6-9-1. Cold tolerant.

**PI 597082. *Oryza sativa* L.**

Breeding. "RP1848-216-3-2-1 (HB 5055)"; BE-7120; Q 35113. Cold tolerant.

The following were donated by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/29/1994.

**PI 597083. *Oryza sativa* L.**

Breeding. "HAYAYUKI"; HB 5245; BE-7120; Q 35114. Developed in Japan. Cold tolerant.

The following were developed by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/29/1994.

**PI 597084. *Oryza sativa* L.**

Breeding. IR53236-342; SP 2259 92DS; BE-7120; Q 35115. Drought tolerant.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Valle, Colombia. Donated by Robert Zeigler, International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 06/29/1994.

**PI 597085. *Oryza sativa* L.**

Breeding. CNA 4127; SP 2342 93DS; BE-7120; Q 35116. Drought tolerant.

The following were developed by International Rice Research Institute, Cambodia Project, Cambodia. Received 06/29/1994.

**PI 597086. *Oryza sativa* L.**

Breeding. IR62752-10; SP 2568 93DS; BE-7120; Q 35117. Drought tolerant.

**PI 597087. *Oryza sativa* L.**

Breeding. IR62752-06; SP 2566 93DS; BE-7120; Q 35118. Drought tolerant.

**PI 597088. *Oryza sativa* L.**

Breeding. IR9884-54-3-IE-P1; ST 2364; BE-7120; Q 35119. Pedigree - N.Bokra/IR2070-414-3-5-6//IR34. Tolerance to salinity, alkalinity.

**PI 597089. *Oryza sativa* L.**

Breeding. IR51500-AC11-1; SP 2365; BE-7120; Q 35120. Tolerance to salinity, alkalinity.

**PI 597090. *Oryza sativa* L.**

Breeding. IR52717-2B-4-2B-1-3; ST 2377; BE-7120; Q 35122. Tolerance to salinity, alkalinity.

**PI 597091. *Oryza sativa* L.**

Breeding. IR8866-30-3-1-4-2; BE-7120; Q 35123. Pedigree - K78-13/IR2053-362-1-4. Cold tolerant.

**PI 597092. *Oryza sativa* L.**

Breeding. IR59489-2B-3-2; SC 1426; BE-7120; Q 35124. Cold tolerant.

**PI 597093. *Oryza sativa* L.**

Breeding. IR25976-12-2-2-2-1-1; SC 51815; BE-7120; Q 35125. Cold tolerant.

The following were developed by O.A. Bradt, Ministry of Agriculture and Food, Horticultural Research Institute Ontario, Vineland Station, Ontario, Canada. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597094. *Vitis hybrid***

Cultivar. VEEPORT. Collected in Ontario, Canada. Pedigree - Wilder x Winchell. Fruit cluster size medium, well-filled. Berry spherical, skin black. Vine vigorous, many long canes. Leaf trilobed, strongly concave. Moderately winter hardy. Chief value is for wine where it has consistently received good ratings as a dessert wine, resembles Wilder.

The following were developed by A.B. Stout, New York Botanical Garden, New York, United States. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597095. *Vitis hybrid***

Cultivar. ROMULUS. Pedigree - Ontario x Sultanina. Fruit cluster large, shouldered, compact. Berry small, variable in size, roundish, skin greenish-yellow, flesh melting, juicy, vinous flavored, quality good, seedless, resembles Sultanina, ripens with Concord. Vine very vigorous, very productive, fairly hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597096. *Vitis hybrid***

Cultivar. HUMBERT No. 3. Pedigree - Seibel 157 x Gaillard 2 V. labrusca, V. lincecumii, V. riparia, V. rupestris, V. vinifera. Berries blue, small. Clusters medium, loose. Vine size average. Winter hardy. Wine.

The following were developed by John Einset. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597097. Vitis hybrid**

Cultivar. LAKEMONT. Pedigree - Ontario x Sultanina. Cluster medium-large, medium compact-compact, wedge shaped. Berry medium-small, oval, skin yellowish-green, flesh tender adheres to skin, juicy, sweet, quality good-excellent, seedless, ripens with Delaware. Flower perfect, stamens upright. Vine vigor moderate, less hardy than Himrod, more than Interlaken. Productive. Recommended for home garden and roadside market.

The following were developed by F.E. Gladwin. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597098. Vitis hybrid**

Cultivar. FREDONIA. Pedigree - Champion x Lucile. Fruit ripens early, 2 weeks before Worden. Cluster size medium, cylindrical, compact. Berries large, skin black, thick, tough, quality good, superior to any other black var. of its season, inclined to shatter badly at maturity. Vine susceptible to downy mildew, vigorous, hardy, fairly productive.

The following were developed by P.R. Freas. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597099. Vitis hybrid**

Cultivar. TELEGRAPH. Pedigree - Unknown. V. labrusca, V. aestivalis chance seedling. Berries medium round, dull black, foxy flavor. Clusters medium-small, short, cylindrical, single, shouldered, very compact. Vine vigorous, very productive. Cold hardy.

The following were developed by Robert M. Pool, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456, United States; J.P. Watson; John Einset; K.H. Kimball. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597100. Vitis hybrid**

Cultivar. GLENORA. Pedigree - Ontario x Russian Seedless. Fruit medium, blue-black, skin adherent, flesh melting, flavor delicate. Clusters large, cylindrical, not excessively compact. Responds favorably to gibberellic acid, ripens early, does not store well. Vine vigorous, phylloxera resistant, not fully winter hardy, comparable to Himrod and Interlaken. Less resistant to powdery and downy mildew than Concord and extra sprays may be required to control these diseases. A seedless cultivar adapted to northeastern N.A.

The following were developed by Richard Wellington, Geneva, New York, United States. Donated by Bruce I. Reisch, Cornell University, New York State Agric.

Exp. Station, Department of Horticultural Sciences, Geneva, New York  
14456-0462, United States. Received 03/1985.

**PI 597101. Vitis hybrid**

Cultivar. BATH. Pedigree - Fredonia x NY 10805 (Chaselas Rose x Mills).  
Fruit cluster size medium, cylindrical to tapering, compact berry size  
medium, round oval, skin black, flesh tender, juicy, sweet, quality  
fair. Season end of Sept. in NY. Lacks foxy flavor of Fredonia which it  
resembles. Vine vigorous, very productive, tends to overbear, fairly  
hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York  
State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New  
York 14456-0462, United States. Received 03/1985.

**PI 597102. Vitis hybrid**

Cultivar. COUDERC 18815. Collected in France. Berries small, blue.

The following were developed by A. Moyer, St. Catherines, Ontario, Canada.  
Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp.  
Station, Department of Horticultural Sciences, Geneva, New York 14456-0462,  
United States. Received 03/1985.

**PI 597103. Vitis hybrid**

Cultivar. MOYER. Collected in Ontario, Canada. Pedigree - Delaware x  
Miller's Burgundy. Berries medium-small, oblate, dark red and firm.  
Clusters medium-small, short, conical, single shouldered, medium  
compactness. Vine vigor medium but not productive. Cold hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York  
State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New  
York 14456-0462, United States. Received 03/1985.

**PI 597104. Vitis hybrid**

Cultivar. BERGONIA. Berry medium white, seeded (Niagara type). Cluster  
large well-filled. Vine vigorous. Cold hardy.

**PI 597105. Vitis hybrid**

Cultivar. STRAWBERRY GRAPE. Berry medium red, labrusca type. Cluster  
medium size, well-filled. Vine vigor medium. Winter hardy.

The following were developed by Herb C. Barrett, USDA, ARS, US Horticultural  
Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States.  
Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp.  
Station, Department of Horticultural Sciences, Geneva, New York 14456-0462,  
United States. Received 03/1985.

**PI 597106. Vitis hybrid**

Cultivar. ILL 882-7. Pedigree - V. berlandieri 'Ressegniar #2' x V.  
cinerea 'B9' from population of 340 seeds. Male. Vine vigorous. Very  
late bloom.

The following were developed by S.A. Beach. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597107. Vitis hybrid**

Cultivar. GOFF. Pedigree - Unknown. Crossed by E.S. Goff. Berries size of Concord; foxy flavor, misshapen, dark reddish-purple, covered with bloom. Clusters variable in size and shape, compact to loose. Cold hardy.

The following were developed by T.S. Hubbard Company, Fredonia, New York, United States. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597108. Vitis hybrid**

Cultivar. HUBBARD. Pedigree - Brighton x Campbell's. Berry medium blue, foxy flavor, size medium. Cluster loose. Vine vigorous.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597109. Vitis hybrid**

Cultivar. ISLAND BELLE. Berry large, red, foxy. Cluster large, medium-compact. Vine very vigorous.

The following were developed by William Saunders, Canada Department of Agriculture, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597110. Vitis hybrid**

Cultivar. KENSINGTON. Collected in Ontario, Canada. Pedigree - Clinton x Buckland Sweetwater. Size variable, oval, yellowish-green, glossy, moderately firm. Clusters medium-large. Heavy single shoulders. Many aborted berries. Vine vigorous. Production variable. Cold hardy.

The following were developed by S.A. Beach. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597111. Vitis hybrid**

Cultivar. BROCTON. Pedigree - Brighton x NY 125 (Winchell x Diamond). Fruit skin white, quality good, flavor less foxy than Niagara which it resembles. Cluster medium to large, loose.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597112. *Vitis* sp.**

Cultivar. CH-3-48. Female. Berry small, blue. Clusters small, loose. Resistant to downy mildew. Vine vigor medium.

The following were developed by F.E. Gladwin. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597113. *Vitis* hybrid**

Cultivar. HANOVER. Pedigree - Brighton x Niagara. Fruit cluster medium, conical, well-filled. Berry variable in size, spherical, skin dark red, not attractive, quality average, ripens late, resembles Brighton. Vine variable in vigor, productivity poor, hardier than Niagara. Flowers self-fruitful.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597114. *Vitis* hybrid**

Cultivar. PORTLAND. Pedigree - Champion x Lutie. Berry large, green. Cluster large, compact. Vine vigor medium.

The following were developed by Herb C. Barrett, USDA, ARS, US Horticultural Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597115. *Vitis vulpina* L.**

Cultivar. B 18. Collected in Illinois, United States. North of Urbana, Illinois. Pedigree - Wild *V. cordifolia*. Female. Cluster medium-large, loose. Healthy. Berries small, black. Late bloom. Vigor medium to high.

The following were developed by E.S. Rogers. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597116. *Vitis* hybrid**

Cultivar. MERRIMAC. Pedigree - Carter x Black Hamburg formerly Rogers No.19. Berries large-medium, round, glossy black, firm. Cluster size

variable, length average, broad, cylindrical, compact. Ripens after Concord. Vine vigorous, production moderate. Moderately winter hardy.

The following were developed by Richard Wellington, Geneva, New York, United States. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597117. Vitis hybrid**

Cultivar. KENDAIA. Pedigree - Portland x Hubbard. Fruit cluster size medium, to 600 g, conical, shouldered, well-filled. Berry spherical, 18-20 mm, slip-skin, bluish-black, flavor slightly foxy, medium acid, tendency to crack, maturity 3 weeks before Concord, keeping quality fair. Vine vigorous, productive, one of the hardiest of the N.Y. introductions. Considered promising in the northern tier of states.

The following were developed by J. Fiske Allen, Unknown. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597118. Vitis hybrid**

Cultivar. ALLEN HYBRID. Pedigree - Isabella x Chasselas de Fountain bleau V. labrusca x V. vinifera. Berry medium to large, white to yellow, round, juicy, high quality. Cluster medium to large, shouldered, compact. Vine vigorous, productive, early maturity. Not winter hardy.

The following were developed by P.H. Shepard. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597119. Vitis hybrid**

Cultivar. TETRA. Pedigree - Herbert x Worden. Fruit cluster medium to large, loose. Berry very large, blue, equal to Columbian and Golden Giant, flesh juicy, sweet, flavor very fine, ripens with Concord.

The following were donated by Austin C. Goheen, USDA, ARS, University of California, Department of Plant Pathology, Davis, California 95616, United States. Received 03/13/1985.

**PI 597120. Vitis hybrid**

Cultivar. BRILLIANT.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

**PI 597121. Vitis hybrid**

Cultivar. BEAVER.



- PI 597122. *Vitis* hybrid  
Cultivar. WAYNE.
- PI 597123. *Vitis* hybrid  
Cultivar. EDEN.
- PI 597124. *Vitis* hybrid  
Cultivar. DOWNING.
- PI 597125. *Vitis* hybrid  
Cultivar. BLUE BOY.
- PI 597126. *Vitis* hybrid  
Cultivar. LINDLEY.
- PI 597127. *Vitis* hybrid  
Cultivar. EUMELAN.
- PI 597128. *Vitis* hybrid  
Cultivar. BELL.
- PI 597129. *Vitis* hybrid  
Cultivar. RIPLEY.
- PI 597130. *Vitis* hybrid  
Cultivar. ECLIPSE.
- PI 597131. *Vitis* hybrid  
Cultivar. ERIE.
- PI 597132. *Vitis* hybrid  
Cultivar. HECTOR.
- PI 597133. *Vitis* hybrid  
Cultivar. MELTON.

The following were donated by Herb C. Barrett, USDA, ARS, US Horticultural Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States. Received 03/18/1986.

- PI 597134. *Vitis cinerea* var. *helleri* (L. H. Bailey) M. O. Moore  
Cultivar. D' ANGEAC.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1986.

- PI 597135. *Vitis* hybrid  
Cultivar. SEYVE VILLARD 7-111. Collected in France.
- PI 597136. *Vitis* hybrid  
Cultivar. BERTILLE SEYVE 6283. Collected in France.

- PI 597137. **Vitis hybrid**  
Cultivar. GALIBERT 115-24. Collected in France.
- PI 597138. **Vitis hybrid**  
Cultivar. SEYVE VILLARD 12-303. Collected in France.
- PI 597139. **Vitis hybrid**  
Cultivar. SEIBEL 5296. Collected in France.
- PI 597140. **Vitis hybrid**  
Cultivar. SEYVE VILLARD. Collected in France.
- PI 597141. **Vitis hybrid**  
Cultivar. SEIBEL 5163. Collected in France.
- PI 597142. **Vitis hybrid**  
Cultivar. LANDOT 1678.
- PI 597143. **Vitis hybrid**  
Cultivar. COUDERC 7120. Collected in France.
- PI 597144. **Vitis hybrid**  
Cultivar. JOANNES SEYVE 26-487. Collected in France.
- PI 597145. **Vitis hybrid**  
Cultivar. JOANNES SEYVE 13756. Collected in France.
- PI 597146. **Vitis hybrid**  
Cultivar. BERTILLE SEYVE 3408. Collected in France.
- PI 597147. **Vitis hybrid**  
Cultivar. BERTILLE SEYVE 6264. Collected in France.
- PI 597148. **Vitis hybrid**  
Cultivar. GALIBERT 122-31. Collected in France.
- PI 597149. **Vitis hybrid**  
Cultivar. BERTILLE SEYVE 2846. Collected in France.
- PI 597150. **Vitis hybrid**  
Cultivar. GALIBERT 114-10. Collected in France.
- PI 597151. **Vitis hybrid**  
Cultivar. SEIBEL 11259. Collected in France.
- PI 597152. **Vitis hybrid**  
Cultivar. PERBOS 226.
- PI 597153. **Vitis hybrid**  
Cultivar. BERTILLE SEYVE 3563. Collected in France.
- PI 597154. **Vitis hybrid**  
Cultivar. BURDIN 5201. Collected in France.

- PI 597155. Vitis hybrid**  
Cultivar. PERBOS 164.
- PI 597156. Vitis hybrid**  
Cultivar. BURDIN 5620. Collected in France.
- PI 597157. Vitis hybrid**  
Cultivar. OBERLIN 595.
- PI 597158. Vitis hybrid**  
Cultivar. LANDOT 234.
- PI 597159. Vitis hybrid**  
Cultivar. GALIBERT 133-6. Collected in France.
- PI 597160. Vitis hybrid**  
Cultivar. BURDIN 4672. Collected in France.
- PI 597161. Vitis hybrid**  
Cultivar. SEIBEL 2. Collected in France.
- PI 597162. Vitis hybrid**  
Cultivar. GALIBERT 128-8. Collected in France.
- PI 597163. Vitis hybrid**  
Cultivar. BURDIN 6055. Collected in France.

The following were donated by Samuel Milco, 856 W. Somerdale Road, Somerdale, New Jersey 08083, United States. Received 01/09/1987.

- PI 597164. Vitis hybrid**  
Cultivar. ST. FRANCIS (G-2496).

The following were donated by James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 01/12/1987.

- PI 597165. Vitis hybrid**  
Cultivar. BLUEBELL.
- PI 597166. Vitis hybrid**  
Cultivar. SEIBEL 11701. Collected in France.

The following were donated by Ronald Peterson, South Dakota State University, Dept. of Hort. and Forstry, Box 2207, Brookings, South Dakota 57007, United States. Received 01/14/1987.

- PI 597167. Vitis hybrid**  
Cultivar. NAPKA.

The following were donated by Bruce I. Reisch, Cornell University, New York

State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1987.

- PI 597168. *Vitis* hybrid  
Cultivar. JEFFERSON.
- PI 597169. *Vitis* hybrid  
Cultivar. PIERCE.
- PI 597170. *Vitis* hybrid  
Cultivar. ONEIDA.
- PI 597171. *Vitis* hybrid  
Cultivar. DUNKIRK.
- PI 597172. *Vitis* hybrid  
Cultivar. WHEELER.
- PI 597173. *Vitis* hybrid  
Cultivar. DELAGO.
- PI 597174. *Vitis* hybrid  
Cultivar. MARION.
- PI 597175. *Vitis* hybrid  
Cultivar. SEIBEL 6339. Collected in France.
- PI 597176. *Vitis* hybrid  
Cultivar. WALLIS GIANT.
- PI 597177. *Vitis* hybrid  
Cultivar. ROSEBELLE.
- PI 597178. *Vitis* hybrid  
Cultivar. SECRETARY.
- PI 597179. *Vitis* hybrid  
Cultivar. GALIBERT 120-53. Collected in France.
- PI 597180. *Vitis* hybrid  
Cultivar. GALIBERT 127-34. Collected in France.
- PI 597181. *Vitis* hybrid  
Cultivar. VEEBLANC. Collected in Ontario, Canada.
- PI 597182. *Vitis* hybrid  
Cultivar. SEYVE VILLARD 12-395. Collected in France.
- PI 597183. *Vitis* hybrid  
Cultivar. SEIBEL 6468. Collected in France.
- PI 597184. *Vitis* hybrid  
Cultivar. SEIBEL 5409. Collected in France.
- PI 597185. *Vitis* hybrid

- Cultivar. SEIBEL 15062. Collected in France.
- PI 597186. Vitis hybrid**  
Cultivar. NIAGARA ROSE.
- PI 597187. Vitis hybrid**  
Cultivar. SEYVE VILLARD 15-403. Collected in France.
- PI 597188. Vitis hybrid**  
Cultivar. SEYVE VILLARD 16-207. Collected in France.
- PI 597189. Vitis hybrid**  
Cultivar. SEIBEL 8740. Collected in France.
- PI 597190. Vitis hybrid**  
Cultivar. SEIBEL 9280. Collected in France.
- PI 597191. Vitis hybrid**  
Cultivar. PERBOS 155.
- PI 597192. Vitis hybrid**  
Cultivar. SEIBEL 14117. Collected in France.
- PI 597193. Vitis hybrid**  
Cultivar. SEIBEL 4646. Collected in France.
- PI 597194. Vitis hybrid**  
Cultivar. SEYVE VILLARD 15-178. Collected in France.
- PI 597195. Vitis hybrid**  
Cultivar. GALIBERT 127-10. Collected in France.
- PI 597196. Vitis hybrid**  
Cultivar. BARRY.
- PI 597197. Vitis hybrid**  
Cultivar. PERBOS 151.
- PI 597198. Vitis hybrid**  
Cultivar. SEIBEL A. Collected in France.
- PI 597199. Vitis hybrid**  
Cultivar. PONTIAC.
- PI 597200. Vitis hybrid**  
Cultivar. EMPIRE STATE.
- PI 597201. Vitis hybrid**  
Cultivar. BRIGHTON.
- PI 597202. Vitis hybrid**  
Cultivar. REGAL.
- PI 597203. Vitis hybrid**  
Cultivar. GLENFELD.

- PI 597204. *Vitis* hybrid  
Cultivar. STOUT SEEDLESS.
- PI 597205. *Vitis* hybrid  
Cultivar. NAPLES.
- PI 597206. *Vitis* hybrid  
Cultivar. BLACK EAGLE.
- PI 597207. *Vitis* hybrid  
Cultivar. CROTON.
- PI 597208. *Vitis* hybrid  
Cultivar. SEIBEL 1077. Collected in France.
- PI 597209. *Vitis* hybrid  
Cultivar. MARY'S FAVORITE.
- PI 597210. *Vitis* hybrid  
Cultivar. PERKINS.
- PI 597211. *Vitis* hybrid  
Cultivar. BLUESTAR.
- PI 597212. *Vitis* hybrid  
Cultivar. PINEY.
- PI 597213. *Vitis* hybrid  
Cultivar. WILDER.
- PI 597214. *Vitis* hybrid  
Cultivar. KING PHILLIP.
- PI 597215. *Vitis* hybrid  
Cultivar. SEIBEL 2007. Collected in France.
- PI 597216. *Vitis* hybrid  
Cultivar. SEIBEL 8229. Collected in France.
- PI 597217. *Vitis* hybrid  
Cultivar. SEIBEL 7349. Collected in France.
- PI 597218. *Vitis* hybrid  
Cultivar. SEYVE VILLARD 12-391. Collected in France.
- PI 597219. *Vitis* hybrid  
Cultivar. JOANNES SEYVE 9-149. Collected in France.
- PI 597220. *Vitis* hybrid  
Cultivar. SEIBEL 13680. Collected in France.
- PI 597221. *Vitis* hybrid  
Cultivar. JOANNES SEYVE 14-982. Collected in France.

- PI 597222. *Vitis* hybrid  
Cultivar. EARLY CATAWBA.
- PI 597223. *Vitis* hybrid  
Cultivar. SEIBEL 2003. Collected in France.
- PI 597224. *Vitis* hybrid  
Cultivar. ROYAL SEEDLESS.
- PI 597225. *Vitis* hybrid  
Cultivar. CANANDAIGUA.
- PI 597226. *Vitis* hybrid  
Cultivar. BERTILLE SEYVE 2862. Collected in France.
- PI 597227. *Vitis* hybrid  
Cultivar.
- PI 597228. *Vitis* hybrid  
Cultivar. SUGAR PLUM.
- PI 597229. *Vitis* hybrid  
Cultivar. MELODY.
- PI 597230. *Vitis* hybrid  
Cultivar. KAY GRAY.
- PI 597231. *Vitis* hybrid  
Cultivar. VIVANT. Collected in Ontario, Canada.
- PI 597232. *Vitis cinerea* (Engelm.) Engelm. ex Millardet  
ILL 23.
- PI 597233. *Vitis* hybrid  
Cultivar. RELIANCE.
- PI 597234. *Vitis* hybrid  
Cultivar. MARS.
- PI 597235. *Vitis* hybrid  
Cultivar. ST. CROIX.
- PI 597236. *Vitis* hybrid  
Cultivar. ELEVEN POINT.
- PI 597237. *Vitis* hybrid  
Cultivar. ILL 344-1.
- PI 597238. *Vitis* hybrid  
Cultivar. DIX.
- PI 597239. *Vitis* hybrid  
Cultivar. SEIBEL 70790. Collected in France.
- PI 597240. *Vitis* hybrid

Cultivar. SEIBEL 11257. Collected in France.

The following were donated by USDA, ARS, Nat. Clonal Germplasm Repository, University of California, One Shields Avenue, Davis, California 95616, United States. Received 03/18/1987.

**PI 597241. Vitis hybrid**  
Cultivar. INTERLAKEN.

**PI 597242. Vitis hybrid**  
Cultivar. SUFFOLK RED.

**PI 597243. Vitis hybrid**  
Cultivar. VENUS.

**PI 597244. Vitis hybrid**  
Cultivar. SEYVE VILLARD 5-267. Collected in France.

**PI 597245. Vitis hybrid**  
Cultivar. SEIBEL 2056. Collected in France.

The following were donated by Lon J. Rombough, 13113 Ehlen Road, Aurora, Oregon 97002, United States. Received 03/30/1987.

**PI 597246. Vitis hybrid**  
Cultivar. HELEN KELLER.

**PI 597247. Vitis hybrid**  
Cultivar. GAERTNER.

**PI 597248. Vitis hybrid**  
Cultivar. MONITOR.

**PI 597249. Vitis hybrid**  
Cultivar. ELIZABETH.

**PI 597250. Vitis hybrid**  
Cultivar. GERVAN.

**PI 597251. Vitis hybrid**  
Cultivar. FALLOW.

**PI 597252. Vitis hybrid**  
Cultivar. BURGIN RED.

**PI 597253. Vitis hybrid**  
Cultivar. CONCAT YELLOWBIRD.

**PI 597254. Vitis hybrid**  
Cultivar. VARATURA.

**PI 597255. Vitis hybrid**  
Cultivar. HENDRICKSON SEEDLESS.



The following were donated by Robert Kurle, NAFEX, 10 South 055 Madison Street, Hinsdale, Illinois 60521, United States. Received 04/06/1987.

**PI 597256. Vitis hybrid**  
Cultivar. USDA 125.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 08/1988.

**PI 597257. Vitis piasezkii var. piasezkii Maxim.**  
Collected in China.

**PI 597258. Vitis hybrid**  
ILL 879-5.

**PI 597259. Vitis hybrid**  
HN 12 (HN=HOSTETTER-NEFF).

**PI 597260. Vitis hybrid**  
Cultivar. SEYVE VILLARD 12-327. Collected in France.

**PI 597261. Vitis hybrid**  
Cultivar. THOMPSON NO. 5.

**PI 597262. Vitis hybrid**  
Cultivar. SEYVE VILLARD 2-108. Collected in France.

**PI 597263. Vitis hybrid**  
Cultivar. NORWOOD.

**PI 597264. Vitis hybrid**  
Cultivar. CENTURY 1.

**PI 597265. Vitis hybrid**  
Cultivar. ZARIA SIEWIERA.

**PI 597266. Vitis hybrid**  
Cultivar. OCONEE.

**PI 597267. Vitis hybrid**  
NC 645.122.24.

**PI 597268. Vitis hybrid**  
Cultivar. DALNIEWOSTOZNYD RAMINING.

The following were donated by Lon J. Rombough, 13113 Ehlen Road, Aurora, Oregon 97002, United States. Received 02/22/1988.

**PI 597269. Vitis hybrid**  
Cultivar. RECORD SWEET PURPLE.

**PI 597270. Vitis hybrid**  
Cultivar. PAUL REVERE.

The following were donated by USDA, ARS, Nat. Clonal Germplasm Repository, University of California, One Shields Avenue, Davis, California 95616, United States. Received 04/25/1988.

**PI 597271. Vitis hybrid**  
Cultivar. ULSTER.

**PI 597272. Vitis hybrid**  
Cultivar. SEYVE VILLARD 12-347. Collected in France.

**PI 597273. Vitis cinerea var. helleri** (L. H. Bailey) M. O. Moore  
B 65-7.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 01/09/1989.

**PI 597274. Vitis hybrid**  
BR 10.

The following were donated by Jack Dempsey, Grayson County College, T.V. Munson Viticulture & Enology Center, 6101 Grayson Drive, Denison, Texas, United States. Received 01/10/1989.

**PI 597275. Vitis hybrid**  
Cultivar. NIABELL.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 02/09/1989.

**PI 597276. Vitis hybrid**  
Cultivar. JOANNES SEYVE 26-674. Collected in France.

The following were donated by Susan Nelson-Kluk, University of California-Davis, Foundation Seed & Plant Materials Serv., 201 Seed Certification Center, Davis, California 95616, United States. Received 02/22/1989.

**PI 597277. Vitis hybrid**  
Cultivar. SEIBEL 8357. Collected in France.

**PI 597278. Vitis hybrid**  
Cultivar. SEYVE VILLARD 5276. Collected in France.

The following were donated by Byron T. Johnson, 7934 State Road, Cincinnati, Ohio 45255, United States. Received 03/20/1989.

**PI 597279. Vitis hybrid**  
Cultivar. SCIOTO.

The following were donated by USDA, ARS, Nat. Clonal Germplasm Repository, University of California, One Shields Avenue, Davis, California 95616, United States. Received 03/22/1989.

**PI 597280. Vitis hybrid**  
Cultivar. PATRICIA. Collected in Ontario, Canada.

**PI 597281. Vitis hybrid**  
Cultivar. VITAL.

The following were donated by Philip Wagner, Boordy Nursery, Box 38, Riderwood, Maryland 21139, United States. Received 02/28/1990.

**PI 597282. Vitis hybrid**  
Cultivar. GALIBERT 238-35.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/12/1990.

**PI 597283. Vitis hybrid**  
Cultivar. LANDOT 6222. Collected in France.

**PI 597284. Vitis hybrid**  
Cultivar. SEIBEL 13666. Collected in France.

The following were donated by R.C. Johnson, Saanichton Plant Quarantine Center, Agriculture Canada, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 03/12/1990.

**PI 597285. Vitis hybrid**  
Cultivar. SEIBEL 10076.

**PI 597286. Vitis hybrid**  
Cultivar. KULTEZHINSKI.

**PI 597287. Vitis hybrid**  
Cultivar. BIANCA.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 01/10/1991.

**PI 597288. Vitis hybrid**

Cultivar. SV 28-86. Collected in France.

**PI 597289. *Vitis* hybrid**

Cultivar. RUBIYAT.

**PI 597290. *Vitis* hybrid**

Cultivar. SV 26-166. Collected in France.

**PI 597291. *Vitis* hybrid**

Cultivar. SV 61-339. Collected in France.

The following were donated by David Cain, Sun World, 16350 Driver Road, P.O. Box 80298, Bakersfield, California 93380-0298, United States. Received 01/16/1992.

**PI 597292. *Vitis* sp.**

Wild. C-166-026. Collected in China.

**PI 597293. *Vitis* sp.**

Wild. J-167-045. Collected in China.

**PI 597294. *Vitis* sp.**

Wild. A-166-003. Collected in China.

**PI 597295. *Vitis* sp.**

Wild. J-167-048. Collected in China.

**PI 597296. *Vitis* sp.**

Wild. C-166-025. Collected in China.

**PI 597297. *Vitis* sp.**

Wild. C-166-039. Collected in China.

**PI 597298. *Vitis* sp.**

Wild. B-166-016. Collected in China.

Unknown source. Received 03/13/1992.

**PI 597299. *Vitis* hybrid**

Cultivar. TITAN. Collected in Hungary.

The following were donated by Peter Hemstad, University of Minnesota, Department of Hort Science &, Landscape Architecture, St. Paul, Minnesota 55108, United States. Received 03/23/1992.

**PI 597300. *Vitis riparia* Michx.**

Cultivar. ARIS.

The following were donated by Herb C. Barrett, USDA, ARS, US Horticultural Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States. Received 01/15/1993.

PI 597301. *Vitis* hybrid  
ILL 271-1.

PI 597302. *Vitis* hybrid  
B4-119.

PI 597303. *Vitis* hybrid  
B4-114.

Unknown source. Received 01/11/1994.

PI 597304. *Vitis* hybrid

Unknown source. Received 02/02/1994.

PI 597305. *Vitis* hybrid

Unknown source. Received 02/08/1994.

PI 597306. *Vitis* hybrid

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 03/12/1997.

PI 597307. *Pisum sativum* L.  
Cultivar. "XP F330". PVP 9700194.

PI 597308. *Pisum sativum* L.  
Cultivar. "XP F374". PVP 9700195.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 03/12/1997.

PI 597309. *Zea mays* L. *ssp. mays*  
Cultivar. "PHDG1". PVP 9700196.

PI 597310. *Zea mays* L. *ssp. mays*  
Cultivar. "PHDN7". PVP 9700197.

PI 597311. *Zea mays* L. *ssp. mays*  
Cultivar. "PHKV0". PVP 9700198.

PI 597312. *Zea mays* L. *ssp. mays*  
Cultivar. "PH0AA". PVP 9700199.

PI 597313. *Zea mays* L. **ssp. mays**  
Cultivar. "PH0AV". PVP 9700200.

PI 597314. *Zea mays* L. **ssp. mays**  
Cultivar. "PH0B4". PVP 9700201.

PI 597315. *Zea mays* L. **ssp. mays**  
Cultivar. "PH0DH". PVP 9700202.

PI 597316. *Zea mays* L. **ssp. mays**  
Cultivar. "PH0HC". PVP 9700203.

PI 597317. *Zea mays* L. **ssp. mays**  
Cultivar. "PH0HP". PVP 9700204.

PI 597318. *Zea mays* L. **ssp. mays**  
Cultivar. "PH0HR". PVP 9700205.

PI 597319. *Zea mays* L. **ssp. mays**  
Cultivar. "PH00M". PVP 9700206.

PI 597320. *Zea mays* L. **ssp. mays**  
Cultivar. "PH02T". PVP 9700207.

PI 597321. *Zea mays* L. **ssp. mays**  
Cultivar. "PH03D". PVP 9700208.

PI 597322. *Zea mays* L. **ssp. mays**  
Cultivar. "PH04G". PVP 9700209.

PI 597323. *Zea mays* L. **ssp. mays**  
Cultivar. "PH05F". PVP 9700210.

PI 597324. *Zea mays* L. **ssp. mays**  
Cultivar. "PH05G". PVP 9700211.

PI 597325. *Zea mays* L. **ssp. mays**  
Cultivar. "PH05W". PVP 9700212.

PI 597326. *Zea mays* L. **ssp. mays**  
Cultivar. "PH06N". PVP 9700213.

PI 597327. *Zea mays* L. **ssp. mays**  
Cultivar. "PH07D". PVP 9700214.

PI 597328. *Zea mays* L. **ssp. mays**  
Cultivar. "PH08A". PVP 9700215.

PI 597329. *Zea mays* L. **ssp. mays**  
Cultivar. "PH08B". PVP 9700216.

PI 597330. *Zea mays* L. **ssp. mays**  
Cultivar. "PH080". PVP 9700217.

PI 597331. *Zea mays* L. **ssp. mays**

- Cultivar. "PH09B". PVP 9700218.
- PI 597332. *Zea mays* L. *ssp. mays*  
Cultivar. "PH09E". PVP 9700219.
- PI 597333. *Zea mays* L. *ssp. mays*  
Cultivar. "PH12J". PVP 9700220.
- PI 597334. *Zea mays* L. *ssp. mays*  
Cultivar. "PH17C". PVP 9700221.
- PI 597335. *Zea mays* L. *ssp. mays*  
Cultivar. "PH22G". PVP 9700222.
- PI 597336. *Zea mays* L. *ssp. mays*  
Cultivar. "PH24M". PVP 9700223.
- PI 597337. *Zea mays* L. *ssp. mays*  
Cultivar. "PH32C". PVP 9700224.
- PI 597338. *Zea mays* L. *ssp. mays*  
Cultivar. "PH38D". PVP 9700225.
- PI 597339. *Zea mays* L. *ssp. mays*  
Cultivar. "PH44G". PVP 9700226.
- PI 597340. *Zea mays* L. *ssp. mays*  
Cultivar. "PH55C". PVP 9700227.
- PI 597341. *Zea mays* L. *ssp. mays*  
Cultivar. "PH77C". PVP 9700228.
- PI 597342. *Zea mays* L. *ssp. mays*  
Cultivar. "PH79A". PVP 9700229.

The following were donated by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 07/05/1991.

- PI 597343. *Oryza sativa* L.  
Cultivar. IRRI 10769; "LAMBAYQUE 1"; BE 3499; F 1098. Developed in Peru.
- PI 597344. *Oryza sativa* L.  
Cultivar. IRRI 33984; "BABER"; BE 3499; F 1193. Collected in Jammu and Kashmir, India.

The following were donated by Bhuwon Sthapit, Lumle Agricultural Centre, P.O. Box No.1, Pokhara, Anchal, Nepal. Received 07/20/1992.

- PI 597345. *Oryza sativa* L.  
Cultivar. "PALUNG-2"; BE-4150; Q 29224. Developed in Nepal.
- PI 597346. *Oryza sativa* L.  
Cultivar. "HS-360"; BE-4150; Q 29247. Developed in Nepal.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 10/25/1993.

**PI 597347. Beckmannia sp.**

Wild. JA-341; VIR U-0134934; W6 13199. Collected 07/29/1992 in Kazakhstan. Latitude 48 deg. 52' N. Longitude 60 deg. 11' E. Elevation 150 m. 120 km north northeast of Chelkar. Soil sandy. Water way, gully. Growing in wet seep area with *Elytrigia repens*. Associated species *Bromus inermis*, *Elytrigia* spp., and several shrubs. Height up to 0.5 m. Rhizomatous grass with soft lush green leaves carried high up on stem.

The following were developed by J. Paul Murphy, North Carolina State University, Dept of Crop Science, Box 7620, Raleigh, North Carolina 27695-7620, United States; Steven Leath, USDA, ARS, North Carolina State University, Dept. of Plant Pathology, Raleigh, North Carolina 27695, United States; R.A. Navarro, North Carolina State University, North Carolina Agric. Exp. Station, Raleigh, North Carolina, United States; Ainong Shi, North Carolina State University, Department of Plant Pathology, Box 7616, Raleigh, North Carolina 27695, United States; D. Huynh, USDA-ARS, North Carolina State University, Dept. of Crop Science, Raleigh, North Carolina 27695-7629, United States. Received 03/24/1997.

**PI 597348. Triticum aestivum L., nom. cons.**

Breeding. Pureline. NC96BGTD1. GP-545. Pedigree - Saluda\*3/TA 2570. Soft red winter wheat adapted to Southeastern U.S. Resistant to prevalent powdery mildew (*Blumeria graminis*, Speer f. sp. tritici) isolates found in cultivation in North Carolina during 1994-1996 seasons. Source of resistance was *Aegilops tauschii* Coss accession, TA 2570, collected in Armenia. BC2F6 derived line. Height and maturity similar to recurrent parent Saluda.

**PI 597349. Triticum aestivum L., nom. cons.**

Breeding. Pureline. NC96BGTD2. GP-546. Pedigree - Saluda\*3/TA 2481. Soft red winter wheat adapted to Southeastern U.S. Resistant to prevalent powdery mildew (*Blumeria graminis*, Speer f. sp. tritici) isolates found in cultivation in North Carolina during 1994-1996 seasons. Source of resistance was *Aegilops tauschii* Coss accession, TA 2481, collected in Iran. BC2F6 derived line. Height and maturity similar to recurrent parent Saluda.

**PI 597350. Triticum aestivum L., nom. cons.**

Breeding. Pureline. NC96BGTD3. GP-547. Pedigree - Saluda\*3/TA 2377. Soft red winter wheat adapted to Southeastern U.S. Resistant to prevalent powdery mildew (*Blumeria graminis*, Speer f. sp. tritici) isolates found in cultivation in North Carolina during 1994-1996 seasons. Source of resistance was *Aegilops tauschii* Coss accession, TA 2377, collected in Iran. BC2F5 derived line. Height and maturity similar to recurrent parent Saluda.



The following were developed by Angela P. Brown, University of Idaho, Dept. of Plant, Soil and Entomological Sciences, Moscow, Idaho 83843, United States ; Dick L. Auld, Texas Tech University, Department of Plant and Soil Sciences, P.O. Box 4122, Lubbock, Texas 79409-2122, United States; D.A. Erickson, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. B. Davis, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; L. Seip, University of Idaho, Dept. Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. Brown, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States. Received 03/24/1997.

**PI 597351. *Brassica napus* L.**

Cultivar. Pureline. "SELKIRK"; UI.505; IAES Reg #97710. CV-13; PVP 9700370. Pedigree - WRE.23 / Bienvenu. Winter type with canola-quality seed oil. High adaptability to Pacific Northwest Region. Produces good fall plant stand, winter-hardiness and frost tolerance excellent. Resistant to lodging. Stature medium-tall, avg. 162.5 cm. Flower opening and maturity medium-late, suited to regions with late spring frosts. Seed size medium to high, weight 4.6 g 1000 seeds-1. Average seed oil content from open pollinated plants 397 g kg-1. Oil quality very high, less than 1 g kg-1 erucic acid and less than 90 g kg-1 linolenic acid. Seed meal glucosinolates very low, avg. less than 5 umol g-1 of total glucosinolates of defatted seed meal.

The following were developed by Angela P. Brown, University of Idaho, Dept. of Plant, Soil and Entomological Sciences, Moscow, Idaho 83843, United States ; D.A. Erickson, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. B. Davis, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; L. Seip, University of Idaho, Dept. Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. Brown, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States. Received 03/24/1997.

**PI 597352. *Brassica napus* L.**

Cultivar. Pureline. "SUNRISE"; UI.88.1; IAES Reg #97714. CV-14; PVP 9700369. Pedigree - Cyclone / DNK.90.218. Spring type edible oilseed crop. High adaptability to environments throughout the Pacific Northwest Region. Resistant to lodging, moderate resistance to spring frost. Stature short-medium, avg. height 85 cm. Flower opening early-medium, approx. 51 days, maturity 96 days after planting. Seed size medium, avg. weight 3.3 g 1000 seeds-1, avg. oil content 395 g kg-1. Consistently produced less than 5 g kg-1 erucic acid and less than 100 g kg-1 linolenic acid. Total glucosinolate content very low, 6.2 umol g-1 of defatted seed meal.

The following were developed by Angela P. Brown, University of Idaho, Dept. of Plant, Soil and Entomological Sciences, Moscow, Idaho 83843, United States ; Dick L. Auld, Texas Tech University, Department of Plant and Soil Sciences, P.O. Box 4122, Lubbock, Texas 79409-2122, United States; D.A. Erickson, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. B. Davis, University of Idaho, Plant, Soil and

Entomological Sciences, Moscow, Idaho 83844-2339, United States; L. Seip, University of Idaho, Dept. Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. Brown, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States. Received 03/24/1997.

**PI 597353. Brassica napus L.**

Cultivar. Pureline. "ERICKA"; UI.504; IAES Reg #97711. CV-15; PVP 9700371. Pedigree - WRE.17 / Bienvenu. Winter canola developed for use as edible oilseed crop. High adaptability to Pacific Northwest Region. Quickly produces a fall stand, winter hardiness excellent, and tolerant to frost damage. Resistant to lodging. Stature medium-short, avg. 156 cm. Flower opening and maturity medium-early. Seed size medium to high, weight avg. 4.5 g 1000 seeds-1, oil content from open pollinated field trials 397 g kg-1. Oil quality very high, less than 1 g kg-1 erucic acid and less than 85 g kg-1 linolenic acid. Total seed meal glucosinolate content less than 12 umol g-1.

The following were developed by Angela P. Brown, University of Idaho, Dept. of Plant, Soil and Entomological Sciences, Moscow, Idaho 83843, United States; D.A. Erickson, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. B. Davis, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; L. Seip, University of Idaho, Dept. Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States; J. Brown, University of Idaho, Plant, Soil and Entomological Sciences, Moscow, Idaho 83844-2339, United States. Received 03/24/1997.

**PI 597354. Brassica napus L.**

Cultivar. Pureline. "STERLING"; UI.35.5.15; IAES Reg #97712. CV-16; PVP 9700372. Pedigree - Jaguar / Hero. Spring industrial type with canola-quality seed meal. High adaptability to Pacific Northwest region. Moderately resistant to spring frost, resistant to lodging. Stature short, avg. 99 cm. Flowering medium-early, approx. 54 days after planting, maturity 98 days after planting. Seed size medium, weight avg. 3.5 g 1000 seeds-1, oil content avg. 404 g kg-1, erucic acid content 463 g kg-1. Total seed glucosinolate content consistently low, avg. 10.7 umol g-1 of defatted meal.

**PI 597355. Brassica napus L.**

Cultivar. Pureline. "GARNET"; UI.77.7.29; IAES Reg #97713. CV-17; PVP 9700373. Pedigree - DNK.89.213 / Hero. Spring industrial rapeseed with high adaptability to environmental conditions of Pacific Northwest region. Moderately resistant to spring frost, resistant to lodging. Height medium to tall, avg. 112 cm. Mature early, avg. 98 days from planting. Seed weight avg. 3.4 g 1000 seeds-1, oil content high 442 g kg-1, erucic acid 490 g kg-1. Total glucosinolate very low, avg. 7.2 umol g-1 of defatted seed meal.

**PI 597356. Sinapis alba L.**

Cultivar. Population. "IDAGOLD"; BH.70.AJ; IAES Reg #97709. CV-9; PVP 9700374. Pedigree - Mustang / BHLG.3553. Open pollinated, yellow condiment mustard. High adaptation to dry-land environments of Pacific Northwest. Resistant to lodging. Susceptible to late spring frosts.

Seedling emergence moderate-good, early plant establishment. Plants erect, height moderate-tall, avg. 129 cm, stems hollow. Flowers open early. Maturity 96 days from planting. Seed weight moderate-high 5.5 g 1000 seeds<sup>-1</sup>, color bright yellow, oil content avg. 251 g kg<sup>-1</sup>. Total glucosinolate content avg. 244  $\mu\text{mol g}^{-1}$ . Sinalbin (p-hydroxybenzyl glucosinolate) accounted for greatest proportion, 97%, of total glucosinolate.

The following were developed by Jeff Pedersen, USDA, ARS, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68583-0937, United States ; Timothy D. Phillips, University of Kentucky, Department of Agronomy, Agricultural Science Building-North, Lexington, Kentucky 40546-0091, United States; Georgia Eizenga, USDA-ARS, Rice Research Station, P.O. Box 287, Stuttgart, Arkansas 72160, United States; P. B. Burrus, Jr., USDA-ARS, Tobacco and Forage Research Unit, Lexington, Kentucky, United States. Received 03/24/1997.

**PI 597357. *Phleum pratense* L.**

Breeding. Population. KY-LEAFY. GP-1. Pedigree - Selection from Clair timothy, a 3-clone synthetic. Vigorous, early maturing, begins growth about one week earlier than Clair in Kentucky. Leaves broad, light green. Greater basal leaf production. Heading 3 days earlier than Clair. Adapted to southern range of timothy production and areas where Clair timothy has performed well.

**PI 597358. *Dactylis glomerata* L.**

Breeding. Population. KY 07G23-334; KYOGI; KYI; POP I. GP-3. Pedigree - Selection from Boone. Leafy, vigorous, more upright growth habit than Boone, matures several days earlier than Boone in Kentucky. Some resistance to scald (*Rhynchosporium secalis*) and leaf rust (*Puccinia graminis* ssp. *graminicola*).

**PI 597359. *Dactylis glomerata* L.**

Breeding. Population. KY 07G23-336; KY OG III; KY III; POP III. GP-4. Pedigree - Selected from an old stand of Boone. Vigorous, high yielding population. Leaves darker green than Boone, more basal leaf production. Produces fewer panicles than Boone and matures a few days earlier than Boone in Kentucky. Resistance to scald (*Rhynchosporium secalis*) and leaf rust (*Puccinia graminis* ssp. *graminicola*).

The following were developed by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/28/1997.

**PI 597360. *Helianthus annuus* L.**

Genetic. cmsHA 89(PEF1). GS-6. Pedigree - cms PEF1/5\* HA 89. Cytoplasmic male sterile genetic stock. Provides increased genetic diversity in the sunflower cytoplasmic male sterile-restorer system, and available for use in sunflower breeding and hybrid development programs.

**PI 597361. *Helianthus annuus* L.**

Genetic. RPEF1. GS-7. Pedigree - cms PEF1/Zaria//RHA 274. F4-derived F6 restorer line. Selected for complete pollen fertility. Upper stem

branching conditioned by a recessive gene. Provides increased genetic diversity in the sunflower cytoplasmic male sterile-restorer system, and available for use in sunflower breeding and hybrid development programs.

**PI 597362. *Helianthus annuus* L.**

Genetic. NMS 373. GS-8. Pedigree - BC5F4 derived sib mated population from cross of green nuclear male sterile plants and anthocyanin-pigmented fertile plants. Seeds will produce approx. 50% green sterile plants (tt,msms) and 50% anthocyanin-pigmented fertile plants (Tt,Msms). Anthers and stigmas pigmented at anthesis. In some environments a small amount of pollen may be detected on the male sterile plants, resulting in 1-2% seed set. Provides increased genetic diversity in the sunflower cytoplasmic male sterile-restorer system, and available for use in sunflower breeding and hybrid development programs.

**PI 597363. *Helianthus annuus* L.**

Genetic. NMS 377. GS-9. Pedigree - BC5F4 derived sib mated population from cross of green nuclear male sterile plants and anthocyanin-pigmented fertile plants. Seeds will produce approx. 50% green sterile plants (tt,msms) and 50% anthocyanin-pigmented fertile plants (Tt,Msms). Anthers and stigmas pigmented at anthesis. In some environments a small amount of pollen may be detected on male sterile plants, resulting in 1-2% seed set. Provides increased genetic diversity in the sunflower cytoplasmic male sterile-restorer system, and available for use in sunflower breeding and hybrid development programs.

The following were developed by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crops Research Laboratory, Fargo, North Dakota 58105, United States; Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/28/1997.

**PI 597364. *Helianthus annuus* L.**

Breeding. HA 393. GP-207. Pedigree - Selection from Verticillium wilt resistant B-line synthetic (VWRBS). Oilseed maintainer germplasm line. Homozygous for resistance to North American races of Verticillium wilt (Verticillium dahliae) and race 2 downy mildew.

**PI 597365. *Helianthus annuus* L.**

Breeding. HA 394. GP-208. Pedigree - Selection from Verticillium wilt resistant B-line synthetic (VWRBS). Oilseed maintainer germplasm line. Homozygous for resistance to North American races of Verticillium wilt (Verticillium dahliae) and to race 2 downy mildew.

**PI 597366. *Helianthus annuus* L.**

Breeding. HA 402. GP-209. Pedigree - HA 89/RK-74-198-2. Oilseed maintainer germplasm line. Homozygous for resistance to Verticillium wilt.

**PI 597367. *Helianthus annuus* L.**

Breeding. HA 403. GP-210. Pedigree - HA 89/France B-line Bulk. Oilseed maintainer germplasm line. Homozygous for resistance to Verticillium wilt.

- PI 597368. Helianthus annuus L.**  
Breeding. HA 404. GP-211. Pedigree - HA 821/Rassvet. Oilseed maintainer germplasm line. Homozygous for resistance to Verticillium wilt.
- PI 597369. Helianthus annuus L.**  
Breeding. HA 405. GP-212. Pedigree - HA 89/Bulgaria 2169. Oilseed maintainer germplasm line. Homozygous for resistance to Verticillium wilt.
- PI 597370. Helianthus annuus L.**  
Breeding. HA 406. GP-213. Pedigree - HA 89/SB-1. Oilseed maintainer germplasm line. Homozygous for resistance to Verticillium wilt.
- PI 597371. Helianthus annuus L.**  
Breeding. HA 407. GP-214. Pedigree - HA 89/Norte. Oilseed maintainer germplasm line. Homozygous for resistance to Verticillium wilt.
- PI 597372. Helianthus annuus L.**  
Breeding. RHA 395. GP-215. Pedigree - Selection from downy mildew resistant restorer line synthetic (DMRRS). Restores fertility of the PET1 sterile cytoplasm. Expresses upper-stem branching conditioned by recessive gene. Homozygous for resistance to race 2 downy mildew.
- PI 597373. Helianthus annuus L.**  
Breeding. RHA 396. GP-216. Pedigree - Selection from downy mildew resistant restorer line synthetic (DMRRS). Restores fertility of the PET1 sterile cytoplasm. Expresses upper-stem branching conditioned by a recessive gene. Homozygous for resistance to race 2 downy mildew.
- PI 597374. Helianthus annuus L.**  
Breeding. RHA 397. GP-217. Pedigree - RHA 274/RO-20-10-3-3-2. Restorer line. Restores fertility of the PET1 sterile cytoplasm. Expresses upper-stem branching conditioned by a recessive gene. Homozygous for resistance to rust race 6 and to downy mildew race 2.
- PI 597375. Helianthus annuus L.**  
Breeding. RHA 398. GP-218. Pedigree - RHA 274/BCD Line Bulk. Restorer line. Homozygous for resistance to race 2 downy mildew. Upper stem branching conditioned by recessive gene. Has genes for fertility restoration of the PET1 cytoplasmic male sterility.
- PI 597376. Helianthus annuus L.**  
Breeding. RHA 399. GP-219. Pedigree - RHA 274/Odesskij 91. Restorer line. Homozygous for resistance to race 2 downy mildew. Upper stem branching conditioned by recessive gene. Has genes for fertility restoration of the PET1 cytoplasmic male sterility.
- PI 597377. Helianthus annuus L.**  
Breeding. RHA 400. GP-220. Pedigree - Selection from Australia 85 R-line population. Restorer line. Homozygous for resistance to race 2 downy mildew. Upper stem branching conditioned by recessive gene. Has genes for fertility restoration of the PET1 cytoplasmic male sterility.
- PI 597378. Helianthus annuus L.**  
Breeding. RHA 401. GP-221. Pedigree - RHA 274/RHA 1185-14-3-4-1.

Restorer line. Homozygous for resistance to race 2 downy mildew. Upper stem branching conditioned by recessive gene. Has genes for fertility restoration of the PET1 cytoplasmic male sterility.

The following were developed by Jimmie H. Hatchett, USDA-ARS, Dept of Entomology, Waters Hall, Manhattan, Kansas 66506-4004, United States; Scott Haley, South Dakota State University, Plant Science Department, Box 2140-C, Brookings, South Dakota 57007, United States; P. Stephen Baenziger, University of Nebraska, Department of Agronomy, 330 Keim Hall, Lincoln, Nebraska 68583-0915, United States; Lenis A. Nelson, University of Nebraska-Lincoln, Institute of Agric. and Nat. Resources, Panhandle Res. & Extension Center, Scottsbluff, Nebraska 69361, United States; J.W. Schmidt, University of Nebraska, Nebraska Agricultural Experiment Station, Lincoln, Nebraska, United States; David D. Baltensperger, University of Nebraska, Panhandle Res. & Ext. Center, 4502 Avenue I, Scottsbluff, Nebraska 69361-4939, United States; Don V. McVey, USDA, ARS, University of Minnesota, Cereal Rust Laboratory, St. Paul, Minnesota 55105, United States; B. Moreno-Sevilla, University of Nebraska, Dept. of Agronomy, Lincoln, Nebraska 68583, United States; C.J. Peterson, USDA, ARS, University of Nebraska, Dept. of Agronomy, Lincoln, Nebraska 68583, United States; D.R. Shelton, University of Nebraska, Dept. of Agronomy, Lincoln, Nebraska 68583, United States; John E. Watkins, University of Nebraska, Dept. of Plant Pathology, Lincoln, Nebraska 68583, United States. Received 03/15/1997.

**PI 597379. *Triticum aestivum* L., nom. cons.**

Cultivar. Pureline. "WINDSTAR"; NE90625; NSGC 6417. PVP 9800002; CV-857. Pedigree - TX79A2729//Caldwell/Brule field sel.6/3/Siouxland. Released 1996. Hard red winter wheat. Taller semidwarf. Developed for dryland production in the Nebraska panhandle and western South Dakota. Moderate resistance to stem rust. Moderately susceptible to leaf rust and wheat streak virus. Susceptible to the Great Plains Biotype of Hessian Fly and soilborne Mosaic virus. End use quality acceptable to milling and baking industries.

The following were donated by USDA-ARS/Delta Experiment Station, Stoneville, Mississippi 38776, United States. Received 1970.

**PI 597380. *Glycine max* (L.) Merr.**

Cultivated. EG-2. Collected in Philippines.

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States; D.E. Kyle, University of Illinois, Dept. of Crop Sciences, 1102 S. Goodwin, Urbana, Illinois 61801, United States; J.M. Hegstad, University of Illinois, Dept. of Crop Sciences, 1102 S. Goodwin, Urbana, Illinois 618013, United States. Received 04/09/1997.

**PI 597381. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Savoy"; LN90-4187. CV-369. Pedigree - Burlison x

Asgrow A3733. Indeterminate, late Group II maturity (relative maturity 2.8) maturing 4 d later than IA2021. Best adapted to 40-42 degrees N lat. Compared with IA2021, averaged 1% higher seed yield, better seed quality, 2.3 g kg<sup>-1</sup> higher seed protein concentration, and 5 cm taller plant height. Similar to IA2021 in lodging score. Flowers purple, pubescence tawny, pods tan at maturity, and seeds dull yellow with black hila. Has Rps1b and Rps3 genes for resistance to phytophthora rot, races 1 and 7. Susceptible to brown stem rot (*Phialophora gregata*), soybean cyst nematode races 3 and 4 (*Heterodera glycines*) and sudden death syndrome (*Fusarium solani*).

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States; M. S. Bachman, University of Illinois, Department of Crop Sciences, 1102 S. Goodwin Ave., Urbana, Illinois 61801, United States. Received 04/09/1997.

**PI 597382. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Omaha"; LN91-1733. CV-370. Pedigree - Asgrow A3733 x Resnik. Indeterminate, Group IV maturity (relative maturity 4.2) maturing 2 d later than Flyer (4). Best adapted to 38-41 degrees N lat. Compared with Flyer, averaged 5% higher yield, 9 mg larger seeds, 7 g kg<sup>-1</sup> lower seed protein and 5 cm shorter plant height. Similar to Flyer in lodging and seed quality scores. Flowers purple, pubescence tawny, pods tan at maturity, and seeds dull yellow with black hila. Has Rps 1-k gene that confers resistance to multiple races of *P. sojae*, is susceptible to brown stem rot (*Phialophora gregata*) and sudden death syndrome (*Fusarium solani*).

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States; D.E. Kyle, University of Illinois, Dept. of Crop Sciences, 1102 S. Goodwin, Urbana, Illinois 61801, United States. Received 04/09/1997.

**PI 597383. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "LN89-3264". CV-382. Pedigree - Hobbit 87 x Elgin 87. Indeterminate, Group II maturity (relative maturity 2.8) 5 d later than IA2021. Adapted to 40-42 degree N lat. Compared to IA2021 averaged 3% lower yield, lower seed quality score (1.3 vs 2.0), and lower lodging score (1.2 vs 1.5). Similar to IA2021 in plant height, seed protein and oil content. Flowers white, pubescence tawny, pods brown at maturity, and seeds shiny yellow with black hila. Has Rps 1-k gene that confers resistance to multiple races of *Phytophthora sojae*, susceptible to brown stem rot (*Phialophora gregata*) and sudden death syndrome (*Fusarium solani*).

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States; J.M. Hegstad, University of Illinois, Dept. of Crop Sciences, 1102 S. Godwin, Urbana, Illinois 618013, United States. Received 04/09/1997.

**PI 597384. Glycine max (L.) Merr.**

Cultivar. Pureline. "LN89-3615". CV-383. Pedigree - Hobbit 87 x Asgrow A3205. Indeterminate, Group IV maturity (relative maturity 4.3) maturing 6 d later than Flyer. Best adapted to 38-41 degrees N lat. Compared with Flyer averaged 5% higher yield, 45 mg seed<sup>-1</sup> larger seeds, and 10 g kg<sup>-1</sup> lower seed protein. Similar to Flyer in height, and lodging and seed quality scores. Flowers purple, pubescence tawny, pods brown and tan at maturity, and seeds shiny yellow with brown hila. Has Rps 1-k gene that confers resistance to multiple races of *P. sojae*, susceptible to brown stem rot (*Phialophora gregata*) and sudden death syndrome (*Fusarium solani*).

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Jay Tharp, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; Greg Noel, USDA-ARS, University of Illinois, Department of Plant Pathology, Urbana, Illinois 61801, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States. Received 04/09/1997.

**PI 597385. Glycine max (L.) Merr.**

Cultivar. Pureline. "LN92-11008". CV-384. Pedigree - Jack x Asgrow A3205. Indeterminate, Group III maturity (relative maturity 3.1) maturing 4 d earlier than Yale and 3 d later than Jack (4,5). At SCN infested locations, seed yield was 1% higher than Yale and 2% higher than Jack. Compared with Yale at SCN noninfested locations, was similar in yield and height. Lower lodging score than Jack (1.8 vs 2.1). Flowers purple, pubescence tawny, pods tan at maturity, and seeds dull yellow with brown hila. Susceptible to *Phytophthora* rot, races 1,4, and 7 (*Phytophthora sojae*), brown stem rot (*Phialophora gregata*), and sudden death syndrome (*Fusarium solani*). Resistant to races 3 and 4 when evaluated against SCN in greenhouse.

The following were developed by Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States. Received 04/09/1997.

**PI 597386. Glycine max (L.) Merr.**

Cultivar. Pureline. "Dwight"; LN92-10507. Pedigree - Jack x A86-303014. Indeterminate, late Group II maturity (relative maturity 2.9) maturing 5 d later than IA2021 and 1 d earlier than Jack. Compared with Jack at



noninfested SCN locations, was 2% higher in seed yield, 10 inches shorter plant height, and 0.9 units lower lodging score (1.5 vs 2.4). At SCN infested locations, seed yield was 20% higher than IA2021 and 1% lower than Jack. Susceptible to phytophthora rot races 1, 4, and 7, brown stem rot (*Phialophora gregata*), and sudden death syndrome (*Fusarium solani*). Resistant to races 3 and 4 when evaluated against SCN in greenhouse.

**PI 597387. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Pana"; LN92-10855. Pedigree - Jack x Asgrow A3205. Indeterminate, late Group III maturity (relative maturity 3.8) maturing 4 d later than Iroquois and 5 d later than Jack. Compared with Iroquois at noninfested SCN locations, had 5% higher seed yield, 7 inches taller plant height, and 1.7% lower seed protein. At SCN infested locations, seed yield was 20% higher than Iroquois and 3% higher than Jack. Susceptible to phytophthora rot races 1, 4, and 7, brown stem rot (*Phialophora gregata*), and sudden death syndrome (*Fusarium solani*). Resistant to races 3 and 4 when evaluated against SCN in greenhouse.

The following were developed by Glenn R. Buss, Virginia Polytechnic Institute, and State University, Virginia Agr. Exp. Sta., Blacksburg, Virginia 24061-0404, United States. Received 03/15/1997.

**PI 597388. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Accomac"; V88-1234. PVP 9800048.

The following were developed by T.E. Carter, USDA, ARS, North Carolina State University, 3127 Ligon Street Box 7631, Raleigh, North Carolina 27695-7631, United States. Received 03/07/1997.

**PI 597389. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Prolina"; N87-984.

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. Donated by Raymond L. Clark, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 09/14/1994.

**PI 597390. *Glycine max* (L.) Merr.**

Cultivated. Pureline. E94-202; SY 9617001. Collected 09/14/1994 in Mongolia.

The following were donated by Paul Gibson, Southern Illinois University, Department of Plant and Soil Science, Carbondale, Illinois 62901-4415, United States; N.D. Lunin, Institute of Oilseed Crops, Vessenaiya Str. 1, Solnechnaya, Zaporizhzhya 332110, Ukraine. Received 10/23/1996.

- PI 597391. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Kievskaya 27; SY 9618001.
- PI 597392. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Arkadia Odesskaya; SY 9618002.
- PI 597393. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Kirovogradskaya 5; SY 9618003.
- PI 597394. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Kharkovskaya Zernokormovaya; SY 9618004.
- PI 597395. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Solnechnaya; SY 9618005.
- PI 597396. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Vytiaz' 50; SY 9618006.
- PI 597397. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Lan'; SY 9618007.
- PI 597398. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Yug 40; SY 9618008.
- PI 597399. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Yug 30; SY 9618009.
- PI 597400. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Viza; SY 9618010.
- PI 597401. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Bukuriya; SY 9618011.
- PI 597402. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Runo; SY 9618012.
- PI 597403. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Krasnodar 391-89; SY 9618013.
- PI 597404. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Krasnodar 568-89; SY 9618014.
- PI 597405. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Zaporozhie 46-96; SY 9618015.

The following were donated by Jack M. Widholm, University of Illinois, Crop Science Department, 285A ERML, Urbana, Illinois 61801, United States; S.H. Miao, Chengdu Institute of Biology, Academia Sinica, P.O. Box 416, Chengdu, Sichuan, China. Received 10/25/1996.

- PI 597406. *Glycine max* (L.) Merr.  
Cultivated. Pureline. 502; SY 9619001.
- PI 597407. *Glycine max* (L.) Merr.

Cultivated. Pureline. Hefen 22; SY 9619002.

**PI 597408. Glycine max (L.) Merr.**  
Cultivated. Pureline. Heilong 2; SY 9619003.

**PI 597409. Glycine max (L.) Merr.**  
Cultivated. Pureline. Helong 26; SY 9619004.

**PI 597410. Glycine max (L.) Merr.**  
Cultivated. Pureline. Jilin 13; SY 9619005.

**PI 597411. Glycine max (L.) Merr.**  
Cultivated. Pureline. Jilin 26; SY 9619006.

**PI 597412. Glycine max (L.) Merr.**  
Cultivated. Pureline. L3-1; SY 9619007.

**PI 597413. Glycine max (L.) Merr.**  
Cultivated. Pureline. L3-2; SY 9619008.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Feng Ji Tang, Bayan Town, Bayan County, Heilongjiang 151800, China. Received 09/1995.

**PI 597414. Glycine max (L.) Merr.**  
Cultivated. Pureline. Ken nong 4; SY 9707001.

**PI 597415. Glycine max (L.) Merr.**  
Cultivated. Pureline. Dong nong 42; SY 9707002.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Zhongtang Liu, Hejiang Agricultural Institute, No. 83 Anqing Road, Jiamusi, Heilongjiang 154007, China. Received 09/1995.

**PI 597416. Glycine max (L.) Merr.**  
Cultivated. Pureline. He feng 26; SY 9708001.

**PI 597417. Glycine max (L.) Merr.**  
Cultivated. Pureline. He feng 29; SY 9708002.

**PI 597418. Glycine max (L.) Merr.**  
Cultivated. Pureline. He feng 33; SY 9708003.

**PI 597419. Glycine max (L.) Merr.**  
Cultivated. Pureline. He feng 871004; SY 9708004.

**PI 597420. Glycine max (L.) Merr.**  
Cultivated. Pureline. He feng 91239; SY 9708005.

**PI 597421. Glycine max (L.) Merr.**  
Cultivated. Pureline. He feng 91342; SY 9708006.

- PI 597422. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Hei he 92-1372; SY 9708007.
- PI 597423. *Glycine max* (L.) Merr.  
Cultivated. Pureline. He feng 8719; SY 9708008.
- PI 597424. *Glycine max* (L.) Merr.  
Cultivated. Pureline. He nong 35; SY 9708009.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Guo Hua Hu, Hong Xinglong Research Institute, Agricultural Center, Heilongjiang Academy of Agricultural Reclamation Sciences, Youyi County, Heilongjiang 155811, China. Received 09/1995.

- PI 597425. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Heng feng 9; SY 9709001.
- PI 597426. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 81-128-1; SY 9709002.
- PI 597427. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 84-62-19; SY 9709003.
- PI 597428. *Glycine max* (L.) Merr.  
Cultivated. Pureline. JFH; SY 9709004.
- PI 597429. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 8827-4; SY 9709005.
- PI 597430. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 8774-1; SY 9709006.
- PI 597431. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 8779-3; SY 9709007.
- PI 597432. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 8819-3-16; SY 9709008.
- PI 597433. *Glycine max* (L.) Merr.  
Cultivated. Pureline. Gang 8869-1; SY 9709009.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Guang Yu Sun, Soybean Investigations, Land Reclamation and Ag. Sci., 156 Anaing Street, Jiamusi, Heilongjiang 154007, China. Received 09/1995.

- PI 597434. *Glycine max* (L.) Merr.  
Cultivated. Pureline. K90-09; SY 9710001.
- PI 597435. *Glycine max* (L.) Merr.  
Cultivated. Pureline. K90-11; SY 9710002.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Licheng Hu, Heilongjiang Academy of Agricultural Sciences, Soybean Institute, No. 368 Xuefu Rd., Harbin, Heilongjiang 150030, China. Received 09/1995.

- PI 597436. **Glycine max** (L.) Merr.  
Cultivated. Pureline. F8201-205; SY 9711001.
- PI 597437. **Glycine max** (L.) Merr.  
Cultivated. Pureline. Hei nong 35; SY 9711002.
- PI 597438. **Glycine max** (L.) Merr.  
Cultivated. Pureline. Hei nong 37; SY 9711003.
- PI 597439. **Glycine max** (L.) Merr.  
Cultivated. Pureline. Hei nong 38; SY 9711004.
- PI 597440. **Glycine max** (L.) Merr.  
Cultivated. Pureline. Hei nong 39; SY 9711005.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Rui Zhong Zhang, Soybean Research Institute, Northeast Agricultural Univ., Harbin, Heilongjiang 150030, China. Received 09/1995.

- PI 597441. **Glycine max** (L.) Merr.  
Cultivated. Pureline. NEAU 40727; SY 9712001.
- PI 597442. **Glycine max** (L.) Merr.  
Cultivated. Pureline. NEAU 785; SY 9712002.
- PI 597443. **Glycine max** (L.) Merr.  
Cultivated. Pureline. NEAU 9142; SY 9712003.
- PI 597444. **Glycine max** (L.) Merr.  
Cultivated. Pureline. NEAU 91212; SY 9712004.
- PI 597445. **Glycine max** (L.) Merr.  
Cultivated. Pureline. NEAU 9243; SY 9712005.
- PI 597446. **Glycine max** (L.) Merr.  
Cultivated. Pureline. DN 104; SY 9712006.
- PI 597447. **Glycine max** (L.) Merr.  
Cultivated. Pureline. Bei feng 87-09; SY 9712007.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States. Received 09/1995.

- PI 597448. **Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. Jiamusi-1; SY 9713001. Collected in Heilongjiang, China.

**PI 597449. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. Jiamusi-2; SY 9713002. Collected in Heilongjiang, China.

**PI 597450. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. Jiamusi-3; SY 9713003. Collected in Heilongjiang, China.

The following were donated by R.L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Ruzhen Chang, Chinese Academy of Agricultural Sciences, Institute of Crop Germplasm Resources, Beijing, Beijing, China. Received 08/15/1996.

**PI 597451. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 08-85; ZYD2883; SY 9714001.

**PI 597452. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 08-102; ZYD2900; SY 9714002.

**PI 597453. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 08-197; ZYD2995; SY 9714003.

**PI 597454. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 08-217; ZYD3015; SY 9714004.

**PI 597455. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 08-226; ZYD3024; SY 9714005.

**PI 597456. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 08-238; ZYD3036; SY 9714006.

**PI 597457. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 09-10; ZYD3232; SY 9714007.

**PI 597458. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 09-11; ZYD3233; SY 9714008.

**PI 597459. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 09-12; ZYD3234; SY 9714009.

**PI 597460. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 09-13; ZYD3235; SY 9714010.

**PI 597461. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 09-21; ZYD3243; SY 9714011.

**PI 597462. Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. 09-36; ZYD3258; SY 9714012.

The following were donated by Yiwu Chen, Institute of Crop Germplasm Resources, 30 Bai Shi Qiao Road, Chinese Academy of Agricultural Sciences, Beijing, Beijing 100081, China. Received 03/14/1997.

- PI 597463. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD21207; Zhechun 2; SY 9715001.
- PI 597464. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD21208; Zhechun 3; SY 9715002.
- PI 597465. **Glycine max** (L.) Merr.  
Landrace. Pureline. ZDD6250; Mao peng qing; SY 9715003.
- PI 597466. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD21502; Pu dou 8008; SY 9715004.
- PI 597467. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD20348; E dou 4; SY 9715005.
- PI 597468. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD14763; Xian qiu dou 2; SY 9715006.
- PI 597469. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD11219; Huai dou 2; SY 9715007.
- PI 597470. **Glycine max** (L.) Merr.  
Cultivated. Pureline. Nan nong 73-935; SY 9715008.
- PI 597471. **Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. Zheye 29; SY 9715009.
- PI 597472. **Glycine soja** Siebold & Zucc.  
Cultivated. Pureline. Zheye 33; SY 9715010.
- PI 597473. **Glycine max** (L.) Merr.  
Cultivated. Pureline. ZDD11581; 82-24; SY 9715011.

The following were donated by Wan-Sik Ahn, Rural Development Administration, National Inst. of Agric. Sci. & Tech., Genetic Resources Division, Suweon, Kyonggi 441-707, Korea, South; Randall Nelson, USDA, ARS, National Soybean Research Laboratory, 1101 West Peabody Drive, Urbana, Illinois 61801, United States. Received 03/20/1997.

- PI 597474. **Glycine max** (L.) Merr.  
Cultivated. Pureline. "Hwanggeumkong"; IT157912; SY 9716001.
- PI 597475. **Glycine max** (L.) Merr.  
Cultivated. Pureline. "Namcheonkong"; IT157950; SY 9716002.
- PI 597476. **Glycine max** (L.) Merr.  
Cultivated. Pureline. "Deogyukong"; SY 9716003.
- PI 597477. **Glycine max** (L.) Merr.  
Cultivated. Pureline. "Baegunkong"; IT142810; SY 9716004.
- PI 597478. **Glycine max** (L.) Merr.  
Cultivated. Pureline. "Paldalkong"; IT178684; SY 9716005.

- PI 597479. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Bokwangkong"; IT157860; SY 9716006.
- PI 597480. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Namhaekong"; IT157951; SY 9716007.
- PI 597481. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Jangsukong"; SY 9716008.
- PI 597482. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Sinpaldalkong"; SY 9716009.
- PI 597483. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Keunolkong"; SY 9716010.
- PI 597484. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Bukwangkong"; SY 9716011.
- PI 597485. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Keomjeongkong 1"; IT189211; SY 9716012.
- PI 597486. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Kwangankong"; SY 9716013.
- PI 597487. *Glycine max* (L.) Merr.  
Cultivated. Pureline. "Hwaseongputkong"; SY 9716014.

The following were developed by R. P. Knowles, Agriculture Canada, Saskatoon Research Station, 107 Science Crescent, Saskatoon, Saskatchewan, Canada. Received 1985.

- PI 597488. *Phalaris arundinacea* L.  
Breeding. S-8799; W6 6558; NSL 197088. GP-31. Pedigree - Developed from open-pollinated seed of a single panicle of common reed canarygrass with good seed retention. A single panicle selection from common reed canarygrass, then 9 generations of selection for seed yield and seed retention using isolated plots of spaced planting. Forage and seed yields are 90 and 300%, respectively, of check cultivars. Selection for tryptamine-free alkaloids in generation 8. Seed has the usual gray-black color except for 2% yellow seed.

The following were donated by USDA, SCS, Plant Materials Center, Route 6, Box 417, Americus, Georgia 31709, United States. Received 1963.

- PI 597489. *Lespedeza cuneata* (Dum. Cours.) G. Don  
Cultivated. AM-312; OKINAWA. Collected in Japan.

The following were developed by C.T. Hash, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502 324, India; B.S. Talukdar, Int. Crops Res. Inst. for the Semi-Arid Tropics, Cereals Program, Patancheru, Andhra Pradesh 502 324, India; J.R. Witcombe, School of Plant Biology,



University of North Wales, Bangor, Wales, United Kingdom; P. P. Prakash Babu, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India; C. Ramakrishna, J. K. Agrigenetics, Sarojini Devi Road, Secunderabad, Andhra Pradesh 500 003, India; S. B. King, SADC/ICRISAT SMIP, P.O. Box 39063, Nairobi Area, Kenya; A.M. Rao, Sandoz (India) Ltd., Coimbatore, Tamil Nadu, India. Received 04/14/1997.

**PI 597490 QUAR. Pennisetum glaucum (L.) R. Br.**

Breeding. Inbred. ICMP 85410. GP-36. Pedigree - ICP 165 x ICP 220. Restorer line of pearl millet singlecross grain hybrid ICMH 85410. Height dwarf 95-107 cm, 3-5 basal tillers per plant, and flowers 56-64 d from planting. Panicles cylindrical. Grains small 6.3 g 1000-1, shape globular, color yellowish-gray. Grain yield 1141-1692 kg ha<sup>-1</sup> at ICRISAT Asia Center, Patancheru. Downy mildew incidence 0-21% compared to 0-22% for resistant control P7-04 in India.

The following were developed by B.S. Talukdar, Int. Crops Res. Inst. for the Semi-Arid Tropics, Cereals Program, Patancheru, Andhra Pradesh 502 324, India ; J.R. Witcombe, School of Plant Biology, University of North Wales, Bangor, Wales, United Kingdom; A. Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502324, India; P. P. Prakash Babu, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 04/14/1997.

**PI 597491 QUAR. Pennisetum glaucum (L.) R. Br.**

Breeding. Inbred. ICMR 501. PL-33. Pedigree - Random mating of 11 phenotypically similar inbred lines derived from Bold Seeded Early Composite (BSEC) and selected from the ICRISAT potential R-line trial (PRLT-2), followed by population improvement using pedigree selection. Topcross pollinator parental line of pearl millet (*Pennisetum glaucum*) grain hybrid cultivar GICH 501. Height medium 128-181 cm, 3-7 basal tillers per plant, and flowers in 40-50 d from planting. Panicle length medium 18-21 cm, compact to semi-compact, shape conical. Seeds bold, 12 g 1000-1, shape globular, color gray. Grain yield 2803-3825 kg ha<sup>-1</sup> in summer season 1994 and rainy season 1993 at ICRISAT Asia Center, Patancheru. Downy mildew incidence 0-4% in India compared with 0-19% for resistant inbred control P7-4.

The following were donated by G.W. Dunn, Agricultural Research Institute, New Hampshire, United States. Received 01/29/1958.

**PI 597492. Trifolium repens L.**

Cultivar. "CERTIFIED OREGON LADINO"; FC 33144; G 6854. Adapted to hot weather.

The following were donated by Robert Leffel, USDA-ARS, Building 011, HH19, BARC-West, Beltsville, Maryland 20705, United States; C.H. Hanson, USDA-ARS, Crops Research Division, Plant Industry Station, Beltsville, Maryland 20705-2350, United States. Received 1964.

**PI 597493. Trifolium repens L.**

Cultivar. "PILGRIM-LADINO"; FC 36477; G 12582.

The following were donated by Robert Leffel, USDA-ARS, Building 011, HH19, BARC-West, Beltsville, Maryland 20705, United States. Received 12/03/1965.

**PI 597494. *Trifolium repens* L.**

Breeding. OTT SYN A; FC 37825; G 15237. Experimental variety from Canada.

The following were donated by R. W. Robertson, Agriculture Canada, Ottawa Research Station, Division of Forage Plants, Ottawa, Ontario, Canada. Received 03/10/1969.

**PI 597495. *Trifolium canescens* Willd.**

Wild. CAN PI 7539; G 19171. Collected 03/10/1969 in Former Soviet Union.

**PI 597496. *Trifolium caucasicum* Tausch**

Wild. CAN PI 7538; G 19172.

**PI 597497. *Trifolium pannonicum* Jacq.**

Wild. 9864; G 19775. Collected 02/26/1970 in Romania. Iasi, Iasi, Romania.

**PI 597498. *Trifolium pannonicum* Jacq.**

Wild. 278; G 19776. Collected 02/26/1970 in Romania. Cluj, Cluj, Romania.

The following were donated by Roscoe L. Taylor, USDA-ARS, Palmer, Alaska, United States. Received 01/20/1971.

**PI 597499. *Trifolium repens* L.**

Breeding. W69-1; G 20596.

**PI 597500. *Trifolium repens* L.**

Breeding. W69-4; G 20597.

The following were donated by USDA, ARS, NSSL, National Seed Storage Laboratory, 1111 South Mason Street, Fort Collins, Colorado 80521-4500, United States. Received 02/09/1971.

**PI 597501. *Trifolium fragiferum* L.**

Uncertain. TF-2; FC 22797; Ser. no. 5463; G 21116.

The following were donated by Robert Leffel, USDA-ARS, Building 011, HH19, BARC-West, Beltsville, Maryland 20705, United States. Received 05/24/1971.

**PI 597502. *Trifolium medium* L.**

Uncertain. FC 40212; G 21654.

The following were donated by Wei-Jong Chung, Taichung District Ag. Impr.

Station, 200. Lane 361. Sect. 1. Chaitung Road, 51501 Tatsuen Hsiang, Taichung, Taiwan. Received 11/08/1971.

**PI 597503. *Trifolium pannonicum* Jacq.**  
Wild. 844; G 22118. Collected 11/08/1971 in Romania.

Unknown source. Received 1975.

**PI 597504. *Trifolium repens* L.**  
Cultivar. "NOLINS IMPROVED"; G 24912.

The following were donated by Gilbert R. Lovell, USDA, ARS, University of Georgia, Plant Genetic Resources Conservation Unit, Griffin, Georgia 30223-1797, United States. Received 1989.

**PI 597505. *Trifolium lupinaster* L.**  
Wild. G 29109.

The following were collected by R.P. Murphy, Cornell University, Dept. of Plant Breeding and Biometry, Ithaca, New York 14853, United States. Donated by George A. White, USDA, ARS, National Germplasm Repository, University of California, Davis, California 95616, United States. Received 06/13/1989.

**PI 597506. *Trifolium* sp.**  
Uncertain. HOP CLOVER; G 29170. Collected 01/01/1961 in Chile. 125 km north of Santiago on Pan American Highway, Santiago.

**PI 597507. *Trifolium* sp.**  
Uncertain. HOP CLOVER; G 29171. Collected 01/01/1961 in Chile. 145 km north of Santiago on Pan American highway, Santiago.

**PI 597508. *Trifolium* sp.**  
Uncertain. G 29172. Collected 01/01/1961 in Chile. 93 km west of Santiago on Pan American highway, Santiago.

Unknown source. Received 06/13/1989.

**PI 597509. *Trifolium repens* L.**  
Uncertain. G 29176. Collected 01/01/1961 in Chile. 16 km east of Cancepcion, Bio-Bio.

The following were donated by Czechoslovakia Research and Breeding Institute for Fodder, Czech Republic. Received 06/27/1990.

**PI 597510. *Trifolium repens* L.**  
Cultivar. "DUBRAVA"; G 29844. Selected from 34 varieties of world collection and 2 Czech. varieties. Licensed 1985. Rapid spring growth and regrowth, persistence medium to good competitive ability and winter hardiness. Tolerant of rainfall shortage, lower seed performance as compared to Pastedec (original comment from donor).

**PI 597511. *Trifolium repens* L.**

Cultivar. "OVCAK"; G 29846. Bred from a local variety from the neighborhood of Sobeslav in Bohemia, licensed in 1963. Early variety with rapid spring development, slower regrowth and low persistence. Blooms richly and steadily, high seed yields. Fodder production is lower compared to Pastevec (original comment from donor).

**PI 597512. *Trifolium repens* L.**

Cultivar. "PASTEVEC"; G 29847. Bred from a local variety from the Bohemian-Moravian highlands, being licensed in 1961. Pasture-type variety, the stand being fresh with rapid regrowth after cuts. Drought-resistant. Fodder and seed performance ratio acceptable (original comment from donor).

**PI 597513. *Trifolium repens* L.**

Cultivar. "VIGLASSKY"; G 29848. Has been bred using selection from the local variety from the neighborhood of Viglas in Slovakia, licensed in 1950 (Original comment from donor).

The following were donated by Richard R. Smith, USDA, ARS, U.S. Dairy Forage Research Center, University of Wisconsin, Madison, Wisconsin 53706, United States; B. Kolic, University of Zagreb, Institute for Breeding & Production, Simmunska 25, Zagreb, Croatia. Received 03/15/1991.

**PI 597514. *Trifolium pratense* L.**

Cultivar. "YU-BL-2"; AC 754; G 30053.

**PI 597515. *Trifolium pratense* L.**

Cultivar. "YU-BL-4"; AC 755; G 30054.

**PI 597516. *Trifolium repens* L.**

Cultivar. "YU-BL-1"; ACT 523; G 30056.

**PI 597517. *Trifolium repens* L.**

Cultivar. "YU-BL-2"; ACT 524; G 30057.

The following were collected by B. Kolic, University of Zagreb, Institute for Breeding & Production, Simmunska 25, Zagreb, Croatia. Donated by Richard R. Smith, USDA, ARS, U.S. Dairy Forage Research Center, University of Wisconsin, Madison, Wisconsin 53706, United States. Received 03/15/1991.

**PI 597518. *Trifolium pratense* L.**

Wild. AC 757; G 30058. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 15' N. Longitude 15 deg. 57' E. Croatian province of Lika, near village of Gracac. Hilly, sloping site. Soil loam, stones minimal, drainage moderate. Associated with grasses.

**PI 597519. *Trifolium pratense* L.**

Wild. AC 758; G 30059. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 15' N. Longitude 15 deg. 57' E. Croatian province of Lika, in vicinity of Gracac. Level plain. Soil loam, stones minimal, drainage moderate.

The following were donated by Richard R. Smith, USDA, ARS, U.S. Dairy Forage Research Center, University of Wisconsin, Madison, Wisconsin 53706, United States. Received 03/15/1991.

**PI 597520. *Trifolium pratense* L.**

Wild. AC 760; G 30061. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 30' N. Longitude 16 deg. 30' E. Croatian province of Lika, in vicinity of either village or hill called St. Rok. Level plain. Soil loam, stones minimal, drainage moderate.

The following were collected by B. Kolic, University of Zagreb, Institute for Breeding & Production, Simmunska 25, Zagreb, Croatia. Donated by Richard R. Smith, USDA, ARS, U.S. Dairy Forage Research Center, University of Wisconsin, Madison, Wisconsin 53706, United States. Received 03/15/1991.

**PI 597521. *Trifolium pratense* L.**

Wild. AC 761; G 30062. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 30' N. Longitude 16 deg. 30' E. Croatian province of Lika, in vicinity of St. Rok. Flood plain. Soil loam, no stones, drainage moderate.

**PI 597522. *Trifolium pratense* L.**

Wild. AC 762; G 30063. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 48' N. Longitude 15 deg. 55' E. Croatian province of Lika, 15 km west of Plitvice Jezera. Hilly, sloping site. Soil loam, no stones, drainage moderate.

**PI 597523. *Trifolium pratense* L.**

Wild. AC 764; G 30065. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 45' N. Longitude 15 deg. 30' E. Croatian province of Lika, in vicinity of village Otocac. Undulating, sloping site. Soil loam, stones minimal, drainage good.

**PI 597524. *Trifolium pratense* L.**

Wild. AC 766; G 30067. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 45' N. Longitude 15 deg. 30' E. Croatian province of Lika, in vicinity of Gospic. Undulating, sloping site. Soil loam, no stones, drainage good.

**PI 597525. *Trifolium pratense* L.**

Wild. AC 767; G 30068. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 30' N. Longitude 15 deg. 30' E. Croatian province of Lika, in vicinity of "izlaz iz sela papuca" (translation needed). Level plain. Soil clay, no stones, drainage good.

**PI 597526. *Trifolium pratense* L.**

Wild. AC 768; G 30069. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 15' N. Longitude 15 deg. 45' E. Croatia province of Lika, between towns of Gospic and Gracac. Level plain. Soil loam, no stones, drainage moderate.

**PI 597527. *Trifolium pratense* L.**

Wild. AC 769; G 30070. Collected 09/20/1989 in Yugoslavia. Latitude 44 deg. 30' N. Longitude 15 deg. 30' E. Croatian province of Lika, in vicinity of Korenica. Level plain. Soil loam, highly organic, no stones, drainage moderate.

The following were collected by R.P. Murphy, Cornell University, Dept. of Plant Breeding and Biometry, Ithaca, New York 14853, United States. Received 06/15/1989.

**PI 597528. *Trifolium repens* L.**

Uncertain. G 30072. Collected 06/15/1989 in Chile. 13 km west of Octay, Osorno.

The following were donated by N.I. Vavilov Institute of Plant Industry, 44 Herzen Street, Leningrad, Russian Federation. Received 08/21/1991.

**PI 597529. *Trifolium repens* L.**

Cultivar. "BITUNAJ"; VIR 31576; G 30155.

**PI 597530. *Trifolium repens* L.**

Cultivar. "MEDUNAJ"; VIR 34588; G 30157.

**PI 597531. *Trifolium repens* L.**

Cultivar. "GOMEL'SKIJ"; VIR 34653; G 30158.

**PI 597532. *Trifolium repens* L.**

Cultivar. "PRIEKUL'SKIJ 61"; VIR 34655; G 30159.

**PI 597533. *Trifolium repens* L.**

Cultivar. "PREDKARPALSKIJ 1"; VIR 35845; G 30161.

**PI 597534. *Trifolium repens* L.**

Cultivar. "BELOGORSKIJ 1"; VIR 39080; G 30164.

**PI 597535. *Trifolium repens* L.**

Cultivar. "ALA"; VIR 40551; G 30167.

The following were donated by Robert Leffel, USDA-ARS, Building 011, HH19, BARC-West, Beltsville, Maryland 20705, United States. Received 10/10/1991.

**PI 597536. *Trifolium pratense* L.**

Cultivar. "TAISETSU"; G 30317.

The following were collected by Douglas R. Dewey, USDA-ARS, Forage and Range Research Laboratory, Utah State University, UMC-63, Logan, Utah 84322, United States; Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/07/1991.

**PI 597537. *Trifolium lupinaster* L.**

Wild. DJ 4054; G 30367. Collected 08/21/1989 in Russian Federation.

Elevation 840 m. Mountainside west of the Kamlak Field Station of the Central Siberian Botanical Garden, (Gorno Altay A.O.). Steep open hillside.

**PI 597538. *Trifolium pratense* L.**

Wild. DJ 3839; G 30369. Collected 08/09/1989 in Russian Federation. Elevation 430 m. North of Highway M-52 at Kamlak (Gorno Altay A.O.). North-facing slope, mixed grass-forb meadow. Very prevalent.

**PI 597539. *Trifolium pratense* L.**

Wild. DJ 3994; G 30370. Collected 08/15/1989 in Russian Federation. Elevation 1250 m. South side of Cheketeman Pass, Gorno Altay A.O., from the summit (660 km marker on hwy 53 at 1250 m) to Cheketeman camp (666km marker at 960m). Typical. Solid stand.

**PI 597540. *Trifolium pratense* L.**

Wild. DJ 4046; G 30371. Collected 08/21/1989 in Russian Federation. Elevation 520 m. Mountainside west of Kamlak Field Station of the Central Siberian Botanical Garden (Gorno Altay A.O.). Moist ravine. Solid stand.

The following were donated by N.I. Vavilov Institute of Plant Industry, 44 Herzen Street, Leningrad, Russian Federation. Received 01/02/1992.

**PI 597541. *Trifolium repens* L.**

Uncertain. 35850; 29; G 30563.

The following were collected by Melvin Rumbaugh, R.R. 3, Box 125, Humboldt, Nebraska 68376, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 01/08/1992.

**PI 597542. *Trifolium fragiferum* L.**

Wild. 910069; G 30581. Collected 09/02/1991 in China. Latitude 41 deg. 14' N. Longitude 80 deg. 14' E. Elevation 1080 m. Kekeya Shelterbelt Forest, 8 km N of Aksu, Xingiang. Growing in shade of Shelterbelt trees.

**PI 597543. *Trifolium repens* L.**

Wild. 910033; G 30582. Collected 08/27/1991 in China. Latitude 38 deg. 24' N. Longitude 77 deg. 16' E. Elevation 1200 m. 1 km south of Shache, Xingiang. Growing on irrigation ditch bank. White flowered clover, no leaf markings. Badly diseased with mildew.

**PI 597544. *Trifolium repens* L.**

Wild. 910038; G 30584. Collected 08/27/1991 in China. Latitude 38 deg. 23' N. Longitude 77 deg. 16' E. Elevation 1200 m. Gulibake village, 3 km SE of Shache, Xingiang. Heavily shaded areas, densely established along irrigation ditch. White-leaf marking on trifoliates, densely established, some four-leaf types present.

The following were collected by Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500,

United States; G. Ray Smith, Texas A&M University, Research & Extension Center, P.O. Box E, Overton, Texas 75684, United States. Received 05/10/1993.

**PI 597545. *Trifolium hybridum* L.**

Wild. 90-147; G 31052. Collected 07/25/1990 in Bulgaria. Latitude 41 deg. 55' N. Longitude 24 deg. 10' E. Elevation 1000 m. 2 km W of Orbita Tourist Resort, at crossroads by restaurant. Brown loamy meadow, mostly Poa meadow, slope slight. Occasionally seen.

**PI 597546. *Trifolium hybridum* L.**

Wild. 90-138; G 31059. Collected 07/25/1990 in Bulgaria. Latitude 41 deg. 55' N. Longitude 24 deg. 25' E. Elevation 970 m. 5 km S of Batak on road from Batak to Fotinovo. Rocky mountain road cut. Mixed forbes, mountainous. Rarely seen.

**PI 597547. *Trifolium pratense* L.**

Wild. 90-136; G 31062. Collected 07/25/1990 in Bulgaria. Latitude 41 deg. 55' N. Longitude 24 deg. 25' E. Elevation 970 m. 5 km S of Batak on road from Batak to Fotinovo. Rocky mountain road cut. Mixed forbes, mountainous. Frequency occasional. This type was mature and plants mostly dried up. Compare with collection 90-37.

**PI 597548. *Trifolium alpestre* L.**

Wild. 90-135; G 31064. Collected 07/25/1990 in Bulgaria. Latitude 42 deg. 5' N. Longitude 27 deg. 20' E. Elevation 405 m. 2 km North of Pestera on road from Plovdiv to Pestera, Plovdiv. Thin clay loam over limestone. Grassy mountain meadow, sloping. Rarely seen. Leaflets larger than typical *T. alpestre*.

**PI 597549. *Trifolium hybridum* L.**

Wild. 90-124; G 31069. Collected 07/22/1990 in Bulgaria. Latitude 42 deg. 0' N. Longitude 27 deg. 30' E. Elevation 430 m. Hillside across the road from motel on outskirts of Malko Tarnovo. Limestone based brown clay loam. Open field of grasses, sloping. Occasionally/rarely seen.

**PI 597550. *Trifolium hybridum* L.**

Wild. 90-118; G 31077. Collected 07/22/1990 in Bulgaria. Latitude 42 deg. 5' N. Longitude 27 deg. 25' E. Elevation 340 m. About 10 km NW of Zvezdec on road to Malko Tarnovo. Brown clay loam. Grasses, sloping open meadow. Occasionally seen.

**PI 597551. *Trifolium pratense* L.**

Wild. 90-112; G 31079. Collected 07/22/1990 in Bulgaria. Latitude 42 deg. 10' N. Longitude 27 deg. 20' E. Elevation 250 m. About 8 km NW of Varovnik on road to Malko Tarnovo. Growing along rocky roadside in shade of oak woods along creek bottom. Occasionally seen.

**PI 597552. *Trifolium hybridum* L.**

Wild. 90-107; G 31082. Collected 07/22/1990 in Bulgaria. Latitude 42 deg. 15' N. Longitude 27 deg. 5' E. Elevation 360 m. At crossroads of road from Elhovo to Grudovo, near crossroad restaurant. Reddish clay. Open oak scrub, flat mountain plateau. Occasionally seen. Seed purple.

**PI 597553. *Trifolium hybridum* L.**

Wild. 90-105; G 31083. Collected 07/21/1990 in Bulgaria. Latitude 42



deg. 15' N. Longitude 27 deg. 10' E. Elevation 280 m. Mountain lodge about 15 km W of Grudovo. Reddish clay loam. Clearing along oak scrub, upland, slope slight.

**PI 597554. *Trifolium hybridum* L.**

Wild. 90-101; G 31085. Collected 07/21/1990 in Bulgaria. Latitude 42 deg. 15' N. Longitude 27 deg. 10' E. Elevation 280 m. Mountain lodge 15 km west of Grudovo. Reddish clay loam. Clearing along oak scrub, upland, slope slight. Rarely seen.

**PI 597555. *Trifolium heldreichianum* (Gibelli & Belli) Hausskn.**

Wild. 90-99; G 31094. Collected 07/21/1990 in Bulgaria. Latitude 42 deg. 15' N. Longitude 27 deg. 5' E. Elevation 280 m. About 15 km W of Grudovo on road from Elhovo to Grudovo. At turnoff to mountain lodge. Reddish clay loam. Damp. Clearing, along roadside, along oak scrub, upland, slope slight. Frequently seen. Plants very large, height 2-2.5 ft. Foliage green, seed mature.

**PI 597556. *Trifolium ochroleucum* Huds.**

Wild. 90-98; G 31095. Collected 07/21/1990 in Bulgaria. Latitude 42 deg. 15' N. Longitude 27 deg. 0' E. Elevation 360 m. 40 km W of Grudovo on road from Elhovo to Grudovo. Red clay. Rolling upland edge of oak scrub. Occasionally seen.

**PI 597557. *Trifolium pratense* L.**

Wild. 90-95A; G 31097. Collected 07/21/1990 in Bulgaria. Latitude 42 deg. 10' N. Longitude 26 deg. 30' E. Elevation 120 m. 5 km W of Bellarovo on road from Elhovo to Grudovo. Clay loam. Mixed grasses and trees, rolling lowlands. Rarely seen.

**PI 597558. *Trifolium hybridum* L.**

Wild. 90-76; G 31099. Collected 07/19/1990 in Bulgaria. Latitude 41 deg. 45' N. Longitude 26 deg. 15' E. Elevation 510 m. 10 km S of Lyubimets on road to Svilengrad, Khaskovo. Slope steep, rocky. Mixed forbes. Near roadside spring. Rarely seen. Some plants have purple seed.

**PI 597559. *Trifolium ochroleucum* Huds.**

Wild. 90-73; G 31100. Collected 07/19/1990 in Bulgaria. Latitude 41 deg. 40' N. Longitude 26 deg. 0' E. Elevation 350 m. 2 km SE of Dubovec on road from Ivaylovgrad to Malk Gradiste, Khaskovo. Cracking clay. Edge of oak scrub, rolling hills but flat area. Occasionally seen. An unusual site.

**PI 597560. *Trifolium repens* L.**

Wild. 90-54; G 31106. Collected 07/18/1990 in Bulgaria. Latitude 41 deg. 35' N. Longitude 25 deg. 50' E. Elevation 710 m. Along road from Momchilgrad to Ivaylovgrad, Khaskovo. Flat and some slope. Mixed forbes and grasses, edge of woodland. Occasionally seen.

**PI 597561. *Trifolium repens* L.**

Wild. 90-44; G 31109. Collected 07/18/1990 in Bulgaria. Latitude 41 deg. 25' N. Longitude 25 deg. 30' E. Elevation 550 m. 10 km South of Momchilgrad on road to Ivaylovgrad, Khaskovo. Rocky slope, roadside. Mixed forbes. Occasionally seen. Very dry site, some green on *T. repens*.

**PI 597562. *Trifolium repens* L.**

Wild. 90-16; G 31115. Collected 07/16/1990 in Bulgaria. Latitude 41 deg. 55' N. Longitude 24 deg. 50' E. Elevation 1000 m. 9-10 km south of Asenovgrad, Plovdiv. Soil rocky, thin. Mountainous, slope 5-10%. Mixed shrubs. Frequently seen.

**PI 597563. *Trifolium alpestre* L.**

Wild. 90-10; G 31120. Collected 07/16/1990 in Bulgaria. Latitude 41 deg. 55' N. Longitude 24 deg. 50' E. Elevation 1000 m. 9-10 km south of Asenovgrad, Plovdiv. Soil rocky, thin. Mountainous, slope 5-10%. Mixed shrubs. Occasionally seen.

The following were collected by T.A. Campbell, Germplasm Quality and Enhancement Lab., USDA-ARS, Bldg. 001, Rm. 339, Beltsville Agricultural Research Center, Beltsville, Maryland 20705, United States. Donated by G. Berkis, Stendes Agriculturer. Received 07/13/1993.

**PI 597564. *Trifolium pratense* L.**

Uncertain. G 31127. Collected in Latvia.

The following were collected by Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500, United States; G. Ray Smith, Texas A&M University, Research & Extension Center, P.O. Box E, Overton, Texas 75684, United States. Received 05/10/1993.

**PI 597565. *Trifolium alpestre* L.**

Wild. 90-103; G 31143. Collected 07/16/1990 in Bulgaria. Latitude 42 deg. 15' N. Longitude 27 deg. 10' E. Elevation 280 m. At mountain lodge about 15 km west of Grudovo. Reddish clay loam. Clearing along oak scrub, upland slight slope. Rarely seen.

The following were collected by Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500, United States; Gary A. Pederson, USDA, ARS, Crop Sci. Research Lab, Forage Research Unit, Mississippi State, Mississippi 39762-5367, United States. Received 11/29/1993.

**PI 597566. *Trifolium alpestre* L.**

Wild. 93-61; G 31147. Collected 05/08/1993 in Bulgaria. Latitude 41 deg. 33' N. Longitude 23 deg. 38' E. Elevation 1460 m. 1-2 km southeast of Pirin on road from Gotse Delchev, Sofia. Edge of pine forest along road. Mountainous. Sandy clay loam, pH 5.50, sand 47%, silt 20%, clay 33%. Abundant.

**PI 597567. *Trifolium fragiferum* L.**

Wild. 93-72; G 31171. Collected 06/08/1993 in Bulgaria. Latitude 41 deg. 26' N. Longitude 23 deg. 13' E. Elevation 180 m. 5 km northeast of Petric. At water fountain, closely grazed by sheep, meadow grasses, creek bottom. Loamy sand, pH 8.18, sand 73%, silt 27%, clay 0%. Occasionally seen.

- PI 597568. *Trifolium hybridum* L.**  
Wild. 93-95; G 31183. Collected 09/08/1993 in Bulgaria. Latitude 42 deg. 16' N. Longitude 23 deg. 36' E. Elevation 1390 m. Near Samokov Hotel in Samokov, Sofia. Along road to skijump, pine forest, mountainous. Frequently seen.
- PI 597569. *Trifolium hybridum* L.**  
Uncertain. 93-104; G 31184. Collected 11/08/1993 in Bulgaria. Latitude 42 deg. 38' N. Longitude 23 deg. 14' E. Elevation 1380 m. Near Hotel Kopitoto on Mt. Vitosha overlooking Sophia, Sofia. Open meadow with grasses, mountainous. Sandy loam, pH 5.8, sand 67%, silt 23%, clay 10%. Occasionally seen.
- PI 597570. *Trifolium montanum* L.**  
Wild. 93-36; G 31198. Collected 04/08/1993 in Bulgaria. Latitude 41 deg. 57' N. Longitude 24 deg. 8' E. Elevation 1150 m. Orbita tourist complex near Batak. Along edge of mown field where mower had missed some heads. Grasses and forbes. Sloping hillside. Sandy clay loam, pH 5.81, sand 60%, silt 13%, clay 27%. Frequently seen.
- PI 597571. *Trifolium montanum* L.**  
Wild. 93-103; G 31200. Collected 11/08/1993 in Bulgaria. Latitude 42 deg. 38' N. Longitude 23 deg. 14' E. Elevation 1380 m. Near Hotel Kopitoto on Mt. Vitosha overlooking Sophia, Sofia. Open meadow with grasses, mountainous. Sandy loam, pH 5.8, sand 67%, silt 23%, clay 10%. Frequently seen.
- PI 597572. *Trifolium pratense* L.**  
Uncertain. 93-27B; G 31217. Collected 02/08/1993 in Bulgaria. Latitude 41 deg. 39' N. Longitude 24 deg. 42' E. Elevation 1540 m. Pamporovo Ski Resort near Pamporovo. Grasses and legumes surrounded by forest, mountain meadow. Sandy loam, pH 5.95, sand 67%, silt 27%, clay 6%. Frequently seen. Combined with *T. pratense*, mixed with 93-30 *T. heldreichianum*.
- PI 597573. *Trifolium pratense* L.**  
Uncertain. 93-57; G 31218. Collected 05/08/1993 in Bulgaria. Latitude 41 deg. 46' N. Longitude 23 deg. 26' E. Elevation 1790 m. In Pirin National Park near Bansko, Sofia. On short ski slope near the lodge, grasses and forbes, mountainous, high altitude. Sandy loam, pH 5.37, sand 60%, silt 33%, clay 7%. Occasionally seen. Small, short growing.
- PI 597574. *Trifolium repens* L.**  
Uncertain. 93-15; G 31222. Collected 01/08/1993 in Bulgaria. Latitude 42 deg. 9' N. Longitude 24 deg. 44' E. Elevation 140 m. Plovdiv near Hotel Maritza, Plovdiv. In traffic circle, mixed legumes and grasses, flat. Frequently seen.
- PI 597575. *Trifolium repens* L.**  
Uncertain. 93-89; G 31225. Collected 08/08/1993 in Bulgaria. Latitude 42 deg. 9' N. Longitude 23 deg. 23' E. Elevation 1460 m. 5-9 km east of Rila Monastery at Rila tourist complex, Sofia. Open meadow, mountainous. Frequently seen.

The following were donated by Tim L. Springer, USDA, ARS, South Central Family Farms Research, 6883 South State Highway 23, Booneville, Arkansas 72927-9214, United States; Primac Seed Company, Australia. Received 12/20/1993.

**PI 597576. *Trifolium semipilosum* Fresen.**  
Wild. G 31347.

The following were developed by C.A. Rose-Fricker, Pure-Seed Testing, Inc., 3057 G Street, Hubbard, Oregon 97032, United States; Melodee L. Fraser, Pure Seed Testing, Inc., 606 N. Main Street, P.O. Box 176, Rolesville, North Carolina 27571, United States. Received 04/15/1997.

**PI 597577. *Cynodon dactylon* (L.) Pers.**  
Cultivar. Population. "SAVANNAH"; PST-RB-94-4; PST-R64. CV-33. Pedigree - Advanced generation synthetic cultivar selected from the progenies of three clones that were part of a breeding program to develop seeded turf-type bermudagrasses. Developed specifically for turf uses. Dark green, low-growing, dense, aggressively spreading sod of high quality at mowing heights of 1.5-4.0 cm. Exhibited early spring green-up in North Carolina. Well suited for lawns, sports fields, golf course tees, fairways, and roughs in areas where bermuda grass is well adapted.

The following were developed by Donald Hall, University of Nebraska, Dept. of Agronomy, Lincoln, Nebraska 68583-0915, United States; Blaine E. Johnson, HybriTech Seed International, 806 North Second Street, P.O. Box 1320, Berthoud, Colorado 80513, United States; Sergio A. Rodriguez-Herrera, Universidad Atonoma Agraria "Antonio Narro", Departamento de Firtomejoramiento, Saltillo, Coahuila 25000, Mexico. Received 04/17/1997.

**PI 597578. *Zea mays* L. ssp. *mays***  
Breeding. Inbred. N546; 93Nex505; NSL 347687. PL-291. Pedigree - Selfed from population where germplasm consisted of 50% Nebraska Elite Composite Syn.2, and other 50% of equal contributions of the population Mexican Super Dwarf and an unknown population synthesized in China. Parental line evaluated as a line per se at Lincoln, NE. Approx. 63 days from planting to initiation of pollen shed. Silk emergence approx. 2 days after pollen shed begins. Plant height approx. 137 cm., ears 64 cm. Grain color light yellow, cob white. Carries dwarfing gene, believed to be br2 gene.

The following were donated by University of Toronto, Seed Exchange Program, Department of Botany, Toronto, Ontario M5S 3B2, Canada. Received 04/08/1993.

**PI 597579. *Ampelopsis glandulosa* var. *brevipedunculata* (Maxim.) Momiy.**  
Cultivated. No. 171; Ames 20209.

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 597580. *Antirrhinum barrelieri* Bor**

Wild. ANTI 13/81; Ames 21115. Collected in Tarragona, Spain. Baix Camp, Alforja, Prades, Catalonia.

**PI 597581. *Antirrhinum braun-blanquetii* Rothm.**

Wild. ANTI 17/81; Ames 21116. Collected in Oviedo, Spain. Latitude 43 deg. 12' N. Longitude 4 deg. 48' W. Picos de Europa (mountains).

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 597582. *Antirrhinum meonanthum* Hoffmanns. & Link**

Wild. No. 333; Ames 21238. Collected 07/15/1992 in Guarda, Portugal. Latitude 41 deg. 1' N. Longitude 6 deg. 56' W. Barca d' Alva, Provincia da Beira Alta. 29TPF7344.

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 597583. *Antirrhinum siculum* Mill.**

Wild. ANTI 74/87; Ames 21117. Collected in Sicily, Italy. Latitude 36 deg. 54' N. Longitude 15 deg. 8' E. Avola, Siracusa.

The following were donated by Melvin D. Rumbaugh, USDA-ARS, Utah State University, Forage & Range Research Lab, Logan, Utah 84322-6300, United States; Hortus Botanicus a Instutui Agronomic "N. Balcesu", Bulvardul Marasti nr 59, Bucharest, Romania. Received 06/17/1987.

**PI 597584. *Betula humilis* Schrank**

Wild. Ames 7839. Collected 08/02/1986 in Romania. Latitude 46 deg. 57' N. Longitude 25 deg. 34' E. Elevation 900 m. Borsec, Judetul Harghita.

The following were donated by Louis J.M. Van Soest, Centre for Genetic Resources, The Netherlands, P.O. Box 224, Wageningen, Netherlands; Jardin Botanique de la Ville, 1 Avenue Albert-Premier, Dijon, France. Received 08/31/1992.

**PI 597585. *Calendula arvensis* L.**

901034; #252; Ames 19372.

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 597586. *Calendula arvensis* L.**

Wild. CAL 12/81; Ames 21118. Collected in Cadiz, Spain. Puerto de Cabanas by Olvera.

**PI 597587. *Calendula arvensis* L.**

Wild. CAL 27/87; Ames 21119. Collected in Apulia, Italy. Latitude 41 deg. 2' N. Longitude 16 deg. 53' E. Valenzano.

The following were donated by H. Saier, Dimondale, Michigan, United States; Quenton Jones, USDA-ARS, Plant Industry Station, New Crops Research Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United States; Robert Kleiman, USDA, ARS, National Center for Agric., Utilization Research, Peoria, Illinois 61604, United States. Received 04/01/1959.

**PI 597588. *Calendula officinalis* L.**

Cultivated. NU 40010; Ames 18456.

The following were donated by Robert Kleiman, USDA, ARS, National Center for Agric., Utilization Research, Peoria, Illinois 61604, United States; Thompson & Morgan Ltd., London Road, Ipswich, England IP2 0BA, United Kingdom. Received 02/15/1960.

**PI 597589. *Calendula officinalis* L.**

Cultivar. "BALLS ORANGE"; NU 40507; Ames 18457.

**PI 597590. *Calendula officinalis* L.**

Cultivar. "KELMSCOTT GRANT ORANGE"; NU 40510; Ames 18459.

**PI 597591. *Calendula officinalis* L.**

Cultivar. "RADIO"; NU 40518; Ames 18463.

The following were donated by Quenton Jones, USDA-ARS, Plant Industry Station, New Crops Research Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United States; Robert Kleiman, USDA, ARS, National Center for Agric., Utilization Research, Peoria, Illinois 61604, United States. Received 03/1960.

**PI 597592. *Calendula officinalis* L.**

Cultivar. "PACIFIC LEMON BEAUTY"; NU 40633; Ames 18465.

The following were donated by Robert Kleiman, USDA, ARS, National Center for Agric., Utilization Research, Peoria, Illinois 61604, United States. Received 09/1964.

**PI 597593. *Calendula officinalis* L.**

Cultivated. NU 45275; YUGOSLAVIA 864; Ames 18466. Collected 09/1964 in Yugoslavia.

The following were donated by C.Y. Hopkins, Division of Pure Chemistry,

National Research Council, Ottawa, Ontario, Canada; Robert Kleiman, USDA, ARS, National Center for Agric., Utilization Research, Peoria, Illinois 61604, United States. Received 01/1969.

**PI 597594. *Calendula officinalis* L.**  
Cultivated. 505; NU 48884; Ames 18468.

The following were donated by Louis J.M. Van Soest, Centre for Genetic Resources, The Netherlands, P.O. Box 224, Wageningen, Netherlands. Received 08/31/1992.

**PI 597595. *Calendula suffruticosa* Vahl**  
883078; Ames 19380. Collected in Italy. Accession possibly originated from Institut fur Pflanzengenetik und Kulturpflanzenforschung in Gatersleben, Germany.

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 597596. *Calendula suffruticosa* ssp. *maritima* (Guss.) Meikle**  
Wild. CAL 59/89; Ames 21124. Collected in Sicily, Italy. Latitude 38 deg. 1' N. Longitude 12 deg. 29' E. Ronciglio (Trapani).

The following were donated by Louis J.M. Van Soest, Centre for Genetic Resources, The Netherlands, P.O. Box 224, Wageningen, Netherlands. Received 08/31/1992.

**PI 597597. *Calendula suffruticosa* ssp. *tomentosa* Murb.**  
883075; Ames 19378. Collected in Germany. Accession possibly originated from Institut fur Pflanzengenetik und Kulturpflanzenforschung in Gatersleben, Germany.

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 597598. *Campanula lusitanica* L. ssp. *lusitanica***  
Wild. No. 29; Ames 19334. Collected in Porto, Portugal. Lordelo, Douro Litoral Province.

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 597599. *Chrysanthemum coronarium* L.**  
Wild. CHRY 20/77; Ames 21142. Collected in Portugal.

The following were donated by USDA, ARS, U.S. National Arboretum, National

Germplasm Repository, Washington, District of Columbia 20002, United States.  
Received 03/31/1986.

**PI 597600. *Dianthus superbus* var. *longicalycinus* (Maxim.) F. N. Williams**

Wild. NA 55175; Ames 5026. Collected in Korea, South. Elevation 60 m.  
Between village and ocean on N side of Chinchon Dong, Kyong Gi Do,  
Ongjin Gun, Paekryong Myon, Paekryong Island.

The following were donated by USDA, NRCS, Plant Materials Center, 3800 South  
20th Street, Manhattan, Kansas 66502, United States. Received 01/14/1991.

**PI 597601. *Echinacea angustifolia* DC.**

Wild. Ames 14446. Collected in Kansas, United States. Riley County. Sec.  
34, township 10S, range 7E. MLRA:76. Pedigree - A composite of 421340  
Butler Co., KS, 421331 Logan Co., OK, 421362 Ellis Co., KS.

The following were donated by Slaven Aljinovic, Iowa State University, Ag  
Engineering Department, Davidson Hall, Ames, Iowa 50011, United States.  
Received 11/24/1992.

**PI 597602. *Echinacea atrorubens* Nutt.**

Uncertain. Ames 20088. Collected in Oklahoma, United States.

The following were collected by S. Rice. Donated by USDA, NRCS, Plant  
Materials Center, 3800 South 20th Street, Manhattan, Kansas 66502, United  
States. Received 01/14/1991.

**PI 597603. *Echinacea pallida* (Nutt.) Nutt.**

Wild. Ames 14444. Collected in Oklahoma, United States. Stephens County.  
MLRA:84.

The following were collected by J.W. Walstrom. Donated by USDA, NRCS, Plant  
Materials Center, 3800 South 20th Street, Manhattan, Kansas 66502, United  
States. Received 01/14/1991.

**PI 597604. *Echinacea pallida* (Nutt.) Nutt.**

Wild. Ames 14445. Collected in Kansas, United States. Johnson County.  
MLRA:112.

The following were donated by Hortus Botanicus, Universitatis Posnaniensis,  
Dabrowskiego 165, Poznan, Poland. Received 09/28/1993.

**PI 597605. *Gypsophila elegans* M. Bieb.**

Cultivated. 548; Ames 21509.

The following were donated by USDA, ARS, U.S. National Arboretum, National  
Germplasm Repository, Washington, District of Columbia 20002, United States.  
Received 03/31/1986.



**PI 597606. *Gypsophila oldhamiana* Miq.**

Wild. NA 55195; Ames 5029. Collected in Korea, South. Along the road between Sahang Po and Tumujin, Kyong Gi Do, Ongjin Gun, Paekryong Myon, Paekryong Island. Dry rocky soil in full sun.

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 597607. *Lavatera thuringiaca* L.**

ALTH 18/90; Ames 21114. Collected in Germany. Naumberg.

The following were collected by Hans Kohler, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Germany; M. Krusche, Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Germany. Donated by Botanischer Garten, Universitat Leipzig, Linnestrassse 1, Leipzig, Germany. Received 07/06/1994.

**PI 597608. *Leucanthemum vulgare* Lam.**

Wild. Index Seminum #124; Ames 22129. Collected 1993 in Thuringia, Germany. Latitude 51 deg. 17' N. Longitude 10 deg. 7' E. Rustungen.

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 597609. *Malva alcea* L.**

Wild. 105; Ames 15750. Collected in Poland. Grabowko, Bydgoszcz, Poland.

**PI 597610. *Malva alcea* L.**

Wild. 106; Ames 15751. Collected in Poland. Strzelce Gorne, Bydgoszcz, Poland.

The following were donated by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Received 01/25/1985.

**PI 597611. *Rhodotypos scandens* (Thunb.) Makino**

Wild. KNW 391; NA 55204; Ames 3489. Collected in Korea, South. Near the village, Yonhwa-ri, Yonji Dong, Paekryong Island, Ongjingun, Kyong Gi Do, Korea. Hillside, light shade.

The following were donated by The Holden Arboretum, 9500 Sperry Road, Mentor, Ohio 44060-8199, United States. Received 03/26/1990.

**PI 597612. *Rhus copallina* L.**

Wild. 22; Holden #22; Ames 13793; Ames 13232. Collected in Ohio, United States. Toledo Express Airport, Lucas County.

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, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, 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, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

**PI 597613. *Sanvitalia procumbens* Lam.**

Wild. RWCF 41; Ames 21563. Collected 10/07/1993 in Hidalgo, Mexico. Latitude 20 deg. 39' N. Longitude 98 deg. 59' W. Elevation 1880 m. 22.2 km E intersection w/ rd. to Cardonal, near entrance to Grutas Tolantongo Nat'l. Park. Roadside ditch, rocky. Soil clay. Assoc. species *Physalis*, *Tagetes*, *Sanvitalia*, arborescent composite. Rays ca. 10, orange, disks purple-brown. Population moderate sampled ca. 30 plants.

The following were collected by D. Blazkova; R. Neuhausl; Z. Neuhauslova. Donated by Botanical Institute, Czechoslovak Academy of Science, Pruhonice, Czech Republic. Received 03/16/1990.

**PI 597614. *Sorbaria sorbifolia* (L.) A. Braun**

Wild. 528; Ames 13199. Collected in Korea, North. Elevation 105 m. North Pyongan Province, Myohyangsan Mts., vicinity of Hyangaan, near the Chonchon River.

**PI 597615. *Sorbaria sorbifolia* (L.) A. Braun**

Wild. 529; Ames 13200. Collected in Korea, North. Elevation 270 m. North Pyongan Province, Myohyangsan Mts., near Soundjaung Lake.

The following were donated by Academiae Scientiarum Slovaca, Arboretum Mlynany, P.S.C. 951, Slepčany, Slovakia. Received 06/12/1990.

**PI 597616. *Sorbaria sorbifolia* (L.) A. Braun**

Cultivated. 282; Ames 13796.

**PI 597617. *Sorbaria sorbifolia* (L.) A. Braun**

Cultivated. 280; Ames 13806. Received as *S. altaica* Hort.

The following were collected by Rick J. Lewandowski, Morris Arboretum, The University of Pennsylvania, 9414 Meadowbrook Road, Philadelphia, Pennsylvania 19118, United States. Donated by University of Pennsylvania, Morris Arboretum, 9414 Meadowbrook Ave., Philadelphia, Pennsylvania 19118, United States. Received 02/16/1993.

**PI 597618. *Sorbaria sorbifolia* (L.) A. Braun**

Wild. RJL 017; 92-377; NA 66951; Ames 20178. Collected 10/03/1991 in Kangwon, Korea, South. Latitude 38 deg. 2' 0'' N. Longitude 128 deg. 26' 0'' E. Near Inje, 30 km south of Chumbung-san. Roadside, full sun. Assoc. species *Acer ginnala*, *Pinus densiflora*, *Lespedeza* sp., *Salix* sp., *Aster* sp., *Sasa* sp., and others along stream. Multi-stemmed shrub.

The following were collected by Peter Bristol, The Holden Arboretum, 9500 Sperry Road, Kirtland, Ohio 44060-5172, United States; Paul Meyer, The Morris Arboretum of the, University of Pennsylvania, 9414 Meadowbrook Ave., Philadelphia, Pennsylvania 19118, United States; Kris Bachtell, Morton Arboretum, NACPEC, Route 53, Lisle, Illinois 60532, United States. Donated by Shawn Belt, USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Glenn Dale, Maryland 20769-9157, United States; Edward J. Garvey, USDA, ARS, National Germplasm Repository, U.S. National Arboretum, Washington, District of Columbia 20002, United States. Received 12/29/1993.

**PI 597619. *Sorbaria sorbifolia* (L.) A. Braun**

Wild. HLJ 055; NA 64191; Ames 21773. Collected 09/08/1993 in Heilongjiang, China. Elevation 544 m. Jian Shan Jiao. In moist valleys only, woodland understory. Assoc. species *Juglans mandshurica*, *Tilia amurensis*, *Betula platyphylla* var. *mandshurica*, *Acer mono*, *Acer ukurunduense*, *Acer mandshuricum*. Plant height 1.5 m. Fruit capsule turning olive to brown.

The following were collected by Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States; David Brenner, Iowa State University, Regional Plant Introduction Station, Room G208, Agronomy Building, Ames, Iowa 50011, United States. Donated by Maxine Thompson, Oregon State University, Department of Horticulture, Cordley Hall 2042, Corvallis, Oregon 97331-2911, United States; David Brenner, Iowa State University, Regional Plant Introduction Station, Room G208, Agronomy Building, Ames, Iowa 50011, United States. Received 03/06/1989.

**PI 597620. *Sorbaria tomentosa* (Lindl.) Rehder**

Wild. T&B 880428; SOI 7; Ames 10200. Collected 10/16/1988 in North-West Frontier, Pakistan. Latitude 35 deg. 41' N. Longitude 72 deg. 4' E. Elevation 2400 m. 2 km SW of Paloga, Swat District. River valley in mountains, in full sun, Slope 45 degrees, aspect west, on a well drained rocky-silt soil with many stones. Associated species *Cedrus deodara*, *Pinus wallichii*, *Abies* sp. Bush height 1-2 m. Attractive white terminal inflorescences and brilliant fall red leaves.

The following were collected by Jaana Moilanen. Donated by University of Joensuu, Botanical Garden, P.O. Box 111, Joensuu, Finland. Received 09/08/1993.

**PI 597621. *Spergula arvensis* L.**

Wild. 178; Ames 21469. Collected 07/24/1992 in Finland. Latitude 61 deg. 12' N. Longitude 26 deg. 0' E. Tahtiniemi, Heinola, Etela-Hame. Field.

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 597622. *Spergula pentandra* L.**

Wild. No. 56; Ames 19360. Collected in Portugal. Serra da Estrela, Beira  
Baixa Province. 29TPE2164.

The following were donated by University of Pennsylvania, Morris Arboretum,  
9414 Meadowbrook Ave., Philadelphia, Pennsylvania 19118, United States.  
Received 05/24/1993.

**PI 597623. *Spiraea alba* var. *latifolia* (Aiton) Dippel**

Wild. No. 47; Ames 21093. Collected in Pennsylvania, United States.  
Latitude 39 deg. 44' N. Longitude 76 deg. 2' W. Elevation 130 m. Chester  
County. Serpentine Barrens, Piedmont Province. Near stream, shady and  
moist. Growing with *Acer rubrum* and *Lindera benzoin*.

The following were collected by I. Tabor; J. Weger. Donated by Arboretum Novy  
Dvur, Musei Terrae Silesiae, Opava, Steborice, Czech Republic. Received  
08/11/1993.

**PI 597624. *Spiraea stevenii* Rydb.**

Wild. No. 179; Ames 21230. Collected 09/18/1990 in Russian Federation.  
Latitude 54 deg. 29' N. Longitude 159 deg. 59' E. Elevation 650 m. Uzon,  
Kamtchatka, Russian Federation. Low scrub of *Pinus pumila*, *Betula*  
*ermanii*, *Betula* cf. *nana*, *Vaccinium* sp.

The following were collected by Ju. A. Lux; T.M. Latmanizova. Donated by  
Hortus Botanicus Instituti Botanici, Academiae Scientiarum Rossicae, Rossia,  
197376, St. Petersburg, Russian Federation. Received 02/03/1994.

**PI 597625. *Tanacetum corymbosum* (L.) Sch. Bip.**

Cultivated. 2154; Ames 21907. Collected 1981 in Russian Federation.  
Caucasus, Arkhyz region.

The following were donated by Botanischer Garten, Universitat Leipzig,  
Linnestrasse 1, Leipzig, Germany. Received 07/07/1993.

**PI 597626. *Tanacetum macrophyllum* (Waldst. & Kit.) Sch. Bip.**

Cultivated. No. 993; Ames 21201.

The following were collected by H. Hubatsch, Botanischer Garten, Universitat  
Leipzig, Linnestrasse 1, Leipzig, Germany; Kurt Hubatsch, Botanischer Garten,  
Universitat Leipzig, Linnestrasse 1, Leipzig, Germany. Donated by Botanischer  
Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Germany. Received  
07/07/1993.

**PI 597627. *Tanacetum parthenium* (L.) Sch. Bip.**

Wild. No. 160; Ames 21203. Collected in Germany. Helbigsdorf, Sachsen.

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 597628. *Vaccaria hispanica* ssp. *grandiflora* (Ser.) Holub**  
Wild. VAC 4/79+92; Ames 21173. Collected in Iraq.

**PI 597629. *Vaccaria hispanica* (Mill.) Rauschert ssp. *hispanica***  
Wild. VAC 2/75; Ames 21172. Collected in Mongolia. Somon, Bulgan.

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 597630. *Verbena officinalis* L.**  
Wild. No. 427; Ames 19363. Collected in Porto, Portugal. Latitude 41 deg. 12' N. Longitude 8 deg. 36' W. Sao Mamede de Infesta, Douro Litoral Province. 29TNF3260.

The following were donated by University of Turku, Botanical Garden, Turku, Turku ja Pori SF 20500, Finland. Received 04/22/1992.

**PI 597631. *Viola tricolor* L.**  
Wild. No. 471; Ames 19085. Collected in Turku ja Pori, Finland. Latitude 61 deg. 7' N. Longitude 21 deg. 52' E. Church village, Lappi TL, Satakunta.

The following were collected by Rick J. Lewandowski, Morris Arboretum, The University of Pennsylvania, 9414 Meadowbrook Road, Philadelphia, Pennsylvania 19118, United States. Donated by P. Kupfer, Jardin Botanique de l'Universite, Pertuis-du Sault 58, Neuchatel, Neuchatel CH-2000, Switzerland. Received 05/20/1993.

**PI 597632. *Viola tricolor* L.**  
Wild. No. 122; Ames 21078. Collected in Switzerland. Elevation 500 m. Foot of Jura Mts.

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, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, 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, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Alvaro Campos, Universidad Nacional Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

**PI 597633. *Zinnia haageana* Regel**

Wild. RWCF 36; Ames 21575. Collected 10/06/1993 in Queretaro, Mexico. Latitude 20 deg. 22' N. Longitude 100 deg. 5' W. Elevation 2080 m. 4 km SW Galindo on rd to Amealco. Rocky roadside. Rock volcanic. Assoc. species *Tagetes*, *Acacia*, *Salvia*, *Cuphea wrightii*. Rays mostly 10, center orange, edge yellow, disks typical. Population large, sampled ca. 35 plants.

The following were donated by David G. Lemon, Bodger Seeds, Ltd., P.O. Box 607, Lompoc, California 93438-0607, United States. Received 1962.

**PI 597634. *Zinnia violacea* Cav.**

Cultivar. NSL 15575; ORTHO POLKA (GIANT STRIATA).

**PI 597635. *Zinnia violacea* Cav.**

Cultivar. NSL 30809; THUMBELINA MIXED.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 1966.

**PI 597636. *Zinnia violacea* Cav.**

Cultivar. NSL 52335; GIANT BICOLORED WHIRLIGIG.

**PI 597637. *Zinnia violacea* Cav.**

Cultivar. NSL 67956; AZTEC.

**PI 597638. *Zinnia violacea* Cav.**

Cultivar. NSL 67957; BIG SNOWMAN.

The following were donated by David G. Lemon, Bodger Seeds, Ltd., P.O. Box 607, Lompoc, California 93438-0607, United States. Received 1968.

**PI 597639. *Zinnia violacea* Cav.**

Cultivar. NSL 68226; SOMBERRO. Giant gaillardia flowered variety.

The following were donated by Mandeville & King Company, Rochester, New York, United States. Received 1969.

**PI 597640. *Zinnia violacea* Cav.**

Cultivar. NSL 68321; LILAC TIME.

The following were donated by W. Atlee Burpee Company, 300 Park Avenue, Warminster, Pennsylvania 18974, United States. Received 1979.

**PI 597641. *Tetragonia tetragonoides* (Pall.) Kuntze**

Cultivar. NEW ZEALAND.

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. Received 1975.

**PI 597642. Pavonia sp.**

Wild. 06951 ORIGINAL. Collected in Kenya.

The following were developed by Steven Smith, University of Arizona, Department of Plant Sciences, 303 Forbes Hall, Tucson, Arizona 85721, United States; Abdullah A. Al-Doss, Plant Protection Department, College of Agriculture, P.O. Box 2460, Riyadh, Saudi Arabia. Received 04/11/1997.

**PI 597643. Medicago sativa L. ssp. sativa**

Breeding. Population. AZ-97MEC. GP-331. Pedigree - Derived from 51 surviving plants from 12 Middle Eastern ecotypes grown in Tucson, AZ. The ecotypes are: Ed-Damer, Hudieba and Gaidun from Sudan, and Egypt II-V, Hasawi, Hejazi, Qassimi, and NE-NAF-1 and 3 from Saudi Arabia. Broad-based, very nondormant (fall dormancy rating >9), composite population adapted to long-season, low-desert environments. Intended as a source of potentially novel variation for use in alfalfa breeding and research, especially where increased cool-season productivity is needed.

**PI 597644. Medicago sativa L. ssp. sativa**

Breeding. Population. AZ-97MEC-ST. GP-332. Pedigree - Derived from 2 cycles of simple weighted index selection in the greenhouse within AZ-97MEC for increased shoot weight under saline and non-saline irrigation. Broad-based source of very non-dormant (fall dormancy rating >9) alfalfa germplasm with increased forage production potential under moderate salt stress. Adapted to long-season, low-desert environments and intended as a source of potentially novel variation for use in alfalfa breeding and research, especially where increased cool-season productivity is desired.

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; James A. Anderson, USDA, ARS, Washington State University, 209 Johnson Hall, Pullman, Washington 99164, United States; E.G. Williams, CSIRO, Division of Horticulture, Adelaide, South Australia, Australia. Received 04/22/1997.

**PI 597645. Trifolium hybrid**

Breeding. HBC/F2-C. GP-177. Pedigree - Backcross of the hybrid *Trifolium ambiguum* (kura clover) X *T. repens* (white clover) to *T. repens*. Hexaploid possessing approx. 48 chromosomes. Morphologically intermediate between the two parents (*T. ambiguum* and *T. repens*) and appears to exhibit both stolons and rhizomes but not to the degree exhibited by the parents. Susceptible to bean yellow mosaic virus, and peanut stunt virus, however the *T. ambiguum* parent was resistant to both viruses. Less winter hardy than kura clover and will backcross to white clover, necessitating field isolation. Vegetative material.

The following were collected by David Spooner, University of Wisconsin, Department of Horticulture, 1575 Linden Drive, Madison, Wisconsin 53706,

United States; Roel Hoekstra, Center for Plant Breeding and Reproduction Research, Center for Genetic Resources The Netherlands (CGN), Droevendaalsesteeg 1,, Wageningen, Netherlands; Braulio Vilchez, Instituto Tecnológico de Costa Rica, Departamento de Biología, P.O. Box 159-7050, Cartago, Cartago, Costa Rica. Received 02/26/1997.

**PI 597646. *Solanum nigrum* L.**

Wild. 7134. Collected 12/12/1996 in Cartago, Costa Rica. Latitude 10 deg. 7' N. Longitude 83 deg. 45' W. Elevation 2900 m. Volcan Turrialba, 9.5 km on road up to volcano.

**PI 597647. *Solanum fraxinifolium* Dunal**

Wild. 7139. Collected 12/15/1996 in San Jose, Costa Rica. Latitude 9 deg. 50' N. Longitude 84 deg. 8' W. Elevation 2460 m. Zona Protegida Cerro de Escaz., along the road near the top of Cerro El Cedral.

**PI 597648. *Solanum nigrum* L.**

Wild. 7142. Collected 12/21/1996 in San Jose, Costa Rica. Latitude 9 deg. 43' N. Longitude 84 deg. 6' W. Elevation 2100 m. About 4 km S of La Legua on the road to San Francisco.

The following were developed by Lawrence D. Young, USDA, ARS, West Tennessee Experiment Station, 605 Airways Blvd., Jackson, Tennessee 38301, United States; Thomas C. Kilen, USDA, ARS, Soybean Production Research, P.O. Box 196, Stoneville, Mississippi 38776, United States. Received 05/05/1997.

**PI 597649. *Glycine max* (L.) Merr.**

Breeding. Pureline. D94-6041. GP-189. Pedigree - Bedford7 X PI 86050. Maturity Group V released to provide soybean breeders with a potential parent to develop multiple pest resistant cultivars. Developed by backcrossing to transfer Rps4 gene into Bedford. After six backcrosses, F3 lines were evaluated for the gene Rps4 conferring resistance to *Phytophthora sojae*, and for resistance to soybean cyst nematode (*Heterodera glycines*). Similar to Bedford for all observable traits, and has the same level of resistance to races 3 and 14 of the soybean cyst nematode.

The following were developed by Brian T. Scully, University of Florida, Everglades Experiment Center, P.O. Box 8003, Belle Glade, Florida 33430, United States; K. Stewart-Williams, University of Idaho, Kimberly Res. and Ext. Ctr., 3793 North 3600 East, Kimberly, Idaho 83341, United States; Jim Myers, Oregon State University, Department of Horticulture, ALS 4017, Corvallis, Oregon 97331, United States; D. E. Halseth, Cornell University, Dept. of Fruit and Vegetable Science, Ithaca, New York 14853-4203, United States. Received 05/06/1997.

**PI 597650. *Phaseolus vulgaris* L.**

Cultivar. "BLACK KNIGHT". PVP 9700355; CV-152. Pedigree - Midnight/6/Midnight/5/Midnight/4/Midnight/3/Midnight// (US 1140/Black Turtle Soup I) F3. Growth habit erect, plant height 48 cm. Maturity 103 days after planting in northwest U.S. Seed yield 2788 lbs/acre, mean seed size 2253 seed/lb. Good resistance to lodging. Resistant to Clover Yellow Vein Virus.



The following were donated by Reid G. Palmer, USDA, ARS, Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States; Huan Sun, Jilin Academy of Agricultural Sciences, Gongzhuling, Jilin, China. Received 04/10/1997.

**PI 597651. Glycine max** (L.) Merr.  
Cultivated. Pureline. Wei da yu; SY 9720001.

**PI 597652. Glycine max** (L.) Merr.  
Cultivated. Pureline. Sun wu xiao bai mei; SY 9720002.

The following were developed by Reid G. Palmer, USDA, ARS, Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States. Received 04/10/1997.

**PI 597653. Glycine max** (L.) Merr.  
Genetic. Pureline. A93-213; SY 9718001.

**PI 597654. Glycine max** (L.) Merr.  
Genetic. Pureline. A93-214; SY 9718002.

**PI 597655. Glycine max** (L.) Merr.  
Genetic. Pureline. A93-215; SY 9718003.

**PI 597656. Glycine max** (L.) Merr.  
Genetic. Pureline. A93-216; SY 9718004.

**PI 597657. Glycine max** (L.) Merr.  
Genetic. Pureline. A95-FR-7; SY 9718005.

**PI 597658. Glycine max** (L.) Merr.  
Genetic. Pureline. A95-FR-8; SY 9718006.

**PI 597659. Glycine max** (L.) Merr.  
Genetic. Pureline. A95-FR-9; SY 9718007.

**PI 597660. Glycine max** (L.) Merr.  
Genetic. Pureline. A95-FR-10; SY 9718008.

**PI 597661. Glycine max** (L.) Merr.  
Genetic. Pureline. A95-FR-11; SY 9718009.

**PI 597662. Glycine max** (L.) Merr.  
Genetic. Pureline. A95-FR-12; SY 9718010.

**PI 597663. Glycine max** (L.) Merr.  
Genetic. Pureline. "T332H"; SY 9721001.

**PI 597664. Glycine max** (L.) Merr.  
Genetic. Pureline. "T333H"; A95-1453; SY 9721002.

The following were developed by Robert E. Allan, USDA-ARS, Dept. of Crop & Soil Science, 209 Johnson Hall, Pullman, Washington 99164, United States. Received 05/15/1997.

**PI 597665. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. ARS96104; ARS9269; WA7690; NSGC 6424. Pedigree - VPM/Moisson 951//Yamhill/Hyslop/Hill 81/3/WA6910. A 1-gene tall semidwarf soft white common wheat with fusiform to oblong fully awned spikes, glumes and straw white. An entry in Western Regional SWW Nursery 1991-1994. High yield potential, 4% higher than Stephens (28 reg. tests), 5% higher than Madsen (37 WA tests). High resistance (Pchl gene) to eyespot foot rot. Moderate to high resistance to stripe rust, leaf rust, stem rust and Septoria leaf blotch. Compared to Madsen, greater seedling vigor and higher test weight, less coldhardiness, and less straw strength. Prone to physiologic leaf spot. Quality equal to Madsen for grain hardness, protein content, ash %, absorption, mixing time, cookie diameter and sponge cake score. Inferior to Madsen for flour yield and milling.

**PI 597666. *Triticum compactum* Host**

Breeding. Pureline. ARS9512; ARS9414; WA7770; NSGC 6425. Pedigree - Tres/3/VPM/Moisson 951//Yamhill/Hyslop/4/Tres. WA7770 is a 1-gene (Rht2) semidwarf soft white winter club wheat. Awnless-awnletted with a compact spike, glumes and straw white. Advanced in Western Regional Tests 1994-1995 and WA tests 1991-1995. Yield potential averaged 15% higher than Tres and Rohde, 8% higher than Rely, and equal to Hiller and Hyak. Compared to Hyak, less coldhardiness, lower test weight, equal seedling vigor, greater straw strength, and 5 days later heading. Resistant to eyespot foot rot. Moderate resistance to leaf rust, powdery mildew. Moderately susceptible to stripe rust, stem rust, and Cephalosporium stripe. Satisfactory milling quality, grain texture, protein content, absorption, viscosity, mixing time. Questionable cookie and sponge cake baking quality.

The following were collected by Luis E. Lopez, International Plant Genetic Resources Institute, c/o CIAT, Apto. Aereo 6713, Cali, Valle, Colombia. Received 09/22/1992.

**PI 597667. *Solanum andreanum* Baker**

Wild. CCC 4526; BE-4426; Q 29387. Collected 09/05/1973 in Narino, Colombia. Elevation 2610 m. Narino-Ipiales road to La Victoria, 3 to 8 km along the way to Verada La Estrella.

**PI 597668. *Solanum andreanum* Baker**

Wild. CCC 5186; BE-4266; Q 29400. Collected 09/02/1980 in Putumayo, Colombia. Putumayo-Sibundoy.

**PI 597669. *Solanum* sp.**

Wild. CCC 5192; BE-4266; Q 29404. Collected 09/03/1980 in Narino, Colombia. Km 12, Pasto-Buesaco.

**PI 597670. *Solanum colombianum* Dunal**

Wild. CCC 5202; BE-4266; Q 29405. Collected 09/07/1980 in Cauca, Colombia. San Sebastian-Santiago.

- PI 597671. *Solanum colombianum* Dunal**  
Wild. CCC 5212; BE-4266; Q 29406. Collected 09/11/1980 in Cauca, Colombia. Totoro-San Pedro. La Sabana, Finca of E. Vera.
- PI 597672. *Solanum flahaultii* Bitter**  
Wild. CCC 5233; BE-4266; Q 29411. Collected 02/12/1981 in Cundinamarca, Colombia. Zipaquira-Santa Barbara. Finca de Don Banito.
- PI 597673. *Solanum* sp.**  
Wild. CCC 5250; BE-4266; Q 29418. Collected 09/23/1981 in Boyaca, Colombia. Guican-La Griaca. Finca de Eudoro Carreuo.
- PI 597674. *Solanum flahaultii* Bitter**  
Wild. CCC 5272; BE-4266; Q 29422. Collected 06/12/1982 in Boyaca, Colombia. Socha-Los Puios.
- PI 597675. *Solanum* sp.**  
Wild. CCC 5273; BE-4266; Q 29423. Collected 10/12/1982 in Boyaca, Colombia. Cluta.
- PI 597676. *Solanum colombianum* Dunal**  
Wild. CCC 5280; BE-4266; Q 29427. Collected 12/04/1982 in Huila, Colombia. Isuios-El. Moruiol.
- PI 597677. *Solanum moscopanum* Hawkes**  
Wild. LOP 012; BE-5419; Q 29721. Collected 10/22/1992 in Cauca, Colombia . Latitude 1 deg. 54' N. Longitude 76 deg. 38' W. Elevation 2960 m.

The following were collected by J.P. Hjerting, Kobenhavns Universitet, Botanisk Have, Oster Farimagsgade 2B, Copenhagen, Denmark. Received 11/06/1995.

- PI 597678. *Solanum cardiophyllum* ssp. *ehrenbergii* Bitter**  
Wild. HJT 95-7; Q 35981. Collected 08/28/1995 in Queretaro, Mexico. Elevation 2100 m. At km 18, N of Queretaro (city) about 100 m E of Mex 57. Zone of *Bursera*, *Jatropha dioica*, minosoid scrub, and large candelabran cactus. W and SE facing slopes and ledges of lava rocks.
- PI 597679. *Solanum stoloniferum* Schltdl. & Bouche**  
Wild. HJT 95-10; Q 35982. Collected 08/29/1995 in Hidalgo, Mexico. Elevation 2000 m. Slopes of Cerro Chulco, 3-5 km S of Apan along the Calpulalpan (Tlaxcala) - Apan (Hidalgo) road just N of Colonia Los Valadores. W-facing slopes and ledges of a small mountain now heavily grazed and farmed.
- PI 597680. *Solanum* sp.**  
Wild. HJT 95-11; Q 35983. Collected 08/29/1995 in Hidalgo, Mexico. Elevation 2000 m. Slopes of Cerro Chulco, 3-5 km S of Apan along the Calpulalpan (Tlaxcala) - Apan (Hidalgo) road just N of Colonia Los Valadores. W-facing slopes and ledges of a small mountain now heavily grazed and farmed. Reaching about 80 cm, flowers mauve.
- PI 597681. *Solanum brachycarpum* (Correll) Correll**

Wild. HJT 95-49; Q 35984. Collected 03/09/1995 in Oaxaca, Mexico. Elevation 2400 m. About 20 km S of Santa Maria Ecatepec and just above the village of Santa Tomas Teipan. Zone of hardwoods, clay and fill of roadcut. Stems winged.

**PI 597682. *Solanum brachycarpum* (Correll) Correll**

Wild. HJT 95-83; Q 35985. Collected 09/09/1995 in Mexico, Mexico. Elevation 2900 m. At km 13 along road from Tres Marias to Parque Nacional Lagunas Zempala (just W of the Morelos border). Zone of pine, oak, and abies. Lightly shaded, rocky SW-facing slope. To 4 dm. Petals dark purple.

**PI 597683. *Solanum stoloniferum* Schlttdl. & Bouche**

Wild. HJT 95-87; Q 35986. Collected 09/11/1995 in Hidalgo, Mexico. Elevation 2320 m. About 7 km NE of Tulancingo, Hidalgo, just below the first pass along Mex 130 to the Gulf Coast. Zone of oak and arborescent (opuntia); SE-facing slopes, among rocks and recent fill. To 0.3 m. Petals white to pale violet.

**PI 597684. *Solanum* sp.**

Wild. HJT 95-133; Q 35987. Collected 09/17/1995 in Mexico, Mexico. Elevation 3650 m. 3.9 km S of Raices (a small village town) along the road leading to the summit of Nevado (volcan) de Toluca. Zone of open parkland with oaks and Ribes; loamy volcanic ash among rocks and along roadcuts.

The following were collected by David Spooner, University of Wisconsin, Department of Horticulture, 1575 Linden Drive, Madison, Wisconsin 53706, United States; Ronald van den Berg, Wageningen Agricultural University, Department of Plant Taxonomy, General Foulksweg 37, Wageningen, Netherlands; William Garcia Fernandez, PROINPA (Programa de Investigacion de la Papa), IBTA (Instituto de Boliviano Tecnologia Agropecuaria), Calle Man Cesped 923, Cochabamba, Cochabamba, Bolivia; Maria Luisa Ugarte, PROINPA (Programa de Investigacion de la Papa), IBTA (Instituto de Boliviano Tecnologia Agropecuaria), Calle Man Cesped 923, Cochabamba, Cochabamba, Bolivia. Received 04/21/1993.

**PI 597685. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**

Wild. SFVU 6505; BE-4652; Q 30498. Collected 02/09/1993 in Cochabamba, Bolivia. Latitude 17 deg. 37' S. Longitude 66 deg. 21' W. Elevation 2567 m. Quillacollo: km 49.5, along the road from Cochabamba to Oruro. plants common in area, growing in stony soil among bushes, or in adjacent corn fields. 2-3 pairs of lateral leaflets, with upper pair decurrent, corolla pentagonal to rotate, fruits round, maturing to mature.

**PI 597686. *Solanum acaule* Bitter ssp. *acaule***

Wild. SFVU 6510; BE-4652; Q 30499. Collected 02/10/1993 in Oruro, Bolivia. Latitude 18 deg. 23' S. Longitude 66 deg. 39' W. Elevation 4149 m. Dalence: ca 25 km E of Huanuni, on Oruro-Sucre road. growing in and about *S. juzepczukii* fields. Corollas blue or white, of different sizes, fruits ovoid.

**PI 597687. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**

Wild. SFVU 6511; BE-4652; Q 30500. Collected 02/10/1993 in Oruro,

Bolivia. Latitude 18 deg. 23' S. Longitude 66 deg. 36' W. Elevation 3865 m. Dalence: 32 km E of Huanuni, on Oruro-Sucre road. growing in valley adjacent to stream, among bushes and in cultivated fields, near *S. acaule*. Corolla blue, rotate-pentagonal, most plants just emerging, but some populations (in cultivated fields) with fruits round, maturing to mature fruits.

**PI 597688. *Solanum acaule* Bitter ssp. *acaule***

Wild. SFVU 6512; BE-4652; Q 30501. Collected 02/10/1993 in Oruro, Bolivia. Latitude 18 deg. 23' S. Longitude 66 deg. 36' W. Elevation 3685 m. Dalence: 32 km E of Huanuni, on Oruro-Sucre road. growing in and adjacent to cultivated fields, near *S. sparsipilum*. Fruits ovoid, maturing to mature.

**PI 597689. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6514; BE-4652; Q 30502. Collected 02/10/1993 in Oruro, Bolivia. Latitude 18 deg. 34' S. Longitude 66 deg. 23' W. Elevation 3879 m. Bustillos: 16 km SE of Uncia, an Oruro-Sucre road. growing in stony soil in sunny areas, with *S. brevicaule*. Fruits round, maturing to mature.

**PI 597690. *Solanum brevicaule* Bitter**

Wild. SFVU 6515; BE-4652; Q 30503. Collected 02/10/1993 in Potosi, Bolivia. Latitude 18 deg. 34' S. Longitude 66 deg. 23' W. Elevation 3879 m. Bustillos: 16 km SE of Uncia, on Oruro-Sucre road. growing in thin stony soil among bushes or in sunny areas, with *S. megistacrolobum* var. *megistacrolobum*. Plants small, up to 20 cm tall, leaflets narrow (linear) when growing in sun, to wider (when growing in shade) in same population, corolla pentagonal, fruits round to slightly round-ovoid, maturing to mature.

**PI 597691. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6520; BE-4652; Q 30504. Collected 02/11/1993 in Potosi, Bolivia. Latitude 18 deg. 50' S. Longitude 66 deg. 0' W. Elevation 3840 m. Chayanta: 4 km E of Macha, on Oruro-Sucre road. growing in thin soil among grasses and bushes, with *S. acaule* ssp. *acaule* and *S. brevicaule*. Corolla violet, pentagonal, fruits round, just maturing.

**PI 597692. *Solanum acaule* Bitter ssp. *acaule***

Wild. SFVU 6521; BE-4652; Q 30505. Collected 02/11/1993 in Potosi, Bolivia. Latitude 18 deg. 50' S. Longitude 66 deg. 0' W. Elevation 3840 m. Chayanta: 4 km E of Macha, on Oruro-Sucre road. growing in thin soil among grasses and bushes, with *S. brevicaule* and *S. megistacrolobum* var. *megistacrolobum*. Fruits ovoid, just beginning to mature.

**PI 597693. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6522; BE-4652; Q 30506. Collected 02/11/1993 in Potosi, Bolivia. Latitude 18 deg. 52' S. Longitude 65 deg. 49' W. Elevation 4270 m. Chayanta: ca 2 km W of Ocuri, on Oruro-Sucre road. plants common in area, growing in moist, thin, rocky soil, in and adjacent to cultivated fields, with *S. acaule* ssp. *acaule*. Fruits round, maturing to mature.

**PI 597694. *Solanum acaule* Bitter ssp. *acaule***

Wild. SFVU 6523; BE-4652; Q 30507. Collected 02/11/1993 in Potosi, Bolivia. Latitude 18 deg. 52' S. Longitude 65 deg. 49' W. Elevation 4270

m. Chayanta: ca 2 km W of Ocuri, on Oruro-Sucre road. plants common in area, growing in wet soil in and adjacent to cultivated fields, with *S. megistacrolobum* var. *megistacrolobum*. Fruits mature.

- PI 597695. *Solanum sparsipilum*** (Bitter) Juz. & Bukasov  
Wild. SFVU 6526; BE-4652; Q 30508. Collected 02/12/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 10' S. Longitude 65 deg. 14' W. Elevation 2594 m. Oropeza: ca. 4 km W of junction of road from Sucre to Potosi, and road through Yotala. growing among *Prosopis* (with *S. tarijense*), and in corn fields, branches green and purple, . Stems no more than 30 cm tall, corolla purple, rotate, fruits round, mature.
- PI 597696. *Solanum sparsipilum*** (Bitter) Juz. & Bukasov  
Wild. SFVU 6528; BE-4652; Q 30509. Collected 02/13/1993 in Potosi, Bolivia. Latitude 19 deg. 21' S. Longitude 65 deg. 10' W. Elevation 2242 m. Saavedra: roughly 52 km S of Sucre on road to Potosi. growing under shade of *Schinus molle* tree at edge of cornfield, on floodplain of river . Plants 0.2 m tall, corolla blue or white, pentagonal, fruits round, maturing to mature.
- PI 597697. *Solanum brevicaule*** Bitter  
Wild. SFVU 6533; BE-4652; Q 30510. Collected 02/14/1993 in Potosi, Bolivia. Latitude 19 deg. 35' S. Longitude 65 deg. 24' W. Elevation 3122 m. Saavedra: 7.5 km SE of Betanzos on road to Sucre. growing as a common cornfield weed. Corolla light blue, rotate-pentagonal, fruits maturing to mature.
- PI 597698. *Solanum megistacrolobum*** Bitter  
Wild. SFVU 6537; BE-4652; Q 30511. Collected 02/14/1993 in Potosi, Bolivia. Latitude 19 deg. 34' S. Longitude 65 deg. 44' W. Elevation 4015 m. Tomas Frias: ca 1 km E of guardpost station on the E side of Potosi. growing in loose exposed soil on steep bank next to road. Corolla violet, rotate, fruits maturing to mature.
- PI 597699. *Solanum infundibuliforme*** Phil.  
Wild. SFVU 6539; BE-4652; Q 30512. Collected 02/15/1993 in Potosi, Bolivia. Latitude 19 deg. 50' S. Longitude 65 deg. 42' W. Elevation 3903 m. Linares: 30.3 km S of road toll station on S side of Potosi, on the road to Villazon. growing in thin rocky soils on slope by road, with *S. megistacrolobum*. Corolla white to violet, stellate, fruits round to round-ovoid, maturing to mature.
- PI 597700. *Solanum megistacrolobum*** Bitter  
Wild. SFVU 6543; BE-4652; Q 30513. Collected 02/15/1993 in Potosi, Bolivia. Latitude 19 deg. 50' S. Longitude 65 deg. 42' W. Elevation 3903 m. Linares: 30.3 km S of road toll station on S side of Potosi, on road to Villazon. growing in thin rocky soils on slope by road, with *S. infundibuliforme*. Corolla pentagonal, violet, fruits round, maturing to mature.
- PI 597701. *Solanum infundibuliforme*** Phil.  
Wild. SFVU 6547; BE-4652; Q 30514. Collected 02/16/1993 in Potosi, Bolivia. Latitude 20 deg. 24' S. Longitude 65 deg. 34' W. Elevation 3180 m. Nor Chichas: 26 km S of Vitichi, on road to Villazon. growing in thin rocky soils under spiny bushes and among cacti. Corolla white to

purple, stellate, fruits round to round-ovoid, just beginning to mature.

- PI 597702. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**  
Wild. SFVU 6548; BE-4652; Q 30515. Collected 02/16/1993 in Potosi, Bolivia. Latitude 20 deg. 25' S. Longitude 65 deg. 34' W. Elevation 2945 m. Nor Chichas: 30 km S of Vitichi, on road to Villazon, 8.5 km N of Tumusla. growing among bushes adjacent to corn field. Corolla purple, rotate-pentagonal, fruits round, maturing to mature.
- PI 597703. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**  
Wild. SFVU 6552; BE-4652; Q 30516. Collected 02/16/1993 in Potosi, Bolivia. Latitude 20 deg. 55' S. Longitude 65 deg. 40' W. Elevation 2836 m. Nor Chichas: 12.4 km S of Cotagaita, in a village called Casun, on road to Villazon. growing next to irrigation canal adjacent to corn field. Corolla rotate-pentagonal, purple, fruits round, maturing to mature.
- PI 597704. *Solanum infundibuliforme* Phil.**  
Wild. SFVU 6561; BE-4652; Q 30517. Collected 02/18/1993 in Potosi, Bolivia. Latitude 21 deg. 27' S. Longitude 65 deg. 48' W. Elevation 3686 m. Sud Chichas: 14.5 km W of town square of Tupiza on road to La Colorada. growing in rocky soil. Fruits just forming.
- PI 597705. *Solanum megistacrolobum* Bitter**  
Wild. SFVU 6563; BE-4652; Q 30518. Collected 02/18/1993 in Potosi, Bolivia. Latitude 21 deg. 27' S. Longitude 65 deg. 51' W. Elevation 4006 m. Sud Chichas: 20.2 km W of Tupiza town square, on rd to La Colorada. growing in rocky soil among shrubs, with *S. infundibuliforme*. Corolla blue, pentagonal, fruits round-ovoid.
- PI 597706. *Solanum megistacrolobum* Bitter**  
Wild. SFVU 6566; BE-4652; Q 30519. Collected 02/18/1993 in Potosi, Bolivia. Latitude 21 deg. 26' S. Longitude 65 deg. 54' W. Elevation 4210 m. Sud Chichas: 29.8 km W of Tupiza town square, on rd to La Colorada. growing among rocks in humid organic soil. Corolla violet, pentagonal, fruits round-ovoid.
- PI 597707. *Solanum megistacrolobum* Bitter**  
Wild. SFVU 6568; BE-4652; Q 30520. Collected 02/18/1993 in Potosi, Bolivia. Latitude 21 deg. 24' S. Longitude 66 deg. 9' W. Elevation 4040 m. Sud Chichas: 7.1 km W of locked gate at the W end of Chilcobija, a private mining town, driving past cemetery. collected in rocky soil near base of cliff face, with *S. infundibuliforme*. Corolla violet, pentagonal, fruits round-ovoid.
- PI 597708. *Solanum megistacrolobum* Bitter**  
Wild. SFVU 6572; BE-4652; Q 30521. Collected 02/18/1993 in Potosi, Bolivia. Latitude 21 deg. 26' S. Longitude 46 deg. 5' W. Elevation 3928 m. Sud Chichas: about 3 km E of locked gate at E end of Chilcobija, a private mining town, then ca 0.5 km N, to a farmer's field. growing in organic soil near stone wall of farm, with *S. acaule*. Corolla violet, pentagonal, fruits round-ovoid.
- PI 597709. *Solanum acaule* Bitter ssp. *acaule***  
Wild. SFVU 6573; BE-4652; Q 30522. Collected 02/18/1993 in Potosi,

Bolivia. Latitude 21 deg. 26' S. Longitude 46 deg. 5' W. Elevation 3928 m. Sud Chichas: about 3 km E of locked gate at E end of Chilcobija, a private mining town, then 0.5 km N, to a farmer's field. growing in organic soil near stone wall, with *S. megistacrolobum*. Corolla rotate, fruits round-ovoid.

**PI 597710. *Solanum oplocense* Hawkes**

Wild. SFVU 6575; BE-4652; Q 30523. Collected 02/19/1993 in Tarija, Bolivia. Latitude 21 deg. 48' S. Longitude 56 deg. 15' W. Elevation 4114 m. Aviles: 47.5 km past town square of Cruce Mojo, passing Tojo, 7.2 km W of town square of Yanchara. growing in rocky soil, with *S. infundibuliforme*. Corolla rotate-pentagonal, fruits round, just forming.

**PI 597711. *Solanum acaule* Bitter ssp. *acaule***

Wild. SFVU 6576; BE-4652; Q 30524. Collected 02/19/1993 in Tarija, Bolivia. Latitude 21 deg. 49' S. Longitude 65 deg. 12' W. Elevation 3641 m. Aviles: 4.6 km N of town square of Yanchara, on road to Iscayachi. growing in rocky soil by roadside. Corolla pentagonal, fruits not found.

**PI 597712. *Solanum gourlayi* ssp. *vidaurrei* (Cardenas) Hawkes & Hjert.**

Wild. SFVU 6614; BE-4652; Q 30527. Collected 02/24/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 22' S. Longitude 56 deg. 7' W. Elevation 3457 m. Nor Cinti: 45.3 km N of town square of Camargo on road to Potosi, near km marker 143. growing at base of stone wall, outside of garden, next to steep slope, in sunny area (with narrower leaves) and under bushes (with wider leaves). Corolla blue, pentagonal, fruits round, maturing to mature.

**PI 597713. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**

Wild. SFVU 6618; BE-4652; Q 30528. Collected 02/24/1993 in Potosi, Bolivia. Latitude 20 deg. 7' S. Longitude 65 deg. 19' W. Elevation 3175 m. Nor Cinti: in town of Pohona, 4.5 km S of rd diverting into Otavi, on rd to Camargo. growing in cornfield enclosure, at base of mud wall. Corolla blue, rotate-pentagonal, fruits round, maturing to mature.

**PI 597714. *Solanum acaule* Bitter ssp. *acaule***

Wild. SFVU 6621; BE-4652; Q 30529. Collected 02/24/1993 in Potosi, Bolivia. Latitude 19 deg. 32' S. Longitude 65 deg. 35' W. Elevation 3524 m. Tomas Frias: 3.9 km S of Potosi-Sucre road, near Rio Cerdas, N of Chaqui, on the road diverting to the NW. growing in grassy areas, with *S. boliviense* and *S. viddaurei*. Corolla blue, rotate, fruits round, maturing to mature.

**PI 597715. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**

Wild. SFVU 6630; BE-4652; Q 30530. Collected 03/02/1993 in Cochabamba, Bolivia. Latitude 17 deg. 17' S. Longitude 65 deg. 47' W. Elevation 3015 m. Chapare: 52 km E of Cochabamba on rd to Monte Punco. growing in shade of bush by side of road. Plants wilting, flowers gone, fruits mature.

**PI 597716. *Solanum brevicaule* Bitter**

Wild. SFVU 6632; BE-4652; Q 30531. Collected 03/02/1993 in Cochabamba, Bolivia. Latitude 17 deg. 29' S. Longitude 65 deg. 33' W. Elevation 3508 m. Arani: 81 km E of Cochabamba on road to Monte Punco. growing under bushes (with wider leaves) and in adjacent sunny areas (with narrower leaves). Corolla blue with green star, rotate-pentagonal to rotate,



fruits round, maturing to mature.

**PI 597717. *Solanum brevicaule* Bitter**

Wild. SFVU 6634; BE-4652; Q 30532. Collected 03/02/1993 in Cochabamba, Bolivia. Latitude 17 deg. 29' S. Longitude 65 deg. 33' W. Elevation 774 m. Arani: 81.5 km E of Cochabamba on rd to Monte Punco. growing on moist slope below rock cliff, with *S. megistacrolobum* var. *toralapanum*. Corolla blue, rotate-pentagonal, fruits round, maturing to mature.

**PI 597718. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6635; Q 30533. Collected 03/02/1993 in Cochabamba, Bolivia. Latitude 17 deg. 29' S. Longitude 65 deg. 33' W. Elevation 3474 m. Arani: 81.5 km E of Cochabamba on road to Monte Punco. growing on slope near cliff face, with *S. brevicaule*. Corolla violet, pentagonal, fruits round-ovoid, maturing to mature.

**PI 597719. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6669; Q 30534. Collected 03/06/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 25' S. Longitude 64 deg. 41' W. Elevation 3361 m. Tomina: 20 km S of town square of Icla on road to Sibundoy. growing in sandy rocky soil among bushes, near *S. circaeifolium* and *S. oplocense*. Corolla purple, pentagonal, fruits ovoid, maturing to mature.

**PI 597720. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6673; BE-4652; Q 30535. Collected 03/06/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 31' S. Longitude 64 deg. 39' W. Elevation 3850 m. Tomina: 36 km S of town square of Icla on road to Sibundoy. growing near *S. brevicaule*. Corolla violet, pentagonal, only a few young fruits collected.

**PI 597721. *Solanum hoopesii* Hawkes & K. A. Okada**

Wild. SFVU 6679; BE-4652; Q 30536. Collected 03/06/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 53' S. Longitude 64 deg. 34' W. Elevation 3229 m. Azurduy: 5 km N of Cruz Kasa, 26 km N of Abra Kasa, 85 km N of Azurduy. growing at edge of potato field, at base of rock wall, near *S. hoopesii* 6680, growing in the cornfield, distinguished by 2-3 pairs of lateral leaflets. Plants with 1-2 pairs of lateral leaflets, corolla dark purple, rotate, fruits round.

**PI 597722. *Solanum hoopesii* Hawkes & K. A. Okada**

Wild. SFVU 6680; BE-4652; Q 30537. Collected 03/06/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 53' S. Longitude 64 deg. 34' W. Elevation 3229 m. Azurduy: 5 km S of Cruz Kasa, 26 km N of Abra Kasa, 85 km N of Azurduy. growing in potato field, with *S. hoopesii* 6679, which differs from having only 1-2 pairs of lateral leaflets. Plants with 2-3 pairs of lateral leaflets, corolla dark purple, rotate, fruits round.

**PI 597723. *Solanum circaeifolium* Bitter**

Wild. SFVU 6714; BE-4652; Q 30540. Collected 03/15/1993 in Cochabamba, Bolivia. Latitude 16 deg. 59' S. Longitude 67 deg. 14' W. Elevation 3200 m. Inquisivi: 4 km S of town square of Quime. growing on steep slope among rocks in open area, where most common and flowering, but also under shade of bushes. Corolla white, stelate-pentagonal, fruits conical with pointed end.

- PI 597724. *Solanum candolleanum*** P. Berthault  
 Wild. SFVU 6741; BE-4652; Q 30966; Q 30541. Collected 03/24/1993 in La Paz, Bolivia. Latitude 15 deg. 36' S. Longitude 69 deg. 3' W. Elevation 3920 m. Omasuyos: 9.3 km N of town square of Escoma, near Rio Suchi. growing in a pocket of black organic soil on a very steep cliff face, reached by climbing some meters up rocks, with Loasa. Plants completely wilted and dried to ground, but very mature fruits located.
- PI 597725. *Solanum acaule* Bitter ssp. *acaule***  
 Wild. SFVU 6742; BE-4652; Q 30542. Collected 03/24/1993 in La Paz, Bolivia. Latitude 15 deg. 32' S. Longitude 69 deg. 3' W. Elevation 3792 m. Camacho: 19 km N of Escoma, on road to Hualipacayo, walking toward cliff faces, but collecting before reaching the cliff about stone walls around houses. growing in organic soil. Corolla rotate, fruits round-ovoid, mature.
- PI 597726. *Solanum acaule* Bitter ssp. *acaule***  
 Wild. SFVU 6766; BE-4652; Q 30543. Collected 04/01/1993 in La Paz, Bolivia. Latitude 15 deg. 55' S. Longitude 68 deg. 39' W. Elevation 4124 m. Omasuyos: 7 km N of Huarisata, on road to Sorata, just above the small Indian village of Occo Hualata. growing adjacent to rock walls and wheat fields. Corolla rotate, fruits round-ovoid.
- PI 597727. *Solanum acaule* Bitter ssp. *acaule***  
 Wild. SFVU 6689; BE-4832; Q 30941. Collected 03/07/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 44' S. Longitude 64 deg. 35' W. Elevation 3730 m. Azurduy: 113 km N of Azurduy, 20 km N of Cruz Caza, 30 km N of Torre Pampa Junction. growing in organic soil below cliffs above the road, near *S. ugentii*. Corolla rotate, fruits round-ovoid, maturing to mature.
- PI 597728. *Solanum alandiae* Cardenas**  
 Wild. SFVU 6644; BE-4832; Q 30943. Collected 03/03/1993 in Cochabamba, Bolivia. Latitude 17 deg. 42' S. Longitude 65 deg. 11' W. Elevation 2802 m. Carrasco: 1 km N of center of Tortora on road to Epizana. growing under bushes, in sandy and rocky soil, collected with *S. alandiae* 6644 that differs only by having corollas pure white. Corolla pentagonal, white tinged with blue, fruits round-ovoid, maturing to mature.
- PI 597729. *Solanum alandiae* Cardenas**  
 Wild. SFVU 6645; BE-4832; Q 30944. Collected 03/03/1993 in Cochabamba, Bolivia. Latitude 17 deg. 42' S. Longitude 65 deg. 11' W. Elevation 2808 m. Carrasco: 1 km N of center of Tortora, on rd to Epizana. growing under bushes in sandy and rocky soil, collected with *S. alandiae* 6644 that differs only by having corollas white tinged with blue. Corolla pentagonal, white, fruits round-ovoid, maturing to mature.
- PI 597730. *Solanum alandiae* Cardenas**  
 Wild. SFVU 6650; BE-4832; Q 30946. Collected 03/03/1993 in Cochabamba, Bolivia. Latitude 17 deg. 55' S. Longitude 65 deg. 9' W. Elevation 2498 m. Mizque: 10 km N of Chuquillas, 42 km N of Aiquile. growing beneath trees on slope, with *S. doddsii*. Corolla blue, rotate-pentagonal, fruits round-ovoid.
- PI 597731. *Solanum arnezii* Cardenas**  
 Wild. SFVU 6692; BE-4832; Q 30947. Collected 03/08/1993 in Chuquisaca,

- Bolivia. Latitude 19 deg. 7' S. Longitude 64 deg. 37' W. Elevation 2295 m. Zudanez: 10 km E of Zudanez on road to Padilla. growing in line of bushes at edge of cornfield. Plants to 1 m tall, corolla cream yellow-white, stellate-pentagonal, fruits round, mature.
- PI 597732. *Solanum megistacrolobum* Bitter**  
Wild. SFVU 6501; BE-4832; Q 30948. Collected 02/08/1993 in Cochabamba, Bolivia. Latitude 17 deg. 28' S. Longitude 65 deg. 35' W. Elevation 3578 m. Tiraque: at Estacion Experimental Toralapa, at km 71, along old road from Cochabamba to Santa Cruz. common, growing in disturbed and undisturbed soil, with *S. acaule*. Plants with very slight odor, fruits round to slightly round-ovoid.
- PI 597733. *Solanum berthaultii* Hawkes**  
Wild. SFVU 6503; BE-4832; Q 30949. Collected 02/09/1993 in Cochabamba, Bolivia. Latitude 17 deg. 29' S. Longitude 66 deg. 20' W. Elevation 2554 m. Quillacollo: km 29, road from Cochabamba to Oruro, 2 or 3 km W of Suticollo. common in area, growing among thorny bushes and cacti, in dry stony soil. Leaves densely glandular, corollas deep purple to light purple, or white, pentagonal, fruits round, maturing to mature.
- PI 597734. *Solanum berthaultii* Hawkes**  
Wild. SFVU 6629; BE-4832; Q 30951. Collected 02/28/1993 in Cochabamba, Bolivia. Latitude 17 deg. 20' S. Longitude 66 deg. 13' W. Cercado: at base of Cerro San Pedro, near Jardin Botanico Martin Cardenas. growing on dry rocky soil. Plants wilting, flowers gone, fruits mature.
- PI 597735. *Solanum boliviense* Dunal**  
Wild. SFVU 6524; BE-4832; Q 30952. Collected 02/11/1993 in Chuquisaca, Bolivia. Latitude 18 deg. 49' S. Longitude 65 deg. 28' W. Elevation 3260 m. Oropeza: 5 km SE of Ravelo, on Oruro-Sucre road. growing in very sandy soil of barley plantation. Fruits round to slightly round-ovoid, maturing to mature.
- PI 597736. *Solanum boliviense* Dunal**  
Wild. SFVU 6531; BE-4832; Q 30953. Collected 02/13/1993 in Potosi, Bolivia. Latitude 19 deg. 38' S. Longitude 65 deg. 14' W. Elevation 3275 m. Saavedra: 11.2 km S of Sucre-Potosi road, on road to Esquiri. growing on a slope in a very rocky pea field. Note: type locality of *S. astleyi* Hawkes and Hjerting, with which is possibly synonymous with *S. boliviense*. Corolla violet, pentagonal, fruits maturing to mature.
- PI 597737. *Solanum boliviense* Dunal**  
Wild. SFVU 6532; BE-4832; Q 30954. Collected 02/14/1993 in Potosi, Bolivia. Latitude 19 deg. 35' S. Longitude 65 deg. 24' W. Elevation 3122 m. Saavedra: 7.5 km SE of Betanzos on road to Sucre. growing in a barley field. Fruits just beginning to mature.
- PI 597738. *Solanum boliviense* Dunal**  
Wild. SFVU 6535; BE-4832; Q 30955. Collected 02/14/1993 in Potosi, Bolivia. Latitude 19 deg. 33' S. Longitude 65 deg. 30' W. Elevation 3404 m. Saavedra: 6.7 km W of Betanzos on road to Potosi. growing in rocky and sandy soil of a corn field. Corolla violet, pentagonal, fruits maturing to mature.

- PI 597739. *Solanum boliviense* Dunal**  
Wild. SFVU 6612; BE-4832; Q 30956. Collected 02/23/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 40' S. Longitude 64 deg. 51' W. Elevation 2940 m. Nor Cinti: 26.4 km NW of town square of Culpina on rd to Santa Elena. growing in cultivated field. Corolla purple, pentagonal, fruits round, maturing to mature.
- PI 597740. *Solanum boliviense* Dunal**  
Wild. SFVU 6619; BE-4832; Q 30957. Collected 02/24/1993 in Potosi, Bolivia. Latitude 19 deg. 32' S. Longitude 65 deg. 35' W. Elevation 3524 m. Tomas Frias: 3.9 km S of Potosi-Sucre road, near Rio Cerdas, N of Chaqui on road diverging to the NW. growing near base of stone walls and in grassy areas, near *S. acaule* and *S. viddaurei*. Corolla violet, pentagonal, fruits round, maturing to mature.
- PI 597741. *Solanum brevicaule* Bitter**  
Wild. SFVU 6518; BE-4832; Q 30958. Collected 02/10/1993 in Potosi, Bolivia. Latitude 18 deg. 38' S. Longitude 66 deg. 18' W. Elevation 3430 m. Bustillos: ca 26 km SE of Uncia, on Oruro-Sucre road. growing in thin stony soil among bushes and cacti. Plants common in area, corolla purple, pentagonal, fruits round to slightly round-ovoid, maturing to mature.
- PI 597742. *Solanum brevicaule* Bitter**  
Wild. SFVU 6536; BE-4832; Q 30959. Collected 02/14/1993 in Potosi, Bolivia. Latitude 19 deg. 33' S. Longitude 65 deg. 30' W. Elevation 3404 m. Saavedra: 6.7 km W of Betanzos on road to Potosi. growing in rocky soil in a wheat field. Corolla absent, fruits round, mature.
- PI 597743. *Solanum brevicaule* Bitter**  
Wild. SFVU 6545; BE-4832; Q 30960. Collected 02/15/1993 in Potosi, Bolivia. Latitude 20 deg. 2' S. Longitude 65 deg. 32' W. Elevation 3103 m. Linares: 64.1 km S of road toll station on S side of Potosi, on road to Villazon, 25 km N of Vitichi. growing in thin rocky soils under spiny bushes and among cactus, with *S. infundibuliforme*. Corolla rotate-pentagonal, purple, fruits round, maturing to mature.
- PI 597744. *Solanum brevicaule* Bitter**  
Wild. SFVU 6608; BE-4832; Q 30961. Collected 02/23/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 48' S. Longitude 64 deg. 59' W. Elevation 2990 m. Sud Cinti: 42 km N of bridge in San Pedro on road to Culpina, 4.8 km S of Culpina town square. growing in a corn field. Corolla blue, rotate, fruits round.
- PI 597745. *Solanum brevicaule* Bitter**  
Wild. SFVU 6611; BE-4832; Q 30962. Collected 02/23/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 49' S. Longitude 64 deg. 53' W. Elevation 2941 m. Sud Cinti: 6.7 km NW of town square of Culpina, on rd to Santa Elena. growing in cornfield. Corolla blue, rotate-pentagonal, fruits round, maturing to mature.
- PI 597746. *Solanum brevicaule* Bitter**  
Wild. SFVU 6615; BE-4832; Q 30963. Collected 02/24/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 22' S. Longitude 65 deg. 7' W. Elevation 3457 m. Nor Cinti: 45.3 km N of town square of Camargo on road to Potosi near

km marker 143. growing along roadside, near *S. viddaurei* and *S. megistacrolobum*. Corolla blue, rotate pentagonal, fruits round.

**PI 597747. *Solanum brevicaulis* Bitter**

Wild. SFVU 6763; BE-4832; Q 30965. Collected 04/01/1993 in La Paz, Bolivia. Latitude 16 deg. 13' S. Longitude 68 deg. 51' W. Elevation 3900 m. Manco Kapac: 1 km from Tiquina on road to Copacabana. growing in dry rocky soil by roadside. Corolla purple, rotate-pentagonal, fruits round, maturing to mature.

The following were developed by K.N. Rai, Int. Crops Res. Inst. for the Semi-Arid Tropics, Cereals Program, Patancheru, Andhra Pradesh 502 324, India ; A. Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502324, India; F.R. Bidinger, Int. Crops Res. Inst. for the Semi-Arid Tropics, ICRISAT Center, Patancheru, Andhra Pradesh 502 324, India; K. Hussain Sahib, Regional Agricultural Research Station, Andhra Pradesh Agricultural University, Palem, Andhra Pradesh 509 215, India. Received 07/21/1997.

**PI 597748. *Pennisetum glaucum* (L.) R. Br.**

Breeding. Population. ICMP 94001. GP-37. Pedigree - 286 S2 progenies from 43 Inia di accessions were involved in first random mating at EEBC. Seeds of 200 open-pollinated plants selected from third random mating were bulked to constitute ICMP 94001. Extra-early maturing (65 days to mature) and nearly daylength-insensitive. Height medium (1.6m), large grains (14g of 1000-grain weight) and is highly resistant to downy mildew. Can be used to breed open-pollinated varieties or hybrid parents adapted to short-growing seasons, either under rainfed conditions or under irrigation.

The following were collected by David Spooner, University of Wisconsin, Department of Horticulture, 1575 Linden Drive, Madison, Wisconsin 53706, United States; Ronald van den Berg, Wageningen Agricultural University, Department of Plant Taxonomy, General Foulksweg 37, Wageningen, Netherlands; William Garcia Fernandez, PROINPA (Programa de Investigacion de la Papa), IBTA (Instituto de Boliviano Tecnologia Agropecuaria), Calle Man Césped 923, Cochabamba, Cochabamba, Bolivia; Maria Luisa Ugarte, PROINPA (Programa de Investigacion de la Papa), IBTA (Instituto de Boliviano Tecnologia Agropecuaria), Calle Man Césped 923, Cochabamba, Cochabamba, Bolivia. Received 07/27/1993.

**PI 597749. *Solanum circaeifolium* Bitter**

Wild. SFVU 6646; BE-4832; Q 30968. Collected 03/03/1993 in Cochabamba, Bolivia. Latitude 17 deg. 44' S. Longitude 65 deg. 12' W. Elevation 2800 m. Mizque: 4 km S of Tortora on rd to Sucre. growing on slope next to road, in sandy and clay soil, in landslide soils in sunny areas (where more common), and under bushes, near *S. alandiae*. Corolla white, stellate, fruits long-conical, maturing to mature.

**PI 597750. *Solanum gandarillasii* Cardenas**

Wild. SFVU 6624; BE-4832; Q 30972. Collected 02/25/1993 in Chuquisaca, Bolivia. Latitude 18 deg. 55' S. Longitude 65 deg. 6' W. Elevation 2031 m. Oropeza: 41 km N of Sucre (by posted road markers), on rd to Aiquile.

growing among thorny bushes in organic and rocky soil. Corolla white, rotate, fruits round, just starting to mature.

**PI 597751. *Solanum gandarillasii* Cardenas**

Wild. SFVU 6656; BE-4832; Q 30973. Collected 03/04/1993 in Cochabamba, Bolivia. Latitude 18 deg. 30' S. Longitude 65 deg. 10' W. Elevation 2241 m. Campero: 29 km S of Aiquile, on road to Sucre. growing under bushes in rocky soil. Corolla white, rotate-pentagonal, fruits mature.

**PI 597752. *Solanum hoopesii* Hawkes & K. A. Okada**

Wild. SFVU 6683; BE-4832; Q 30974. Collected 03/07/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 6' S. Longitude 64 deg. 25' W. Elevation 2513 m. Azurduy: nursery of Estacion Experimental Santa Barbara, at edge of town of Azurduy. growing in tree seedling nursery. Plants withered to the ground and only round fruits collected, but said by the station manager to have deep purple rotate corollas.

**PI 597753. *Solanum hoopesii* Hawkes & K. A. Okada**

Wild. SFVU 6685; BE-4832; Q 30976. Collected 03/07/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 1' S. Longitude 64 deg. 25' W. Elevation 2613 m. Azurduy: 7 km N of town square of Azurduy, on road to Icla. growing among corn plantation. Corolla blue, rotate, fruits round.

**PI 597754. *Solanum infundibuliforme* Phil.**

Wild. SFVU 6546; BE-4832; Q 30977. Collected 02/15/1993 in Potosi, Bolivia. Latitude 20 deg. 2' S. Longitude 65 deg. 32' W. Elevation 3103 m. Linares: 64.1 km S of road toll station on S side of Potosi, on road to Villazon, 25 km N of Vitichi. growing in thin rocky soils under spiny bushes and among cacti, with *S. brevicaule*. Corolla white to purple, stellate, fruits round to round-ovoid, maturing to mature.

**PI 597755. *Solanum infundibuliforme* Phil.**

Wild. SFVU 6564; BE-4832; Q 30978. Collected 02/18/1993 in Potosi, Bolivia. Latitude 21 deg. 27' S. Longitude 65 deg. 51' W. Elevation 4006 m. Sud Chichas: 20.2 km W of Tupiza town square, on rd to La Colorada. growing in rocky soil among shrubs, with *S. megistacrolobum*. Corolla pentagonal, fruits round-ovoid.

**PI 597756. *Solanum microdontum* Bitter**

Wild. SFVU 6599; BE-4832; Q 30979. Collected 02/21/1993 in Tarija, Bolivia. Latitude 21 deg. 27' S. Longitude 64 deg. 21' W. Elevation 2100 m. Oconnor: E end of Canaletas. growing among bushes near roadside. Corolla white, pentagonal, fruits not found.

**PI 597757. *Solanum microdontum* Bitter**

Wild. SFVU 6602; BE-4832; Q 30980. Collected 02/21/1993 in Tarija, Bolivia. Latitude 21 deg. 24' S. Longitude 64 deg. 18' W. Elevation 2018 m. Oconnor: ca 5 km E of town square of Canaletas, on road to Entre Rios. growing in moist soil by stream, in dense herbaceous vegetation. Corolla white, pentagonal, fruits round.

**PI 597758. *Solanum megistacrolobum* Bitter**

Wild. SFVU 6616; BE-4832; Q 30981. Collected 02/24/1993 in Chuquisaca, Bolivia. Latitude 20 deg. 22' S. Longitude 65 deg. 7' W. Elevation 3457 m. Nor Cinti: 45.3 km N of town square of Camargo, on road to Potosi,

- near km marker 143. growing in grassy area, near *S. oplocense* and *S. viddaurei*. Corolla violet, pentagonal, fruits round-ovoid, maturing to mature.
- PI 597759. *Solanum okadae* Hawkes & Hjert.**  
Wild. SFVU 6718; BE-4832; Q 30983. Collected 03/15/1993 in Cochabamba, Bolivia. Latitude 16 deg. 57' S. Longitude 67 deg. 11' W. Elevation 2730 m. Inquisivi: 4.5 km N of town square of Quime. growing on roadside under shade of trees. Plants 0.3 m tall, corolla white, rotate, fruits round, maturing.
- PI 597760. *Solanum oplocense* Hawkes**  
Wild. SFVU 6660; BE-4832; Q 30985. Collected 03/05/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 13' S. Longitude 65 deg. 2' W. Elevation 2870 m. Yamparaz: 6 km S of Sucre-Tarabuco road on road to Sotomayor. growing in shade of bushes (plants with wider leaves) or in adjacent sunny areas (plants with much narrower leaves), near *S. tarijense*. Corolla blue, rotate-pentagonal, fruits round.
- PI 597761. *Solanum oplocense* Hawkes**  
Wild. SFVU 6663; BE-4832; Q 30986. Collected 03/05/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 14' S. Longitude 65 deg. 10' W. Elevation 2584 m. Yamparaz: growing on both sides of Rio Tiahucana, 13 km S of Sucre-Tarabuco road on road to Sotomayor, 2 km S of Cota. growing about cornfields and gardens. Note: type locality of *S. hondelmannii* (possibly synonymous with it). Flowers absent, fruits round, mature, hard to locate despite many plants in area.
- PI 597762. *Solanum oplocense* Hawkes**  
Wild. SFVU 6665; BE-4832; Q 30987. Collected 03/05/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 13' S. Longitude 64 deg. 50' W. Elevation 3041 m. Yamparaz: 11 km S of Tarabuco, on road to Icla. growing at edge of potato field. Fruits round, maturing to mature, corolla deep purple, rotate.
- PI 597763. *Solanum acaule* Bitter *ssp. acaule***  
Wild. SFVU 6502; BE-4832; Q 30988. Collected 02/08/1993 in Cochabamba, Bolivia. Latitude 17 deg. 28' S. Longitude 65 deg. 39' W. Elevation 3578 m. Tiraque: at km 71, along old road from Cochabamba to Santa Cruz, at Estacion Experimental Toralapa. common, growing in disturbed or undisturbed soil, with *S. megistacrolobum* var. *toralapanum*. Fruits slightly round-ovoid, maturing to mature.
- PI 597764. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**  
Wild. SFVU 6544; BE-4832; Q 30989. Collected 02/15/1993 in Potosi, Bolivia. Latitude 19 deg. 59' S. Longitude 65 deg. 34' W. Elevation 3181 m. Linares: 57.9 km S of road toll post on S side of Potosi, on road to Villazon. growing in corn field. Corolla rotate-pentagonal, purple, fruits round, maturing to mature.
- PI 597765. *Solanum sparsipilum* (Bitter) Juz. & Bukasov**  
Wild. SFVU 6706; BE-4832; Q 30991. Collected 03/13/1993 in Cochabamba, Bolivia. Latitude 17 deg. 17' S. Longitude 66 deg. 18' W. Elevation 3197 m. Quillacollo: 14 km NW of Quillacollo, from junction of road to Cochabamba and road to Independencia. growing in disturbed organic soil

by roadside. Corolla blue, rotate, fruits round, mature.

- PI 597766. *Solanum sparsipilum*** (Bitter) Juz. & Bukasov  
Wild. SFVU 6708; BE-4832; Q 30992. Collected 03/13/1993 in Cochabamba, Bolivia. Latitude 17 deg. 16' S. Longitude 66 deg. 18' W. Elevation 3038 m. Quillacollo: 16 km NW of Quillacollo, from junction of road to Independencia, on other side of river from road. growing among rocks in sunny places and in shade of trees and bushes. Plants 0.3 m tall, corolla blue, rotate, fruits round, growing with *S. sparsipilum* (6709) with longer round-ovoid fruits, and with *S. circaeifolium*.
- PI 597767. *Solanum sparsipilum*** (Bitter) Juz. & Bukasov  
Wild. SFVU 6709; BE-4832; Q 30993. Collected 03/13/1993 in Cochabamba, Bolivia. Latitude 17 deg. 16' S. Longitude 66 deg. 18' W. Elevation 3038 m. Quillacollo: 16 km NW of Quillacollo, from its junction with the road to Independencia, on other side of river from the road. growing on steep slope among rocks, in shade of trees, with *S. sparsipilum* (6708) that differs by having round fruits and only being 0.3 m tall, and with *S. circaeifolium*. Plants 0.5 m tall, corolla blue, rotate, fruits ovoid, maturing to mature.
- PI 597768. *Solanum sparsipilum*** (Bitter) Juz. & Bukasov  
Wild. SFVU 6711; BE-4832; Q 30994. Collected 03/13/1993 in Cochabamba, Bolivia. Latitude 17 deg. 14' S. Longitude 66 deg. 31' W. Elevation 2931 m. Ayopaya: 61 km NW of Quillacollo, from its junction of the road to Independencia, in town of Morochata. growing in very organic soil on steep slope down from one of the streets in Morochata above the main road. Plants 1 m tall, with very thick stem bases (3 cm thick), corolla purple, rotate, fruits round, fasciated inflorescences common on many plants.
- PI 597769. *Solanum sparsipilum*** (Bitter) Juz. & Bukasov  
Wild. SFVU 6772; BE-4832; Q 30995. Collected 04/05/1993 in Cochabamba, Bolivia. Latitude 17 deg. 25' S. Longitude 65 deg. 44' W. Elevation 3290 m. Arani: ca 2 km S of Tiraque, by Puente Millumayu. growing under shade of small bushes. Plants wilting, flowers gone, said to have blue corollas without white lines radiating from center, fruits mature, round.
- PI 597770. *Solanum tarijense*** Hawkes  
Wild. SFVU 6527; BE-4832; Q 30997. Collected 02/13/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 18' S. Longitude 65 deg. 10' W. Elevation 2614 m. Oropeza: ca. 45 km S of Sucre on road to Potosi. growing in loose rocks at roadbed. Leaves densely glandular, corolla white, stellate-pentagonal, fruits round, maturing to mature.
- PI 597771. *Solanum tarijense*** Hawkes  
Wild. SFVU 6590; BE-4832; Q 30999. Collected 02/21/1993 in Tarija, Bolivia. Latitude 21 deg. 26' S. Longitude 64 deg. 27' W. Elevation 2369 m. Cercado: 34.1 km E of police gate at E end of Tarija, on road to Entre Rios. growing among spiny bushes. Corolla white, pentagonal, fruits round-ovoid.
- PI 597772. *Solanum tarijense*** Hawkes  
Wild. SFVU 6622; BE-4832; Q 31000. Collected 02/25/1993 in Chuquisaca, Bolivia. Latitude 18 deg. 59' S. Longitude 65 deg. 10' W. Elevation 2364



m. Oropeza: at km 25 marker N of Sucre, on rd to Aiquile. growing among cacti and thorny bushes. Corolla white, pentagonal, fruits round, mature.

**PI 597773. *Solanum tarijense* Hawkes**  
Wild. SFVU 6626; BE-4832; Q 31002. Collected 02/25/1993 in Cochabamba, Bolivia. Latitude 18 deg. 25' S. Longitude 65 deg. 13' W. Elevation 1948 m. Campero: in town of Quiroga, in field on E side of road. growing at base of mud wall. Plants wilted, flowers gone, fruits round, all mature.

**PI 597774. *Solanum tarijense* Hawkes**  
Wild. SFVU 6659; BE-4832; Q 31004. Collected 03/05/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 5' S. Longitude 65 deg. 11' W. Elevation 3021 m. Oropeza: 14 km ESE of Sucre on road to Zudanez. growing among cacti. Corolla white, stellate, fruits ovoid, mature.

**PI 597775. *Solanum tarijense* Hawkes**  
Wild. SFVU 6690; BE-4832; Q 31006. Collected 03/08/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 7' S. Longitude 64 deg. 40' W. Elevation 2565 m. Zudanez: 3 km E of Zudanez on road to Padilla. growing in dry rocky sandy soil. Corolla white, tinged with blue, pentagonal, fruits ovoid, mature.

**PI 597776. *Solanum megistacrolobum* Bitter**  
Wild. SFVU 6631; BE-4832; Q 31007. Collected 03/02/1993 in Cochabamba, Bolivia. Latitude 17 deg. 29' S. Longitude 65 deg. 36' W. Elevation 3690 m. Arani: 75 km E of Cochabamba on rd to Monte Punco, 4 km E of Toralapa Research Station. growing in *Stipa ichu* grassland. Corolla violet, pentagonal, fruits round-ovoid, maturing to mature.

**PI 597777. *Solanum ugentii* Hawkes & K. A. Okada**  
Wild. SFVU 6687; BE-4832; Q 31009. Collected 03/07/1993 in Chuquisaca, Bolivia. Latitude 19 deg. 44' S. Longitude 64 deg. 35' W. Elevation 3730 m. Azurduy: 113 km N of town square of Azurduy, 20 km N of Cruz Kasa, 30 km N of Torre Pampa Junction. growing in moist organic soil about the many cliff bases above the road, near S. acaule. Note: type locality of this species. Much vegetative variability, corolla deep purple, rotate, plants just starting to flower, some with fruit.

The following were donated by John Kovarik, State of California, State Plant Quarantine Office, 175 West Ridge Drive, Watsonville, California 95076, United States. Received 04/25/1994.

**PI 597778. *Solanum tuberosum* L.**  
Cultivar. "WILGA"; BE-7040; Q 34840. Collected in Germany.

**PI 597779. *Solanum tuberosum* L.**  
Cultivar. "ANCILLA"; 1542; BE-7040; Q 34841. Collected in Germany.

The following were donated by Chuck Brown, USDA/ARS, 24106 N. Bunn Rd., Route 2 Box 2935A, Prosser, Washington 99350, United States. Received 04/20/1994.

**PI 597780. *Solanum tuberosum* L.**

Cultivar. "385240.2"; Q 34847. Collected in Bolivia.

**PI 597781. *Solanum tuberosum* L.**

Cultivar. "389326.2"; Q 34848. Collected in Bolivia.

The following were donated by Joe Rinaudo, High Grove, Mt. Stanley Rd., Stanley, Victoria 3747, Australia. Received 10/07/1994.

**PI 597782. *Solanum tuberosum* L.**

Cultivar. "COLIBAN"; D 8304; BE-7272; Q 35390. Very thin skin, fine flavor and good presentation on the plate.

The following were developed by K.N. Rai, Int. Crops Res. Inst. for the Semi-Arid Tropics, Cereals Program, Patancheru, Andhra Pradesh 502 324, India ; A. Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502324, India. Received 05/20/1997.

**PI 597783. *Pennisetum glaucum* (L.) R. Br.**

Genetic. Inbred. ICMA-5; 81A5. GS-3. Pedigree - LSGP 66/81B. Derives cytoplasm from male-sterile plant No. 66 of the Large-Seeded Genepool. Male sterility highly stable across seasons and sites. Highest frequency of male-sterile hybrids among all cytoplasmic sources of male sterility reported in pearl millet so far. Useful in developing the widest range of maintainers of A5 cytoplasm, for eventual conversion into male-sterile lines.

The following were developed by Jennie C. Bush, United States. Received 03/19/1997.

**PI 597784. *Cucurbita pepo* L.**

Cultivar. "ALLIE". PVP 9700239.

The following were developed by DeKalb-Pfizer Genetics, United States. Received 03/14/1997.

**PI 597785. *Zea mays* L. ssp. *mays***

Cultivar. "RQAB7". PVP 9700230.

The following were developed by Andre Comeau, Agriculture Canada, Research Station, 2560 Hochelaga, Sainte-Foy, Quebec G1V 2J3, Canada; K. Nkongolo, Laurentian University, Dept. of Biology, Laurentian University, Sudbury, Ontario P3E 2C6, Canada. Received 07/22/1997.

**PI 597786. *Triticum aestivum* L., nom. cons.**

Genetic. Pureline. KIVU-85; WHEAT-RYE SUBSTITUTION LINE. GS-126. Pedigree - Encruzilhada (Fortelaza x Kenya) Wheat x Nord Kivu triticale; B2F7 seeds. Represents BC2F6 plants derived from cross between hexaploid wheat (*Triticum aestivum*) cultivar, Encruzilhada, and hexaploid triticale (xTriticosecale) line Nord Kivu. Tolerant to Barley Yellow Dwarf Virus (BYDV) as the Nord Kivu triticale parent. Susceptible to

Russian wheat aphid (RWA), *Diuraphis noxia* (Mordvilko) in greenhouse tests. Morphologically similar to Encruzilhada wheat parent, height avg. 1.2 m at maturity. Euploid ( $2n=42$ ) with seed set varying 50-90%, and all contain 2R rye chromosomes which carry BYDV tolerance genes from Nord Kivu.

The following were developed by Cebeco Zaden B.V., Rotterdam, Netherlands. Received 03/17/1997.

**PI 597787. *Pisum sativum* L.**  
Cultivar. "INTEGRA". PVP 9700238.

The following were developed by Kagome Kabushiki Kaisha, Japan. Received 03/19/1997.

**PI 597788. *Lycopersicon esculentum* Mill., nom. cons.**  
Cultivar. "KGM 963". PVP 9700237.

The following were developed by NDSU Research Foundation, North Dakota, United States. Received 03/25/1997.

**PI 597789. *Hordeum vulgare* L.**  
Cultivar. "CONLON". PVP 9700243.

The following were developed by Cebeco Zaden B.V., Rotterdam, Netherlands. Received 03/17/1997.

**PI 597790. *Pisum sativum* L.**  
Cultivar. "CROMA". PVP 9700236.

The following were developed by Ledebor Farms, LLC. Received 03/12/1997.

**PI 597791. *Avena sativa* L.**  
Cultivar. "MAGNUM 2000". PVP 9700233.

The following were developed by Pioneer Hi-Bred International, Inc., 6800 Pioneer Pkwy., P.O. Box 316, Johnston, Iowa 50131-0316, United States. Received 03/18/1997.

**PI 597792. *Helianthus annuus* L.**  
Cultivar. "PHA232". PVP 9700234.

The following were collected by L. Craven, CSIRO, Division of Plant Industry, General Post Office Box 1600, Canberra, Austr. Capital Terr. 2601, Australia; J.A. Wightman. Developed by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 07/22/1997.

**PI 597793. *Hibiscus fallax*** Craven & F. D. Wilson, nom. invalidum  
Wild. 272; LL1567. Collected 03/25/1984 in Northern Territory, Australia  
. Latitude 12 deg. 19' 0'' N. Longitude 132 deg. 52' 0'' E. Arnhem Land,  
gorge between Twin Falls and Jim Jim Falls.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449,  
Hubbard, Oregon 97032, United States. Received 03/20/1997.

**PI 597794. *Lolium perenne*** L.  
Cultivar. "PST-2R3". PVP 9700241.

The following were developed by Delta and Pine Land Company, Scott,  
Mississippi, United States. Received 04/25/1997.

**PI 597795. *Gossypium hirsutum*** L.  
Cultivar. "DP 5111". PVP 9700276.

The following were developed by DeKalb-Pfizer Genetics, United States.  
Received 04/17/1997.

**PI 597796. *Medicago sativa*** L.  
Cultivar. "DK143". PVP 9700277.

**PI 597797. *Medicago sativa*** L.  
Cultivar. "DK140". PVP 9700278.

The following were developed by Novartis Seeds, Inc., United States. Received  
04/28/1997.

**PI 597798. *Medicago sativa*** L.  
Cultivar. "TULARE". PVP 9700279.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449,  
Hubbard, Oregon 97032, United States. Received 04/14/1997.

**PI 597799. *Lolium perenne*** L.  
Cultivar. "BRIGHTSTAR II". PVP 9700280.

The following were developed by Novartis Seeds, Inc., United States. Received  
04/22/1997.

**PI 597800. *Medicago sativa*** L.  
Cultivar. "ARREST". PVP 9700281.

The following were developed by Brownfield Seed & Delinting Company, Inc.,  
United States. Received 04/30/1997.

**PI 597801. *Gossypium hirsutum*** L.

Cultivar. "UTE". PVP 9700283.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 04/25/1997.

**PI 597802. *Gossypium hirsutum* L.**  
Cultivar. "DP 5557". PVP 9700284.

The following were developed by Zajac Performance Seeds, United States. Received 04/21/1997.

**PI 597803. *Poa pratensis* L.**  
Cultivar. "DRAGON". PVP 9700285.

The following were developed by USDA, ARS, Washington, District of Columbia, United States. Received 04/15/1997.

**PI 597804. *Vigna unguiculata* (L.) Walp.**  
Cultivar. "CHARLSTON GREENPACK". PVP 9700286.

The following were developed by University of Georgia Research Foundation, Inc., Georgia, United States. Received 04/18/1997.

**PI 597805. *Capsicum annuum* L.**  
Cultivar. "DEMPSEY". PVP 9700287.

The following were developed by Pannar Seed Ltd., South Africa. Received 04/25/1997.

**PI 597806. *Helianthus annuus* L.**  
Cultivar. "PF 090 R". PVP 9700288.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 04/25/1997.

**PI 597807. *Gossypium hirsutum* L.**  
Cultivar. "DP 5305". PVP 9700289.

The following were developed by Barenburg Holland B.V., United States. Received 04/30/1997.

**PI 597808. *Lolium perenne* L.**  
Cultivar. "PREMIER II". PVP 9700290.

The following were developed by Cargill Wheat Research Farm, 2450 Drake Rd., Fort Collins, Colorado, United States. Received 04/30/1997.

PI 597809. *Brassica napus* L.  
Cultivar. "IMC 140". PVP 9700291.

The following were developed by Hawaiian Sugar Planters Association, 99-193  
Aiea Heights Drive, P.O. Box 1057, Aiea, Hawaii 96701-1057, United States.  
Received 04/1994.

PI 597810. *Saccharum spontaneum* L.  
Ind. 81-132.

Unknown source. Received 05/28/1997.

PI 597811. *Saccharum spontaneum* L.  
SES 308A.

Unknown source. Received 07/06/1939.

PI 597812. *Saccharum spontaneum* L.  
CANE 9222; US 4616. Collected in Uganda. Mbarara.

Unknown source. Received 07/06/1939.

PI 597813. *Saccharum spontaneum* L.  
CANE 9314; US 59-1-1; US 59-0001-01. Collected in Philippines.

The following were donated by C. Gomez Campo, Instituto Nacional de  
Investigaciones, Agrarias, Jose Abascal 56, Madrid, Spain. Received  
08/23/1993.

PI 597814. *Alyssum alyssoides* (L.) L.  
Wild. 7-1580-68; Ames 21252. Collected in Spain. Latitude 40 deg. N.  
Longitude 1 deg. W. Roadsides, Villalba Baja, Teruel, E. Spain.

PI 597815. *Alyssum desertorum* Stapf  
Wild. 14-3769-75; Ames 21257. Collected in Iran. Riversides at Karadj.

PI 597816. *Alyssum granatense* Boiss. & Reut.  
Wild. 17-1129-67; Ames 21260. Collected in Morocco. Latitude 33 deg. N.  
Longitude 4 deg. W. Near Midelt.

PI 597817. *Alyssum strigosum* Banks & Sol.  
Wild. 35-0983-69; Ames 21276. Collected in Greece. Roadsides, N. Athens.

PI 597818. *Aurinia corymbosa* Griseb.  
Wild. 12-7413-86; Ames 21255. Collected in Greece. Stony slopes, E.  
Olympos, Mt. Greece.

PI 597819. *Berteroa incana* (L.) DC.  
Wild. 62-0976-66; Ames 21277. Collected in Yugoslavia. Smeredevo.

- PI 597820. *Brassica barrelieri* (L.) Janka  
Wild. 82-1160-67; Ames 21292. Collected in Spain. Latitude 41 deg. N.  
Longitude 4 deg. W. Granitic soils, sierra Guadarrama, C. Spain.
- PI 597821. *Brassica barrelieri* (L.) Janka  
Wild. 83-2213-73; Ames 21293. Collected in Spain. Latitude 35 deg. N.  
Longitude 6 deg. W. Sands near Sanlucar de Barrameda, S. Spain.
- PI 597822. *Brassica carinata* A. Braun  
85-0572-69; Ames 21294. Collected in Sweden. Swedish Seed Assoc.,  
Svalof.
- PI 597823. *Brassica deflexa* Boiss.  
Wild. 89-6277-83; Ames 21295. Collected in Turkey. Collected as a weed,  
Sultanhani, C. Anatolia.
- PI 597824. *Brassica desnottesii* Emb. & Maire  
Wild. 91-4404-76; Ames 21297. Collected in Morocco. Latitude 35 deg. N.  
Longitude 2 deg. W. Mountains near Debdou, N.E. Morocco.
- PI 597825. *Brassica fruticulosa ssp. mauritanica* (Coss.) Maire  
Wild. 99-3668-75; Ames 21304. Collected in Algeria. Latitude 36 deg. N.  
Longitude 2 deg. E. "Tomb. de la Chretienne", W. Alger.
- PI 597826. *Brassica fruticulosa ssp. radicata* (Desf.) Batt.  
Wild. 101-3667-75; Ames 21306. Collected in Algeria. Latitude 36 deg. N.  
Longitude 2 deg. E. Litoral sands near Kolea, N. Algeria.
- PI 597827. *Brassica gravinae var. djurdjurae* (Batt.) Maire  
Wild. 103-1840-70; Ames 21308. Collected in Algeria. Latitude 36 deg. N.  
Longitude 7 deg. E. Aures Mts.
- PI 597828. *Brassica napus* L.  
112-3690-75; Ames 21310. Collected in Algeria. Subspontaneous S. Oran.
- PI 597829. *Brassica nigra* (L.) W. D. J. Koch  
Wild. 114-0049-67; Ames 21311. Collected in Spain. Latitude 36 deg. N.  
Longitude 6 deg. W. Vejer de la Frontera, Cadiz, S. Spain.
- PI 597830. *Brassica nigra* (L.) W. D. J. Koch  
115-3481-82; Ames 21312. Collected in Ethiopia. A mutant found in a  
sample of Ethiopian origin.
- PI 597831. *Brassica rapa ssp. oleifera* (DC.) Metzg.  
Wild. 133-4623-77; Ames 21313. Collected in Egypt. Near Alexandria.
- PI 597832. *Brassica souliei ssp. amplexicaulis* (Desf.) Greuter & Burdet  
Wild. 146-1141-67; Ames 21322. Collected in Morocco. Latitude 35 deg. N.  
Longitude 3 deg. W. Beni Snassen Mts., N.E. Morocco.
- PI 597833. *Camelina sativa* (L.) Crantz  
Cultivated. 163-2073-72; Ames 21330. Collected in Denmark. Botanical  
Garden Tollose.
- PI 597834. *Eruca pinnatifida* (Desf.) Pomel

- Wild. 281-1813-70; Ames 21344. Collected in Algeria. Latitude 35 deg. N. Longitude 2 deg. E. Between Djelfa and Bou Saada.
- PI 597835. *Eruca sativa* ssp. *longirostris*** (Uechtr.) Jahand. & Maire  
Wild. 284-1796-70; Ames 21346. Collected in Algeria. Latitude 37 deg. N. Longitude 2 deg. W. Waste fields near Marnia, N.W. Algeria.
- PI 597836. *Erucastrum elatum* var. *microspermum*** (Maire & Weiller) Gomez-Campo  
Wild. 298-4116-76; Ames 21349. Collected in Morocco. Latitude 31 deg. N. Longitude 4 deg. W. Pastures, Gorges du Dades, S. Morocco.
- PI 597837. *Erucastrum elatum*** (Ball) O. E. Schulz  
Wild. 297-2179-72; Ames 21350. Collected in Morocco. Latitude 31 deg. N. Longitude 8 deg. W. Screes, Oukaïmeden, Gr. Atlas.
- PI 597838. *Erucastrum elatum* var. *scabriusculum*** (O. E. Schulz) Gomez-Campo  
Wild. 299-4399-76; Ames 21354. Collected in Morocco. Latitude 33 deg. N. Longitude 4 deg. W. Collected as a weed, Gr. Atlas, W. Midelt.
- PI 597839. *Erucastrum leucanthum*** Coss. & Durieu  
Wild. 303-4380-78; Ames 21356. Collected in Morocco. Latitude 33 deg. N. Longitude 4 deg. W. Steppes near Midelt.
- PI 597840. *Erucastrum nasturtiifolium* ssp. *sudrei*** Vivant  
Wild. 307-4767-77; Ames 21358. Collected in Spain. Latitude 41 deg. N. Longitude 2 deg. E. Roadsides, Pto. Esquinazo, Teruel, E. Spain.
- PI 597841. *Erucastrum rifanum*** (Emb. & Maire) Gomez-Campo  
Wild. 308-2040-73; Ames 21359. Collected in Morocco. Latitude 35 deg. N. Longitude 5 deg. W. Schists, Tleta Ketama, Rif Mts.
- PI 597842. *Erucastrum varium*** (Durieu) Durieu  
Wild. 311-6539-89; Ames 21360. Collected in Algeria. Latitude 35 deg. N. Longitude 1 deg. W. Roadsides, M'Sila, near Oran, N.W. Algeria.
- PI 597843. *Erucastrum varium*** (Durieu) Durieu **ssp. *varium***  
Wild. 313-3654-75; Ames 21361. Collected in Algeria. Latitude 36 deg. N. Longitude 3 deg. E. N. Sour el Ghozlane.
- PI 597844. *Erucastrum virgatum* ssp. *baeticum*** (Boiss.) Gomez-Campo  
Wild. 315-5364-79; Ames 21362. Collected in Spain. Latitude 37 deg. N. Longitude 4 deg. W. Monda, Malaga province, S. Spain.
- PI 597845. *Erucastrum virgatum*** C. Presl **ssp. *virgatum***  
Wild. 316-5161-78; Ames 21363. Collected in Spain. Latitude 38 deg. N. Longitude 1 deg. W. Sierra Crevillente, Alicante, S.E. Spain.
- PI 597846. *Erucastrum virgatum*** C. Presl  
3826-75; 314-2053-72; Ames 21364. Collected in United Kingdom.
- PI 597847. *Erysimum creticum*** Boiss. & Heldr.  
Wild. 329-6354-83; Ames 21408. Collected in Greece. Dry pastures, Hamazi, E. Crete.



- PI 597848. *Erysimum cuspidatum* (M. Bieb.) DC.**  
Wild. 330-3786-68; Ames 21409. Collected in Iran. Mountain pasturelands, S. Chalus, N. Iran.
- PI 597849. *Erysimum diffusum* Ehrh.**  
Wild. 331-0971-66; Ames 21410. Collected in Serbia, Yugoslavia. Kalemegdan, Beograd. Collected as a weed.
- PI 597850. *Erysimum graecum* Boiss. & Heldr.**  
Wild. 335-6039-82; Ames 21414. Collected in Greece. Roadsides, Driopi, Argolida, Peloponissos.
- PI 597851. *Erysimum incanum* Kunze**  
340-0936-66; Ames 21418. Collected in Spain. Cultivated fields, N. Granada, S. Spain.
- PI 597852. *Erysimum repandum* L.**  
352-1163-67; Ames 21429. Collected in Spain. Latitude 39 deg. N. Longitude 4 deg. W. Cultivated fields, Alhambra, C. Real, C. Spain.
- PI 597853. *Lepidium campestre* (L.) R. Br.**  
Wild. 420-1992-71; Ames 21379. Collected in Spain. Latitude 42 deg. N. Longitude 6 deg. W. Roadsides, Leon, N.W. Spain.
- PI 597854. *Lepidium densiflorum* Schrad.**  
Wild. 422-5525-79; Ames 21381. Collected in Russian Federation.
- PI 597855. *Lepidium graminifolium* L.**  
Wild. 424-1249-67; Ames 21383. Collected in Spain. Latitude 41 deg. N. Longitude 1 deg. E. Roadsides, Tarragona, N.E. Spain.
- PI 597856. *Lepidium heterophyllum* Benth.**  
Wild. 425-1598-68; Ames 21384. Collected in Spain. Latitude 41 deg. N. Longitude 3 deg. W. Roadsides, sierra Guadarrama, Madrid, C. Spain.
- PI 597857. *Lepidium hirtum* ssp. *atlanticum* (Ball) Maire**  
Wild. 426-2180-72; Ames 21385. Collected in Morocco. Disturbed soils near Oukaimeden, Gr. Atlas.
- PI 597858. *Lepidium hirtum* ssp. *calycotrichum* (Kunze) Thell.**  
Wild. 427-0926-66; Ames 21386. Collected in Spain. Sierra Maria, N. Almeria, S. Spain.
- PI 597859. *Lepidium ruderale* L.**  
434-1391-68; Ames 21393. A mixture of seeds received from 3 different Botanical Gardens.
- PI 597860. *Lepidium sativum* L.**  
435-1215-70; Ames 21394. A mixture of seeds received from 5 different Botanical Gardens.
- PI 597861. *Lepidium spinosum* Ard.**  
Wild. 436-6229-83; Ames 21395. Collected in Turkey. Dry riverbeds, W. of Gaziantep, C. Anatolia.

**PI 597862. *Sinapis alba* ssp. *mairei* (H. Lindb.) Maire**  
Wild. 536-7619-88; Ames 21447. Collected in Portugal. Latitude 38 deg. N. Longitude 9 deg. E. Waste fields near Odemira, S.W. Portugal.

**PI 597863. *Sinapis arvensis* L.**  
538-2130-72; Ames 21448. Collected in Japan.

**PI 597864. *Sinapis flexuosa* Poir.**  
Wild. 541-0867-66; Ames 21453. Collected in Spain. Latitude 38 deg. N. Longitude 1 deg. W. Near Lorca, Murcia, S.E. Spain. Collected as a weed.

**PI 597865. *Thlaspi nevadense* Boiss. & Reut.**  
Wild. 583-2163-72; Ames 21455. Collected in Spain. Latitude 37 deg. N. Longitude 3 deg. W. Elevation 3000 m. Mulhacen, sierra Nevada S. Spain.

**PI 597866. *Thlaspi perfoliatum* ssp. *tineoi* (Paol.) Maire**  
585-1112-67; Ames 21457. Collected in Morocco. Latitude 31 deg. N. Longitude 8 deg. W. Tizi-n-test, Gr. Atlas, S. Marrakech.

The following were collected by Norman L. Taylor, University of Kentucky, Department of Agronomy, N-122 Agric. Sci. Bldg. -N, Lexington, Kentucky 40546-0019, United States; Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500, United States. Received 10/1996.

**PI 597867. *Trifolium andersonii* A. Gray**  
Wild. C-101; Beckwiths Clover; W6 19891. Collected 08/07/1995 in California, United States. Latitude 39 deg. 44' 53'' N. Longitude 120 deg. 22' 41'' W. Elevation 1459 m. Near Portola, Sierra Valley. South on A-23, east off Route 70. 3 miles south of Beckworth. Rocky loam, well drained. Exposure: flat open to east. Slope: 0-1. Aspect: open. Sagebrush, bluegrass, lupines. Habit prostrate. Frequent scattered plants in next field along A-23, several fields along Route A-23. 4 and 5 leafleted. Flower heads on short peduncles.

**PI 597868. *Trifolium beckwithii* W. H. Brewer ex S. Watson**  
Wild. C-102; Lemmon's Clover; W6 19892. Collected 08/07/1995 in California, United States. Latitude 39 deg. 44' 48'' N. Longitude 120 deg. 22' 19'' W. Elevation 1581 m. Near town of Portola in Sierra Valley. South on A-23, 4-1/2 miles east off Route 70. Exposure: Open. Dry area but probably wet seep in spring. Very rocky, well-drained loam. Sagebrush, bluegrass, lupine (*Lupinus selliloskill* - arid soil lupine). Very large deflexed heads on 6 inch high stalks. Flower heads on large peduncles. Multi-leafed. Scattered plants.

The following were collected by Norman L. Taylor, University of Kentucky, Department of Agronomy, N-122 Agric. Sci. Bldg. -N, Lexington, Kentucky 40546-0019, United States; Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500, United States; John Dennis, USDA, Forest Service, Plumas National Forest, Mohawk Road, Blairsden, California 96103, United States. Received 10/1996.

- PI 597869. *Trifolium beckwithii* W. H. Brewer ex S. Watson**  
 Wild. C-103; W6 19893. Collected 08/08/1995 in California, United States . Latitude 39 deg. 59' 42'' N. Longitude 120 deg. 24' 45'' W. Elevation 1763 m. Plumas County, near town of Portola, Squaw Valley, Mercer Allotment. 9 miles from Portola (northeast). Near old railroad bed, Plumas National Forest. Dried lake bed, heavy clay, little stoniness, vernal pools/swale. Vegetation: *Artimesia arbuscula*, *Pyrrocoma hirta* spp. *lancelosa*, *Perideridia bolanterii*, *Agroseris glauca* var. *montocola*, *Iresia sericoleuca*, *Allium lemmonii*. Habit procumbent. Frequent, scattered population. *Poa secunda*, *Poa cusickii*.
- PI 597870. *Trifolium lemmonii* S. Watson**  
 Wild. C-105; Lemmon's Clover; W6 19895. Collected in California, United States. Latitude 40 deg. 2' 26'' N. Longitude 120 deg. 29' 29'' W. Elevation 1794 m. Near town of Portola, Sierra Valley. South on A-23, 4-1/2 miles east off Route 70. One mile north. East exposure. 1% slope. Heavy clay (38% sand, 42% silt, 20% clay), basalt, well drained. Dry (probably wet seep in spring). Upright habit. Scattered population. Soil sample collected. Some vernal pools.
- PI 597871. *Trifolium longipes* Nutt.**  
 Wild. C-106; W6 19896. Collected in California, United States. Latitude 40 deg. 2' 26'' N. Longitude 120 deg. 29' 29'' W. Elevation 1794 m. Near town of Portola, Sierra Valley. South on A-23, 4-1/2 miles east off Route 70, 1 mile north. Clay loam, basalt stones, well drained. Open exposure. Dry, probably wet seep in spring. *Perideridia golonderi* (yampa) at site. Growth upright, population frequent, scattered to dense. Flowers purple. Heads deflexed but not shattered which separates it from *lemmonii* and *beckwithii*.
- PI 597872. *Trifolium beckwithii* W. H. Brewer ex S. Watson**  
 Wild. C-107; Beckwith's Clover; W6 19897. Collected in California, United States. Latitude 40 deg. 2' 26'' N. Longitude 120 deg. 29' 29'' W. Elevation 1794 m. Near town of Portola, Sierra Valley. South on A-23, 4-1/2 miles east off Route 70, 1 mile north. Clay loam, basalt stones, well drained soil. Open exposure. Dry, probably wet seep in spring. Associated species - yampa (Indian's tuber crop). East exposure, 1% slope. Upright habit. Tends to occur in swales or vernal pools whereas *T. longipes* is nearby but not in swales as much, however may co-exist in some limited areas. Heads brown, deflexed.
- PI 597873. *Trifolium wormskoldii* Lehm.**  
 Wild. C-110; Wormskold's Clover; W6 19898. Collected in California, United States. Latitude 40 deg. 3' 1'' N. Longitude 120 deg. 34' 9'' W. Elevation 1702 m. Near town of Portola, Sierra Valley. South on A-23, 4-1/2 miles east off Route 70, 1 mile north. Along creek and sometimes in the creek. Associated sedges, etc. Sandy, stoney, poorly drained soil. Purple pink flower, upright growth. Occasional scattered population. Inland *T. wormskoldii* rather rare in the collection.
- PI 597874. *Trifolium longipes* Nutt.**  
 Wild. C-111; Long Stalk Clover; W6 19899. Collected in California, United States. Latitude 40 deg. 2' 29'' N. Longitude 120 deg. 31' 44'' W. Elevation 1611 m. Near town of Portola, Sierra Valley. South on A-23,

4-1/2 miles east off Route 70, 2 miles east. Open exposure, level flat grasslands. Clay-loam (26% sand, 46% silt, 28% clay). Not well drained. Abundant. Along road in grassy pasture, could almost harvest with combine.

The following were collected by Norman L. Taylor, University of Kentucky, Department of Agronomy, N-122 Agric. Sci. Bldg. -N, Lexington, Kentucky 40546-0019, United States; Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500, United States; Anna Halford, U.S. Dept. of Interior, Bureau of Land Management, 785 N. Main St., Suite E, Bishop, California 93514, United States; Rhonda Gildersleve, Inyo-Mono County Extension, 207 West South Street, Bishop, California 93514, United States. Received 10/1996.

**PI 597875. *Trifolium longipes* Nutt.**

Wild. C-114; Long Stalk Clover; W6 19901. Collected in California, United States. Latitude 38 deg. 9' 22'' N. Longitude 119 deg. 7' 48'' W. Elevation 2158 m. Near town of Portola, Sierra Valley, in Mono County. South on A-23, 4-1/2 miles east off Route 70, 2 miles east. North facing exposure, 5% slope, open aspect. Sandy, very stoney, poorly drained soil. Along stream with occasional distribution. Upright habit, purple flower, scattered in meadow.

The following were collected by Norman L. Taylor, University of Kentucky, Department of Agronomy, N-122 Agric. Sci. Bldg. -N, Lexington, Kentucky 40546-0019, United States; Ken H. Quesenberry, University of Florida, Department of Agronomy, 304 Newell Hall, Gainesville, Florida 32611-0500, United States. Received 10/1996.

**PI 597876. *Trifolium kingii* ssp. *productum* (Greene) D. Heller**

Wild. C-120; W6 19904. Collected in California, United States. Latitude 37 deg. 33' 0'' N. Longitude 119 deg. 12' 0'' W. Mono County, approximately 25 miles north of Bishop on Highway 395 near Crowley Lake. Open, level exposure. High elevation, low, wet mountain meadow. Sandy clay soil of medium stoniness with poor drainage. Other vegetation: rushes, iris, grasses, sedges. Upright habit, herbaceous, purple flower. Abundant distribution and a solid mat in places. Grazed meadow with mountain stream running through.

**PI 597877. *Trifolium longipes* Nutt.**

Wild. C-121; W6 19905. Collected in California, United States. Latitude 38 deg. 38' 14'' N. Longitude 120 deg. 14' 25'' W. Elevation 2280 m. Amador County, 3 miles from Highway 88 on Oron Mountain Road, 25 miles southeast of town of Polloch Pines. Headwaters of the north fork of the Cosumnes River. El Doredo National Forest. Open exposure with 3% slope. Clay loam soil with poor drainage. Singleton spring, very wet drainage. Granite weathered. Other vegetation: skunk cabbage, lupine, assor. Not herbaceous, growth habit very variable, flower color varies white to purple-pink. Abundant, scattered to mat-like populations. Township 9N, R16E, SW corner of Section 8. Very variable in location. Made an effort to sample the variability.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 05/30/1997.

- PI 597878. *Gossypium hirsutum* L.  
Cultivar. "DP 20B". PVP 9700253.
- PI 597879. *Gossypium hirsutum* L.  
Cultivar. "DP 50B". PVP 9700254.
- PI 597880. *Gossypium hirsutum* L.  
Cultivar. "DP 90RR". PVP 9700255.

The following were developed by HybriTech Seed International, Inc., A Unit of Monsanto Company, United States. Received 05/30/1997.

- PI 597881. *Triticum aestivum* L., nom. cons.  
Cultivar. "BRADLEY". PVP 9700263.
- PI 597882. *Triticum aestivum* L., nom. cons.  
Cultivar. "SHELBY". PVP 9700264.

The following were developed by Novartis Seeds, Inc., United States. Received 05/30/1997.

- PI 597883. *Glycine max* (L.) Merr.  
Cultivar. "S13-J6". PVP 9700265.
- PI 597884. *Glycine max* (L.) Merr.  
Cultivar. "S21-A1". PVP 9700266.
- PI 597885. *Glycine max* (L.) Merr.  
Cultivar. "S28-T3". PVP 9700267.
- PI 597886. *Glycine max* (L.) Merr.  
Cultivar. "S43-B5". PVP 9700268.

The following were developed by Willhite Seed Company, Box 23, Poolville, Texas 76076, United States. Received 05/30/1997.

- PI 597887. *Citrullus lanatus* (Thunb.) Matsum. & Nakai  
Cultivar. "C270". PVP 9700271.

The following were developed by AgraTech Seeds, Inc., Seed Testing Lab., United States. Received 05/30/1997.

- PI 597888. *Arachis hypogaea* L.  
Cultivar. "AT 120". PVP 9700275.

The following were developed by Cascade International Seed Company. Received 05/30/1997.

**PI 597889. *Bromus catharticus* Vahl**  
Cultivar. "STOCKER". PVP 9700295.

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 597890. *Helianthus annuus* L.**

Wild. TVB-11; ANN-1749; Ames 2694. Collected 09/17/1982 in South Dakota, United States. Pasture by Jim River, N 1/2 NW 1/4 Section 5, R-55W, T-94N, Yankton County.

**PI 597891. *Helianthus annuus* L.**

Wild. TVB-12; ANN-1750; Ames 2695. Collected 09/17/1982 in South Dakota, United States. Center NW 1/4 Section 29, R-55W, T-95N, Yankton County. Gravel pit.

**PI 597892. *Helianthus annuus* L.**

Wild. TVB-13; ANN-1751; Ames 2696. Collected 09/17/1982 in South Dakota, United States. NE 1/4 SE 1/4 Section 10, R-56W, T-99N, Hutchinson County. Soybean field.

**PI 597893. *Helianthus annuus* L.**

Wild. TVB-14; ANN-1756; Ames 2697. Collected 09/17/1982 in South Dakota, United States. NE 1/4 NE 1/4 Section 25, R-56W, T-101N McCook County. Farmyard.

**PI 597894. *Helianthus annuus* L.**

Wild. TVB-15; ANN-1752; Ames 2698. Collected 09/20/1982 in South Dakota, United States. SE 1/4 SW 1/4 Section 23, R-51W, T-92N, Clay County. Roadside ditch.

**PI 597895. *Helianthus annuus* L.**

Wild. TVB-16; ANN-1753; Ames 2699. Collected 09/23/1982 in Iowa, United States. SE 1/4 SW 1/4 Section 7, R-48W, T-92N, Plymouth County. Roadside ditch.

**PI 597896. *Helianthus annuus* L.**

Wild. TVB-17; ANN-1754; Ames 2700. Collected 09/23/1982 in Iowa, United States. SW 1/4 SE 1/4 Section 11, R-49W, T-91N, Plymouth County. Roadside ditch.

**PI 597897. *Helianthus annuus* L.**

Wild. TVB-18; ANN-1755; Ames 2701. Collected 09/23/1982 in Iowa, United States. NE 1/4 NE 1/4 Section 28, R-49W, T-92N, Plymouth County. Roadside ditch.

**PI 597898. *Helianthus annuus* L.**

Wild. TVB-19; ANN-1757; Ames 2702. Collected 09/24/1982 in Iowa, United States. SW 1/4 SW 1/4 Section 8, R-47W, T-94N, Sioux County. Bank of old railroad bridge.

- PI 597899. *Helianthus annuus* L.**  
Wild. TVB-20; ANN-1758; Ames 2703. Collected 09/24/1982 in South Dakota, United States. NE 1/4 SE 1/4 Section 25, R-49W, T-93N, Union County. Roadside ditch.
- PI 597900. *Helianthus annuus* L.**  
Wild. TVB-21; ANN-1759; Ames 2704. Collected 09/25/1982 in South Dakota, United States. NE 1/4 NW 1/4 Section 6, R-49W, T-97N, Lincoln County. Roadside ditch.
- PI 597901. *Helianthus annuus* L.**  
Wild. TVB-22; ANN-1760; Ames 2705. Collected 09/25/1982 in Iowa, United States. Along railroad tracks, E 1/2 NE 1/4 Section 36, R-44W, T-95N, Sioux County.
- PI 597902. *Helianthus annuus* L.**  
Wild. TVB-23A; ANN-1761; Ames 2706. Collected 09/25/1982 in Iowa, United States. Along railroad tracks, NE 1/4 SE 1/4 Section 2, R-46W, T-91N, Plymouth County.
- PI 597903. *Helianthus annuus* L.**  
Wild. TVB-24; ANN-1766; Ames 2707. Collected 09/25/1982 in Iowa, United States. NW 1/4 NW 1/4 Section 10, R-47W, T-90N, Plymouth County. Roadside ditch.
- PI 597904. *Helianthus annuus* L.**  
Wild. TVB-25; ANN-1762; Ames 2708. Collected 09/27/1982 in South Dakota, United States. NW 1/4 NW 1/4 Section 29, R-49W, T-92N, Union County. Gravel pit.
- PI 597905. *Helianthus annuus* L.**  
Wild. TVB-26; ANN-1763; Ames 2709. Collected 09/27/1982 in South Dakota, United States. Along railroad tracks, NE 1/4 NE 1/4 Section 30, R-49W, T-91N, Union County.
- PI 597906. *Helianthus annuus* L.**  
Wild. TVB-29; ANN-1767; Ames 2712. Collected 09/27/1982 in South Dakota, United States. NW 1/4 SW 1/4 Section 34, R-50W, T-92N, Union County. Roadside ditch.
- PI 597907. *Helianthus annuus* L.**  
Wild. TVB-35A; ANN-1770; Ames 2716. Collected 10/01/1982 in South Dakota, United States. Along railroad tracks, NE 1/4 SE 1/4 Section 3, R-49W, T-90N, Union County.

The following were collected by Johnathan Gershenzon. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

- PI 597908. *Helianthus debilis* ssp. *cucumerifolius* (Torr. & A. Gray) Heiser**  
Wild. DEB-1676; Ames 7429. Collected 09/04/1980 in South Carolina, United States. Collected along Highway 6, 200 feet south of junction with Highway 378 in Lexington, on west side of road. Lexington County.

Disturbed area, sandy soil, road near greenhouse. Plants 3 feet tall.

The following were collected by N. Bochkaryov, VNIIMK, 17 Filatova St., Krasnodar, Russian Federation; A. N. Lukyanenko, Plant Breeding Station, Krymsr-4, Krasnodar, Russian Federation; Kent D. Perkins; Robert Leffell. Donated by Gerald Seiler, USDA-ARS, Conservation & Production Research Lab., P.O. Drawer 10, Bushland, Texas 79012, United States. Received 07/07/1986.

**PI 597909. *Helianthus debilis* Nutt. ssp. *debilis***

Wild. KP-5; DEB-1206; Ames 6999. Collected 09/24/1979 in Florida, United States. Collected on west side of A1A (across the street from the Atlantic Ocean and dunes) near Sea Breeze Drive, about 1.5 miles north of Ormond Beach city limits in vicinity called Ormond-by-the-Sea. S41, T13S, R32E, Volusia County. Weedy, vacant lot, very sandy soil. Yellow ray and disc flowers.

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 597910. *Helianthus grosseserratus* C. Mart.**

Wild. TVB-43; GRO-1778; Ames 2724. Collected 10/05/1982 in South Dakota, United States. SW 1/4 NW 1/4 Section 2, R-52W, T-94N, Clay County. Roadside ditch.

**PI 597911. *Helianthus grosseserratus* C. Mart.**

Wild. TVB-53; GRO-1785; Ames 2732. Collected 10/06/1982 in South Dakota, United States. SW 1/4 NW 1/4 Section 5, R-50W, T-93N, Union County. Roadside ditch.

The following were collected by C. E. Rogers, USDA, ARS, Conservation & Prod. Res Lab, PO Drawer 10, Bushland, Texas 79012, United States; T. E. Thompson, USDA, ARS, Pecan Breeding & Genetics, Route 2, Box 133, 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 597912. *Helianthus hybrid***

Wild. 409; ANNxARG-409; Ames 6335. Collected 09/15/1976 in Texas, United States. 1/4 mile west of Ingleside city limits on 361. Pedigree - Mixed for annuus x argophyllus hybrids. Some plants obviously F1's and others were very similar to *H. annuus*. Mixed for hybrids of annuus and argophyllus. Some plants obviously F1's and some were very similar to annuus.

The following were collected by Gerald Seiler, USDA, ARS, Northern Crop Science Lab., P.O. Box 5677, University Station, 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 597913. *Helianthus hybrid***

Wild. PRAXANN-1326; Ames 6762. Collected 09/07/1980 in Texas, United States. 3 miles east of Riviera Beach FM 771. Sandy, roadside ditch. Received as *H. praecox* X *H. annuus*. Variable head size-ray size.

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 597914. *Helianthus maximiliani* Schrad.**

Wild. TVB-10; MAX-1748; Ames 2693. Collected 09/17/1982 in South Dakota, United States. NE 1/4 SE 1/4 Section 10, R-56W, T-99N, Hutchinson County. Roadside ditch.

**PI 597915. *Helianthus maximiliani* Schrad.**

Wild. TVB-27; MAX-1764; Ames 2710. Collected 09/27/1982 in South Dakota, United States. NE 1/4 NE 1/4 Section 12, R-50W, T-91N, Union County. Roadside ditch.

The following were collected by T. E. Thompson, USDA Southwestern Great Plains Research, Center, Bushland, Texas, United States; 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 597916. *Helianthus neglectus* Heiser**

Wild. NEG-460; Ames 6403. Collected 09/18/1976 in Texas, United States. Collected 14 miles N. of Monohans, Texas on Hwy. 18.

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 Lab., 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, Yugoslavia; Surendra Duhoon, National Bureau of Plant Genetic Resources, I.A.R.I. Campus, PUSA, New Dehli, India. Donated by Gerald Seiler, USDA, ARS, Northern Crop Science Lab., P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States. Received 10/17/1991.

**PI 597917. *Helianthus nuttallii* ssp. *nuttallii* (Torr. & A. Gray) Heiser**

Wild. NUT 2133; Ames 17977. Collected 09/07/1991 in Wyoming, United States. Latitude 44 deg. 45' N. Longitude 106 deg. 52' W. 8.0 km north and 1.1 km east of Banner, Highway 87, Sheridan County. Roadside ditch, along edge of small stream. Seed collected from 25 plants. Small population of about 40 plants along small stream. Typha (cattails) present. Typical plants, just past peak flower, some plants branching above with red stems. No apparent rust.

**PI 597918. *Helianthus nuttallii* ssp. *rydbergii* (Britton) R. Long**

Wild. NUT 2107; Ames 17974. Collected 09/05/1991 in North Dakota, United States. Latitude 48 deg. 13' 0'' N. Longitude 101 deg. 16' W. 0.8 km west of Minot, Highway 2 and 52 W, Ward County. Roadside ditch, swampy area along fence. Seed collected from around 100 plants. Large scattered population on both sides of fence, swampy area. About mid-flowering, seed set appears good. Typical species, ca. 2 m tall, red stem. Moderate rust on lower leaves. Bullrush (*Juncus*) spp. mixed in population.

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 597919. *Helianthus pauciflorus* ssp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.**

Wild. TVB-2; RIG-1744; Ames 2689. Collected 09/02/1982 in South Dakota, United States. Vermillion Prairie, SE 1/4 NW 1/4 Section 34, R-53W, T-94N, Clay County.

**PI 597920. *Helianthus pauciflorus* ssp. *subrhomboideus* (Rydb.) O. Spring & E. Schill.**

Wild. TVB-5; RIG-1747; Ames 2692. Collected 09/06/1982 in South Dakota, United States. NE 1/4 NW 1/4 Section 26, R-56W, T-101N, McCook County. Pasture by a creek.

**PI 597921. *Helianthus petiolaris* Nutt.**

Wild. TVB-36; PET-1772; Ames 2718. Collected 10/04/1982 in South Dakota, United States. SE 1/4 Section 19, R-52W, T-92N, Clay County. Bank of the Missouri River.

**PI 597922. *Helianthus petiolaris* Nutt.**

Wild. TVB-57; PET-1788; Ames 2735. Collected 10/02/1982 in South Dakota, United States. SW 1/4 Section 32, R-48W, T-89N, Union County. Bank of the Missouri River.

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 597923. *Helianthus petiolaris* Nutt.**

Wild. Heiser 6125; Ames 19071. Collected 1988 in Missouri, United States. Collected from street car tracks by Washington University, St. Louis. Source of Leclercq's cytoplasm for male sterile sunflower.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, 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 07/07/1986.

**PI 597924. *Helianthus petiolaris* Nutt. ssp. *petiolaris***

Wild. PET-1043; Ames 7127. Collected 09/06/1979 in North Dakota, United

States. Alice.

The following were developed by Arnel R. Hallauer, Iowa State University, Department of Agronomy, 1505 Agronomy Hall, Ames, Iowa 50011-1010, United States. Received 04/11/1997.

**PI 597925. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "B107"; Ames 23695. Pedigree - CIMMYT POOL 41-C15-19-1-1-1-1-2-1-1. Developed from Pool 41, which is a genetically broadbased population developed for temperate areas of the world by the CIMMYT maize breeding program. 90 to 95 day maturity, good grain moisture loss after physiological maturity, and above av.

**PI 597926. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "B108"; Ames 23696. Pedigree - CIMMYT POOL 41(IA)-C15-55-1-1-1-1-1-1-1. Developed from Pool 41, which is a genetically broadbased population developed for temperate areas of the world by the CIMMYT maize breeding program. 90 to 95 day maturity, good grain moisture loss after physiological maturity, and above average combining ability with lines from the Iowa Stiff Stalk Synthetic (BSSS) and non-BSSS heterotic groups.

**PI 597927. *Zea mays* L. ssp. *mays***

Breeding. Inbred. "B109"; Ames 23697. Pedigree - [B73 X BS20(S)C1-73-1-1]B73-144-1-1-1-1-1-1. Developed from cross of B73 and a selection from BS20 rootworm synthetic, designated as BS20(S)C1-73-1-1, and after one backcross to B73. Grain moisture at harvest and root and stalk strength similar to B73, but exhibits improved combining ability in crosses of lines from the Lancaster Sure Crop heterotic group. Maturity rating in crosses of 105 to 115 days.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449, Hubbard, Oregon 97032, United States. Received 06/02/1997.

**PI 597928. *Lolium perenne* L.**

Cultivar. "Omega 3". PVP 9700246.

The following were developed by Gold Country Seed, Inc., United States. Received 06/02/1997.

**PI 597929. *Glycine max* (L.) Merr.**

Cultivar. "GCS Raydor". PVP 9700248.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 06/02/1997.

**PI 597930. *Gossypium hirsutum* L.**

Cultivar. "DP 5690RR". PVP 9700249.

**PI 597931. *Gossypium hirsutum* L.**

Cultivar. "DP 90B". PVP 9700250.

PI 597932. *Gossypium hirsutum* L.  
Cultivar. "DP 5415RR". PVP 9700251.

PI 597933. *Gossypium hirsutum* L.  
Cultivar. "DP 32B". PVP 9700252.

The following were developed by Pure-Seed Testing, Inc., P.O. Box 449, Hubbard, Oregon 97032, United States. Received 06/02/1997.

PI 597934. *Festuca arundinacea* Schreb.  
Cultivar. "DURANGO". PVP 9700256.

PI 597935. *Festuca arundinacea* Schreb.  
Cultivar. "MATADOR". PVP 9700257.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 06/02/1997.

PI 597936. *Glycine max* (L.) Merr.  
Cultivar. "DPX9756RR". PVP 9700258.

PI 597937. *Glycine max* (L.) Merr.  
Cultivar. "DPX9757RR". PVP 9700259.

PI 597938. *Glycine max* (L.) Merr.  
Cultivar. "DPX9758RR". PVP 9700260.

PI 597939. *Glycine max* (L.) Merr.  
Cultivar. "DPX9759RR". PVP 9700261.

PI 597940. *Glycine max* (L.) Merr.  
Cultivar. "DPX9760RR". PVP 9700262.

The following were developed by L.J. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Asia Center (IAC), Patancheru P.O., Andhra Pradesh 502 324, India; K.B. Saxena, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India ; Laxman Singh, Int. Crops Res. Inst. for the Semi-Arid Tropics, Pigeon Pea Program, Pantcheru, Andhra Pradesh 503 234, India; R.V. Kumar, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India; D.G. Faris, Int. Crops Res. Inst. for the Semi-Arid Tropics, Asia Center, Patancheru P.O., Andhra Pradesh 502 324, India. Received 06/02/1997.

PI 597941. *Cajanus cajan* (L.) Millsp.  
Genetic. ICPL 87154. GS-8. Pedigree - PRAGATI/FSL-1. Short-duration determinate partial cleistogamous line. Matures 126 days, attains height of 1.3m. Flowers yellow with red streaks. Modified structures delay the opening of floral buds. This trait restricts the natural outcrossing of <1% in comparison to a normal flower control (42.1%). This character is stable over diverse environments and useful in maintaining the genetic purity under open-pollination. Flowers have 10 free stamens instead of

normal (9+1) di-adelphous condition. Pods green in color with dark brown streaks on surface. Seeds dark brown, round with mild shrivelling in some seeds. 100-seed mass is about 7.8g. Tolerance to wilt.

The following were developed by M.V. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Crops Protection Division, Patancheru, Andhra Pradesh 502 324, India; K.B. Saxena, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India; Laxman Singh, Int. Crops Res. Inst. for the Semi-Arid Tropics, Pigeon Pea Program, Patancheru, Andhra Pradesh 503 234, India; R.V. Kumar, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 06/02/1997.

**PI 597942. *Cajanus cajan* (L.) Millsp.**

Genetic. ICPM 93003. PL-4. Pedigree - ICPM 97007/ICPL 288. Short duration indeterminate genetic male-sterile line with low fruiting branches and few secondary branches. Matures about 130 days and attains plant height of about 1.75m. Flowers yellow with red streaks on the back of standard petal and stem color green. Pods green and borne on primary branches. Produces many pods under open-pollination. Seeds cream, oval shape. Average 100-seed mass of 10.8g. Highly resistant to both wilt and sterility mosaic (SM) diseases.

The following were developed by Gary C. Peterson, Texas A&M University, Agricultural Res. & Extension Center, Route 3, Box 219, Lubbock, Texas 79401-7957, United States; Pablo Madera-Torres, USDA/ARS, Tropical Agriculture Research Station, P. O. Box 70, Mayaguez, Puerto Rico; Jeff Dahlberg, USDA, ARS, Tropical Agric. Research Station, P.O. Box 70, Mayaguez, Puerto Rico; Fred R. Miller, Texas A & M University, Department of Soil & Crop Science, College Station, Texas 77843-2474, United States; Darrell T. Rosenow, Texas Agriculture Exp. Stn., Route 3, Box 219, Farm and Market Road 1294, Lubbock, Texas 79401-9757, United States; Antonio Sotomayor-Rios, USDA, ARS, National Germplasm Repository, Tropical Agric. Research Station, Mayaguez, Puerto Rico; L.E. Clark, Texas Agr. Exp. Sta., P.O. Box 1658, Vernon, Texas 76384-1658, United States; A. Quiles-Belen, USDA, ARS, Tropical Agricultural Research Station, Box 70, Mayaguez, Puerto Rico; A. J. Hamburger, Tropical Agricultural Experiment Station, 11708 Hwy. 70 South, Vernon, Texas 76385-1658, United States; C. A. Woodfin, Tropical Agricultural Experiment Station, Route 3, Box 219, Lubbock, Texas 79401-9757, United States. Received 01/21/1997.

**PI 597943. *Sorghum bicolor* (L.) Moench**

Breeding. Pureline. IS 1117C; PI 248313 (preconverted); SC 196; Satsemari. GP-520. Pedigree - Photoperiod sensitive conversion of IS 1117 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a partial maintainer line. A unique Durra (race) - Durra (Working Group 41).

**PI 597944. *Sorghum bicolor* (L.) Moench**

Breeding. Pureline. IS 2680C; PI 267366 (preconverted); SC 808; J-16. GP-521. Pedigree - Photoperiod sensitive conversion of IS 2680 selected from the World Sorghum Collection. Early maturing, combine-height

enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Durra-Caudatum (race) - Caudatum-Durra (Working Group 40).

**PI 597945. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 2871C; Giza 123 S100; FAO #8469; PI 267524 (preconverted); SC 855. GP-522. Pedigree - Photoperiod sensitive conversion of IS 2871 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Durra (race) - Durra (Working Group 41).

**PI 597946. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 3106C; S. Nervosum; PI 213900 (preconverted); SC 606; A-2789. GP-523. Pedigree - Photoperiod sensitive conversion of IS 3106 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a partial restorer line. A unique Guinea-Bicolor (race) - Docna-Roxburghii (Working Group 17).

**PI 597947. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 3404C; NSL 51443 (preconverted); SC 529; Segalane 16. GP-524. Pedigree - Photoperiod sensitive conversion of IS 3404 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer and maintainer line. Unique Kafir (race) - Caffrorum (Working Group 22).

**PI 597948. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 4832C; NSL 55458 (preconverted); SC 1088; Sundhia kana. GP-525. Pedigree - Photoperiod sensitive conversion of IS 4832 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. An unique Durra (race) - Durra (Working Group 41). Midge resistance.

**PI 597949. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 5168C; Kagatha; NSL 52327 (preconverted); SC 1108; Tella Jona. GP-526. Pedigree - Photoperiod sensitive conversion of IS 5168 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. An unique Guinea (race) - roxburghii (Working Group 1). Disease resistance.

**PI 597950. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 5763C; PI 591377 (preconverted); SC 449; Karkatia Salimpur. GP-527. Pedigree - Photoperiod sensitive conversion of IS 5763 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm & found to be a restorer line. A unique Durra (race) - Durra-Rox (Working Group 42).

**PI 597951. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 6733C; NSL 50503 (preconverted); SC 532; 132 AB Farako-Ba. GP-528. Pedigree - Photoperiod sensitive conversion of IS

6733 selected from the World Sorghum Collection. Early maturity, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a maintainer line. A unique Guinea (race) - Conspicuum (Working Group 3).

**PI 597952. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 6960C; Tozi 249; PI 570752 (preconverted); SC 738 ; Nagad White. GP-529. Pedigree - Photoperiod sensitive conversion of IS 6960 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Caudatum (race) - Caudatum (Working Group 33).

**PI 597953. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 7436C; Basharanba; NSL 54231 (preconverted); SC 406; KA 4. GP-530. Pedigree - Photoperiod sensitive conversion of IS 7436 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Guinea (race) - Caudatum-Guinea (Working Group 35).

**PI 597954. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 7714C; NSL 50716 (preconverted); SC 537; NG151. GP-531. Pedigree - Photoperiod sensitive conversion of IS 7714 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Guinea (race) - Conspicuum (Working Group 3).

**PI 597955. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 8898C; NSL 56134 (preconverted); SC 1237; E 563 Esila. GP-532. Pedigree - Photoperiod sensitive conversion of IS 8898 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum-Kafir (race) - Caudatum-Kafir (Working Group 38). Midge resistance.

**PI 597956. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 11885C; PI 330165 (preconverted); SC 1031; Col. No. P-31. GP-533. Pedigree - Photoperiod sensitive conversion of IS 11885 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Durra-Bicolor (race) - Durra-Dochna (Working Group 45).

**PI 597957. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 11930C; PI 330212 (preconverted); SC 1158; Col. No. P-104. GP-534. Pedigree - Photoperiod sensitive conversion of IS 11930 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Durra (race) - Durra-Dochna (Working Group 45). Disease resistance.

**PI 597958. Sorghum bicolor (L.) Moench**

Breeding. Pureline. IS 12675C; PI 277542 (preconverted); SC 184; Suki PS295. GP-535. Pedigree - Photoperiod sensitive conversion of IS 12675 selected from the World Sorghum Collection. Early maturing,

combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a partial maintainer line. A unique Caudatum-Kafir (race) - Caffrorum-feterita (Working Group 27).

- PI 597959. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. IS 17204C; CE 63-18; SC 1065. GP-536. Pedigree - Photoperiod sensitive conversion of IS 17204 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a maintainer line. A unique Caudatum (race)-Caudatum (Working Group 33).
- PI 597960. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. IS 17215C; Line SK-MDW; SC 1076. GP-537. Pedigree - Photoperiod sensitive conversion of IS 17215 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reaction in A1 cytoplasm and found to be a maintainer line. A unique Caudatum-Bicolor (race) - Caudatum-Bicolor (Working Group 36).
- PI 597961. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. IS 17216C; Sorgho 137-62; SC 1077. GP-538. Pedigree - Photoperiod sensitive conversion of IS 17216 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. Tested for fertility reactions in A1 cytoplasm and found to be a restorer line. A unique Caudatum (race) - Zerazera (Working Group 39(1)).
- PI 597962. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. IS 23492C; PAB3; SC 1302. GP-539. Pedigree - Photoperiod sensitive conversion of IS 23492 selected from the World Sorghum Collection. Early maturing, combine-height enhance. A unique Caudatum (race) - Zerazera (Working Group 39(1)).
- PI 597963. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. IS 23601C; PAB124; SC 1318; Alangua. GP-540. Pedigree - Photoperiod sensitive conversion of IS 23601 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Zerazera (Working Group 39(1)). High yield and excellent agronomic characteristics.
- PI 597964. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. IS 23607C; Tungo; PAB130; SC 1319; Nyaluwal. GP-541. Pedigree - Photoperiod sensitive conversion of IS 23607 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Zerazera (Working Group 39(1)). High yield and excellent agronomic characteristics.
- PI 597965. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. SC 1205C; CE90-16-3; SC 1205. GP-542. Pedigree - Photoperiod sensitive conversion of SC 1205 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Zerazera (Working Group 39(1)). Local drought resistance.
- PI 597966. *Sorghum bicolor* (L.) Moench**  
Breeding. Pureline. SC 1212C; SL-PR-32650; SC 1212. GP-543. Pedigree - Photoperiod sensitive conversion of SC 1212 selected from the World



Sorghum Collection. Early maturing, combined-height enhanced. A unique Caudatum (race) - Caudatum (Working Group 33). High yield and excellent agronomic characteristics.

**PI 597967. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1320C; P967083; SC 1320. GP-544. Pedigree - Photoperiod sensitive conversion of SC 1320 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Zerazera (Working Group 39(1)). High yield and excellent agronomic characteristics. Striga resistant.

**PI 597968. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1321C; Col. El Obeid 8-1; SC 1321; Korky. GP-545. Pedigree - Photoperiod sensitive conversion of SC 1321 selected from the World Sorghum Collection. Early maturing, combined-height enhanced. A unique Caudatum (race) - Caudatum-Guinea (Working Group 35). Drought resistance.

**PI 597969. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1322C; Col. El Obeid 8-2; SC 1322; Ferik. GP-546. Pedigree - Photoperiod sensitive conversion of SC 1322 selected from the World Sorghum Collection. Early maturing, combined height enhanced. A unique Durra-Bicolor (race) - Durra-Membraneceum (Working Group 43). Drought resistance.

**PI 597970. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1325C; Col. El Obeid 8-5; SC 1325; Umm Tui. GP-547. Pedigree - Photoperiod sensitive conversion of SC 1325 selected from the World Sorghum Collection. Early maturing, combined-height enhanced. A unique Caudatum (race) - Caudatum-Durra (Working Group 40). Drought resistance.

**PI 597971. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1328C; Col. El Obeid 8-8; SC 1328; Nachatt Ahmar. GP-548. Pedigree - Photoperiod sensitive conversion of SC 1328 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Caudatum (Working Group 33). Drought resistance.

**PI 597972. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1329C; Col. El Obeid 8-9; SC 1329; Gadumel Tatil. GP-549. Pedigree - Photoperiod sensitive conversion of SC 1329 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Durra-Caudatum (race) - Caudatum-Durra (Working Group 40). Drought resistance.

**PI 597973. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1330C; Col. El Obeid 8-10; SC 1330; Marg Herchir Aswad. GP-550. Pedigree - Photoperiod sensitive conversion of SC 1330 selected from the World Sorghum Program. Early maturing, combine-height enhanced. A unique Durra-Caudatum (race) - Caudatum-Durra (Working Group 40). Drought resistance.

**PI 597974. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1332C; CSM-87; SC 1332. GP-551. Pedigree -

Photoperiod sensitive conversion of SC 1332 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Guinea (race) - Guineense (Working Group 4).

**PI 597975. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1333C; CSM-207; SC 1333. GP-552. Pedigree - Photoperiod sensitive conversion of SC 1333 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Guinea (race) - Guineense (Working Group 4).

**PI 597976. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1337C; CSM-388; SC 1337. GP-553. Pedigree - Photoperiod sensitive conversion of SC 1337 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Guinea (race) - Guineense (Working Group 4).

**PI 597977. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1339C; CSM-414; SC 1339. GP-554. Pedigree - Photoperiod sensitive conversion of SC 1339 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Guinea (race) - Guineense (Working Group 4).

**PI 597978. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1341C; SC 1341; CSM-417. GP-555. Pedigree - Photoperiod sensitive conversion of SC 1341 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Guinea (race) - Guineense (Working Group 4).

**PI 597979. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1342C; CSM-419; SC 1342. GP-556. Pedigree - Photoperiod sensitive conversion of SC 1342 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Guinea (race) - Guineense (Working Group 4).

**PI 597980. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1345C; CSM-90; SC 1345. GP-557. Pedigree - Photoperiod sensitive conversion of SC 1345 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum-Bicolor (race) - Caudatum-Bicolor (Working Group 33).

**PI 597981. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1351C; Shot Damon #2-2; SC 1351; Nearly Black. GP-558. Pedigree - Photoperiod sensitive conversion of SC 1351 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Caudatum (Working Group 33).

**PI 597982. Sorghum bicolor (L.) Moench**

Breeding. Pureline. SC 1356C; Shot Damon #3-2; SC 1356; Nearly Black. GP-559. Pedigree - Photoperiod sensitive conversion of SC 1356 selected from the World Sorghum Collection. Early maturing, combine-height enhanced. A unique Caudatum (race) - Caudatum (Working Group 33).

The following were developed by Kim Lewers, USDA-ARS, 1575 Agronomy Building, Iowa State University, Ames, Iowa 50011, United States; Reid G. Palmer, USDA,

ARS, Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States. Received 05/27/1997.

**PI 597983. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-75-1. GP-190. Pedigree - ms6 ms6 w1 w1 x BSR101. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to BSR101 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597984. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-97-4. GP-191. Pedigree - ms6 ms6 w1 w1 x BSR101. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to BSR101 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597985. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-148-1. GP-192. Pedigree - ms6 ms6 w1 w1 x Century . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants are identical to Century in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597986. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-177-1. GP-193. Pedigree - ms6 ms6 w1 w1 x Century . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants are self-pollinated to allow maintenance of the two alleles. Plants are identical to Century in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597987. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-49-2. GP-194. Pedigree - ms6 ms6 w1 w1 x Corsoy 79. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Corsoy 79 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597988. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-61-4. GP-195. Pedigree - ms6 ms6 w1 w1 x Corsoy 79. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Corsoy 79 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597989. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-1-2. GP-196. Pedigree - ms6 ms6 w1 w1 x Elgin. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination).

Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Elgin in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597990. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-25-2. GP-197. Pedigree - ms6 ms6 w1 w1 x Elgin. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Elgin in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597991. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-196-1. GP-198. Pedigree - ms6 ms6 w1 w1 x Hack. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to Hack in all phenotypic traits measured except for the Ms6 locus.

**PI 597992. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-214-3. GP-199. Pedigree - ms6 ms6 w1 w1 x Hack. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to Hack in all phenotypic traits measured except for the Ms6 locus.

**PI 597993. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-117-2. GP-200. Pedigree - ms6 ms6 w1 w1 x Hardin. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Hardin in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597994. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-141-3. GP-201. Pedigree - ms6 ms6 w1 w1 x Hardin. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Hardin in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597995. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-235-4. GP-202. Pedigree - ms6 ms6 w1 w1 x Hoyt. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Hoyt in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 597996. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-259-2. GP-203. Pedigree - ms6 ms6 w1 w1 x Hoyt. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Hoyt in all phenotypic traits measured except for the Ms6 and W1 loci.

- PI 597997. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-732-3. GP-204. Pedigree - ms6 ms6 w1 w1 x A.K. Harrow. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to A. K. Harrow in all phenotypic traits measured except for the Ms6 locus.
- PI 597998. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-747-2. GP-205. Pedigree - ms6 ms6 w1 w1 x A.K. Harrow. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to A. K. Harrow in all phenotypic traits measured except for the Ms6 locus.
- PI 597999. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-631-3. GP-206. Pedigree - ms6 ms6 w1 w1 x Manchu. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Manchu in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598000. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-653-3. GP-207. Pedigree - ms6 ms6 w1 w1 x Manchu. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Manchu in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598001. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-669-3. GP-208. Pedigree - ms6 ms6 w1 w1 x Mandarin. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Mandarin in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598002. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-684-1. GP-209. Pedigree - ms6 ms6 w1 w1 x Mandarin. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Mandarin in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598003. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-579-3. GP-210. Pedigree - ms6 ms6 w1 w1 x Mandarin (Ottawa). Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Mandarin (Ottawa) in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598004. *Glycine max* (L.) Merr.**  
 Genetic. Pureline. A96-606-2. GP-211. Pedigree - ms6 ms6 w1 w1 x

Mandarin (Ottawa). Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Mandarin (Ottawa) in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598005. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-705-3. GP-212. Pedigree - ms6 ms6 w1 w1 x Richland. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Richland in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598006. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-718-1. GP-213. Pedigree - ms6 ms6 w1 w1 x Richland. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Richland in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598007. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-280-2. GP-214. Pedigree - ms6 ms6 w1 w1 x PI 91167. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI91167 in all phenotypic traits measured except for the Ms6 locus.

**PI 598008. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-296-1. GP-215. Pedigree - ms6 ms6 w1 w1 x PI 91167. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI91167 in all phenotypic traits measured except for the Ms6 locus.

**PI 598009. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-308-2. GP-216. Pedigree - ms6 ms6 w1 w1 x PI 261474. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI261474 in all phenotypic traits measured except for the Ms6 locus.

**PI 598010. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-331-2. GP-217. Pedigree - ms6 ms6 w1 w1 x PI 261474. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI261474 in all phenotypic traits measured except for the Ms6 locus.

**PI 598011. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-341-2. GP-218. Pedigree - ms6 ms6 w1 w1 x PI 427099. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI427099 in all phenotypic traits measured except for the Ms6 locus.

**PI 598012. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-371-1. GP-219. Pedigree - ms6 ms6 w1 w1 x PI 427099. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to

identify segregation of the ms6 allele. Plants identical to PI427099 in all phenotypic traits measured except for the Ms6 locus.

**PI 598013. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-388-1. GP-220. Pedigree - ms6 ms6 w1 w1 x PI 297544. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI297544 in all phenotypic traits measured except for the Ms6 locus.

**PI 598014. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-401-4. GP-221. Pedigree - ms6 ms6 w1 w1 x PI 297544. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI297544 in all phenotypic traits measured except for the Ms6 locus.

**PI 598015. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-405-2. GP-222. Pedigree - ms6 ms6 w1 w1 x PI 370059. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI370059 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598016. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-419-2. GP-223. Pedigree - ms6 ms6 w1 w1 x PI 370059. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI370059 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598017. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-439-1. GP-224. Pedigree - ms6 ms6 w1 w1 x PI 384474. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI384474 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598018. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-455-3. GP-225. Pedigree - ms6 ms6 w1 w1 x PI 384474. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI384474 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598019. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-532-2. GP-226. Pedigree - ms6 ms6 w1 w1 x PI 227333. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI227333 in all phenotypic traits measured except for the Ms6 locus.

**PI 598020. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-559-1. GP-227. Pedigree - ms6 ms6 w1 w1 x PI

227333. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to PI227333 in all phenotypic traits measured except for the Ms6 locus.

**PI 598021. Glycine max (L.) Merr.**

Genetic. Pureline. A96-469-1. GP-228. Pedigree - ms6 ms6 w1 w1 x PI 416941. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI416941 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598022. Glycine max (L.) Merr.**

Genetic. Pureline. A96-485-1. GP-229. Pedigree - ms6 ms6 w1 w1 x PI 416941. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI416941 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598023. Glycine max (L.) Merr.**

Genetic. Pureline. A96-499-4. GP-230. Pedigree - ms6 ms6 w1 w1 x PI 417076. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI417076 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598024. Glycine max (L.) Merr.**

Genetic. Pureline. A96-518-4. GP-231. Pedigree - ms6 ms6 w1 w1 x PI 417076. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to PI417076 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598025. Glycine max (L.) Merr.**

Genetic. Pureline. A96-1174-1. GP-232. Pedigree - ms6 ms6 w1 w1 x AGO20. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to AGO20 in all phenotypic traits measured except for the Ms6 locus.

**PI 598026. Glycine max (L.) Merr.**

Genetic. Pureline. A96-1200-4. GP-233. Pedigree - ms6 ms6 w1 w1 x AGO20. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to AGO20 in all phenotypic traits measured except for the Ms6 locus.

**PI 598027. Glycine max (L.) Merr.**

Genetic. Pureline. A96-1217-3. GP-234. Pedigree - ms6 ms6 w1 w1 x AX2858. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to AX2858 in all phenotypic traits measured except for the Ms6 and W1 loci.



- PI 598028. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1232-3. GP-235. Pedigree - ms6 ms6 w1 w1 x AX2858 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to AX2858 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598029. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1283-3. GP-236. Pedigree - ms6 ms6 w1 w1 x A3307. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to A3307 in all phenotypic traits measured except for the Ms6 locus.
- PI 598030. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1298-4. GP-237. Pedigree - ms6 ms6 w1 w1 x A3307. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to A3307 in all phenotypic traits measured except for the Ms6 locus.
- PI 598031. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-989-2. GP-238. Pedigree - ms6 ms6 w1 w1 x CX-155. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to CX-155 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598032. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1154-4. GP-239. Pedigree - ms6 ms6 w1 w1 x CX-155 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to CX-155 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598033. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1314-2. GP-240. Pedigree - ms6 ms6 w1 w1 x 82-165 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to 82-165 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598034. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1335-4. GP-241. Pedigree - ms6 ms6 w1 w1 x 82-165 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to 82-165 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598035. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1346-2. GP-242. Pedigree - ms6 ms6 w1 w1 x 82-378

. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to 82-378 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598036. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-1375-4. GP-243. Pedigree - ms6 ms6 w1 w1 x 82-378 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to 82-378 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598037. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-1239-2. GP-244. Pedigree - ms6 ms6 w1 w1 x J-201. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to J-201 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598038. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-1263-4. GP-245. Pedigree - ms6 ms6 w1 w1 x J-201. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to J-201 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598039. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-752-3. GP-246. Pedigree - ms6 ms6 w1 w1 x G3197. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to G3197 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598040. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-774-1. GP-247. Pedigree - ms6 ms6 w1 w1 x G3197. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to G3197 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598041. *Glycine max* (L.) Merr.**

Genetic. Pureline. A96-940-1. GP-248. Pedigree - ms6 ms6 w1 w1 x S1346. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to S1346 in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598042. *Glycine max* (L.) Merr.**

- Genetic. Pureline. A96-965-3. GP-249. Pedigree - ms6 ms6 w1 w1 x S1346. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to S1346 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598043. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-891-3. GP-250. Pedigree - ms6 ms6 w1 w1 x P422-57 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to P422-57 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598044. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-911-2. GP-251. Pedigree - ms6 ms6 w1 w1 x P422-57 . Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to P422-57 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598045. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1393-3. GP-252. Pedigree - ms6 ms6 w1 w1 x P596-13. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to P596-13 in all phenotypic traits measured except for the Ms6 locus.
- PI 598046. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-1408-2. GP-253. Pedigree - ms6 ms6 w1 w1 x P596-13. Near-isogenic line Ms6 ms6 w1 w1. Plants self-pollinated to identify segregation of the ms6 allele. Plants identical to P596-13 in all phenotypic traits measured except for the Ms6 locus.
- PI 598047. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-791-1. GP-254. Pedigree - ms6 ms6 w1 w1 x P3010-02. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to P3010-02 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598048. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-816-2. GP-255. Pedigree - ms6 ms6 w1 w1 x P3010-02. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to P3010-02 in all phenotypic traits measured except for the Ms6 and W1 loci.
- PI 598049. *Glycine max* (L.) Merr.**  
Genetic. Pureline. A96-837-3. GP-256. Pedigree - ms6 ms6 w1 w1 x Glenn. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination).

Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Glenn in all phenotypic traits measured except for the Ms6 and W1 loci.

**PI 598050. Glycine max** (L.) Merr.  
Genetic. Pureline. A96-868-3. GP-257. Pedigree - ms6 ms6 w1 w1 x Glenn. Near-isogenic line cosegregating M6 W1 ms6 w1. The Ms6 and W1 alleles in coupling phase are tightly linked (2 to 5% genetic recombination). Plants self-pollinated to allow maintenance of the two alleles. Plants identical to Glenn in all phenotypic traits measured except for the Ms6 and W1 loci.

The following were developed by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 06/11/1997.

**PI 598051. Glycine max** (L.) Merr.  
Cultivar. "A1553". PVP 9700300.

**PI 598052. Glycine max** (L.) Merr.  
Cultivar. "AG2501". PVP 9700301.

**PI 598053. Glycine max** (L.) Merr.  
Cultivar. "AG2301". PVP 9700302.

**PI 598054. Glycine max** (L.) Merr.  
Cultivar. "AG3002". PVP 9700303.

**PI 598055. Glycine max** (L.) Merr.  
Cultivar. "AG4901". PVP 9700304.

**PI 598056. Glycine max** (L.) Merr.  
Cultivar. "AG4702". PVP 9700305.

**PI 598057. Glycine max** (L.) Merr.  
Cultivar. "A2553". PVP 9700306.

**PI 598058. Glycine max** (L.) Merr.  
Cultivar. "AG2702". PVP 9700307.

**PI 598059. Glycine max** (L.) Merr.  
Cultivar. "A5959". PVP 9700308.

**PI 598060. Glycine max** (L.) Merr.  
Cultivar. "AG5602". PVP 9700309.

**PI 598061. Glycine max** (L.) Merr.  
Cultivar. "A5704". PVP 9700310.

**PI 598062. Glycine max** (L.) Merr.  
Cultivar. "AG2101". PVP 9700311.

**PI 598063. Glycine max** (L.) Merr.  
Cultivar. "AG1901". PVP 9700312.

- PI 598064. *Glycine max* (L.) Merr.**  
Cultivar. "A3559". PVP 9700313.
- PI 598065. *Glycine max* (L.) Merr.**  
Cultivar. "AG2401". PVP 9700315.
- PI 598066. *Glycine max* (L.) Merr.**  
Cultivar. "A4604". PVP 9700315.
- PI 598067. *Glycine max* (L.) Merr.**  
Cultivar. "A2869". PVP 9700316.
- PI 598068. *Glycine max* (L.) Merr.**  
Cultivar. "A3904". PVP 9700317.

The following were developed by William L. Rooney, Kansas State University, Department of Agronomy, Throckmorton Hall, Manhattan, Kansas 66506-5501, United States; Mark A. Hussey, Texas A&M University, Department of Soil & Crop Sciences, Room 430, Heep Center, College Station, Texas 77843-2474, United States; M. A. Sanderson, USDA/ARS Research Laboratory, Pasture Systems & Watershed Management, Curtin Road, University Park, Pennsylvania 16802-3702, United States. Received 05/19/1997.

- PI 598069. *Sorghum bicolor* (L.) Moench**  
Breeding. Inbred. Tx2909. GP-518. Pedigree -  
(Tx2785\*EBA-3)-B2-T3-C2-CBK-CBK. Plant color tan (ppQQ), juicy culms, red pericarp color (RRYY), and thick mesocarp (zz). Pigmented testa (B1B1B2B2). 2-dwarf and flower between 75-80 days after planting. Restorer in the A1 cytoplasmic-genetic male sterility system. Resistance to downy mildew pathotype 1. Susceptible to pathotype 3. Resistance to anthracnose pathotypes found in Texas, and to head smut.
- PI 598070. *Sorghum bicolor* (L.) Moench**  
Breeding. Inbred. Tx2910. GP-519. Pedigree -  
(Greenleaf\*EBA-3)-C4-T1-C4-T2-CBK. Plant color tan (ppQQ), juicy culms, red pericarp color (RRYY), and thick mesocarp (zz). Testa not pigmented (b1b1b2b2). 2-dwarf and flower between 75-80 days after planting. Restorer in the A1 cytoplasmic-genetic male sterility system. Susceptible to downy mildew pathotypes 1 and 3. Resistance to anthracnose pathotypes found in Texas, and to head smut.

The following were developed by Joseph W. Saunders, USDA, ARS, Michigan State University, Sugarbeet, Bean & Cereal Res., East Lansing, Michigan 48823-1325, United States. Received 06/04/1997.

- PI 598071. *Beta vulgaris* L.**  
Breeding. Population. REL-1; 1R. GP-187. Pedigree - Clone with approx. 50% parentage from mother, 6926-0-3, 25% from Owen's annual 03 CMS T-O tester, and 25% from 58-81, an East Lansing breeding clone. Diploid, self-fertile annual clone with N cytoplasm, heterozygous at the B (annual/biennial), M (multigerm/monogerm), and R (+/- red betalain pigment) loci. Produces shoots from nearly 100% of the callusing leaf discs individually plated on a modified Murashige-Skoog medium with 1.0

mg/L 6-benzyladenine. Leaf disc callus produces well-dispersed suspension cultures. Regenerant shoots and shoot cultures are not notable vitreous.

**PI 598072. *Beta vulgaris* L.**

Breeding. Population. REL-2; LTR-41. GP-188. Pedigree - F1 clone. Maternal parent clone LTR-5, a selection from EL45/2 for intense shoot regeneration from callus. The paternal parent clone REL-1. Diploid, self-fertile annual clone with N cytoplasm, heterozygous at the B (annual/biennial), M (multigerm/monogerm), and R (+/- red betalain pigment) loci. Produces somatic embryos from callusing leaf discs individually plated on a modified Murashige-Skoog (MS) medium with no growth regulators, and from planting of suspension cultures onto hormone-free medium. Produces copious regenerant shoots from callus induced on leaf discs on MS medium with 1.0mg/L 6-benzyladenine.

**PI 598073. *Beta vulgaris* L.**

Breeding. Population. EL50; 86403. Pedigree - Derived from hybridization of two cloned individual beets (L403-2 and L828-2) from the perennially isolated traditional East Lansing germplasm pool. Monogerm germplasm with very high resistance to leaf spot (*Cercospora beticola*) and moderately high resistance to black root disease (*Aphanomyces cochlioides*). Diploid non-type-O line in N cytoplasm and highly self-sterile. Sucrose percentages average a percentage point less than that of commercial hybrid Mony-Hy E4.

**PI 598074. *Beta vulgaris* L.**

Breeding. Population. EL51; 96RR. Pedigree - Derived from crossing of FC705/1 by a mix of FC701/5 with selections, both multi- and monogerm, from the traditional East Lansing pool. Respective proportions approx. 50, 18, and 32%. Very high resistance to leaf spot (*Cercospora beticola*) and crown and root rot (*Rhizoctonia solani*). By pedigree, should have up to moderate levels of tolerance to black root (*Aphanomyces cochlioides*). Diploid with N cytoplasm, and is highly self-sterile. Segregates primarily for multigerm seed habit.

**PI 598075. *Beta vulgaris* L.**

Breeding. Population. SR93; 293. Pedigree - Approx. 50% SR87 (four plants), 25% L19 (two plants), 12.5% SP85700 (one plant), 6.25% EL48 (one plant), 3.13% SP6926 (one plant), and 1.56% each from CMS tester L03 (one plant) and East Lansing *Aphanomyces* selection clone 55-81. Excellent root smoothness. An open-pollination increase of synthetic seed produced from twelve field selections with related parentage and two cycles of recurrent mass selection for smooth root. Diploid multigerm with red or green hypocotyl. Moderately easy bolting, and self-sterile with some pseudo-self-fertility. Yielded sucrose percentages 2.5 to 3.0 points less than commercial hybrids ACH 185 and ACH 197. *Cercospora* leaf spot rating 10% less tolerant than for hybrid USH23.

**PI 598076. *Beta vulgaris* L.**

Breeding. Population. SR94; 94HS21. Pedigree - Open-pollination increase of synthetic seed with approx. 50% SP85700, 18% L19, 18% Crystal-Maribo 8400051, 7% Crystal-Maribo 8400040, and 7% Logan UT ARS line 46I1. Smoothroot germplasm with moderate smoothness and moderate sucrose

percentage. Multigerm diploid segregating for red and green hypocotyl. Relatively easy bolting. Male sterility exceeds 20%, and male fertile plants largely but not exclusively self-sterile.

The following were developed by Dick L. Auld, Texas Tech University, Department of Plant and Soil Sciences, P.O. Box 4122, Lubbock, Texas 79409-2122, United States; John M. Kraft, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350, United States; Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States. Received 06/03/1997.

**PI 598077. *Pisum sativum* L.**

Cultivar. Pureline. "GRANGER"; D258-1-2. CV-15. Pedigree - F5 selection from Fen \*2/New Season (af)/3/Mich 89-L-36/4/Glacier. Semi-leafless Austrian Winter type pea. Winter survival equaled or exceeded Feen, Melrose, and Glacier checks. Yields exceeded all checks except Glacier. First release of a semi-leafless winter pea. Reduced leaf area is expected to reduce the severity of foliar diseases such as Sclerotinia white mold and Ascochyta blight. Upright standing ability should also improve harvesting ease.

The following were developed by Ismail Kusmenoglu, Central Research Inst. of Field Crops, Ministry of Agriculture, P.O. Box 226, Ulus, Ankara 06042, Turkey; 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 06/03/1997.

**PI 598078. *Cicer arietinum* L.**

Cultivar. Pureline. "SANFORD"; CA188220. CV-145. Pedigree - F7 selection from FLIP 85-58 / Surutato 77. Ascochyta blight resistant. Ascochyta blight scores significantly lower when compared to the checks and were similar to blight resistant parent FLIP 85-58.

**PI 598079. *Cicer arietinum* L.**

Cultivar. Pureline. "DWELLEY"; CA188359/380. CV-146. Pedigree - F7 selection from FLIP 85-58 / Surutato 77. Ascochyta blight resistant. Ascochyta blight scores significantly lower when compared to the standard checks and similar to the resistant parent FLIP 85-58.

The following were developed 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; H. A. Van Rheenen, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 06/03/1997.

**PI 598080. *Cicer arietinum* L.**

Cultivar. Pureline. "MYLES"; ICCX860047BP20HB-B. CV-147. Pedigree - (BDN

9-3 X K1184) X ICP87440. F5 bulked progeny from an F4 single plant row. Desi-type with resistance to Ascochyta blight. Significantly more resistant to the disease than the checks. Also taller and higher yielding.

The following were developed by Solomon Kibite, Agriculture Canada, Research Station, Bag Service 5000, Lacombe, Alberta T0C 1S0, Canada. Received 06/05/1997.

**PI 598081. Avena sativa L.**

Cultivar. Pureline. "AC JUNIPER"; OT772. Pedigree - Dula/Cavell. Early maturing with high grain yield. Improved lodging resistance and high test weight. Average yield similar to Derby, and 1.4, 5.5 and 8% more than Cascade, Dumont and Jasper, respectively. Resistant to Victoria blight. Moderately resistant to smut. Moderately susceptible to BYDV, and susceptible to crown rust and stem rust.

The following were developed by F.M. Bourland, University of Arkansas, Dept. of Agronomy, PTSC 115, Fayetteville, Arkansas 72701, United States; C. Wayne Smith, Texas A&M University, Department of Soil and Crop Sciences, College Station, Texas 77841, United States; R.E. McGowen, Jr., Delta and Pine Land Co., Scott, Mississippi 38772, United States. Received 06/05/1997.

**PI 598082. Gossypium hirsutum L.**

Breeding. Pureline. ARKOT A129. GP-668. Pedigree - Cascot L7 / FTA266. Similar to DES 119 in leaf morphology and pubescence, yield, maturity, fiber length, and micronaire. Stronger fiber strength, but lower lint fraction and fiber elongation than DES 119. Resistant as DES 119 to tarnished plant bug (*Lygus lineolaris*) and as resistant as the resistant check to fusarium wilt (*Fusarium oxysporum*).

**PI 598083. Gossypium hirsutum L.**

Breeding. Pureline. "ARKOT A132". GP-669. Pedigree - Stoneville 825 / FTA266. Similar to DES 119 in leaf morphology and pubescence, yield, maturity, fiber length, and micronaire. Stronger fiber strength but lower lint fraction and fiber elongation than DES 119. Resistant as DES 119 to tarnished plant bug (*Lygus lineolaris*) and as resistant as the resistant check to fusarium wilt (*Fusarium oxysporum*).

The following were developed by Fred R. Miller, Texas A & M University, Department of Soil & Crop Science, College Station, Texas 77843-2474, United States. Received 05/14/1997.

**PI 598084. Sorghum bicolor (L.) Moench**  
Breeding. Inbred. A3 100M.

**PI 598085. Sorghum bicolor (L.) Moench**  
Breeding. Inbred. B3 100M.

**PI 598086. Sorghum bicolor (L.) Moench**  
Breeding. Inbred. A3 90M.



PI 598087. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 90M.

PI 598088. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 80M.

PI 598089. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 80M.

PI 598090. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 60M.

PI 598091. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 60M.

PI 598092. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 58M.

PI 598093. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 58M.

PI 598094. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 44M.

PI 598095. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 44M.

PI 598096. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 38M.

PI 598097. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 38M.

PI 598098. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 Hegari.

PI 598099. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 Hegari.

PI 598100. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 Early Hegari.

PI 598101. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 Early Hegari.

PI 598102. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 SM100.

PI 598103. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 SM100.

PI 598104. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 SM90.

PI 598105. *Sorghum bicolor* (L.) Moench

- Breeding. Inbred. B3 SM90.
- PI 598106. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 SM80.
- PI 598107. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 SM80.
- PI 598108. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 SM60.
- PI 598109. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 SM60.
- PI 598110. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 SA1170 (Tall Western).
- PI 598111. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 SA1170 (Tall Western).
- PI 598112. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 FC8962 (Texas Blackhull Kafir).
- PI 598113. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 FC8962 (Texas Blackhull Kafir).
- PI 598114. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 WSM100 (White Sooner Milo).
- PI 598115. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 WSM100 (White Sooner Milo).
- PI 598116. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 CI243 (Acme Broomcorn).
- PI 598117. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 CI243 (Acme Broomcorn).
- PI 598118. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 Jap. Dwarf Broomcorn.
- PI 598119. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 Jap. Dwarf Broomcorn.
- PI 598120. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 BTx3197 (Combine Kafir 60).
- PI 598121. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 BTx3197 (Combine Kafir 60).
- PI 598122. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. A3 BTx616 (4-dwarf Kafir).
- PI 598123. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. B3 BTx616 (4-dwarf Kafir).

The following were developed by Dennis Thomas, University of Illinois, Department of Agronomy, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Cecil D. Nickell, University of Illinois, Department of Crop Science, 1102 S. Goodwin Av., Urbana, Illinois 61801, United States; Greg Noel, USDA-ARS, University of Illinois, Department of Plant Pathology, Urbana, Illinois 61801, United States; David A. Sleper, University of Missouri, Department of Agronomy, 201 Waters Hall, Columbia, Missouri 65211, United States; T.R. Cary, University of Illinois, Illinois Agr. Exp. Sta., Dept. of Agronomy, Urbana, Illinois 61801, United States; Kerry M. Clark, University of Missouri-Columbia, Research Support Service, 3600 E. New Haven Road, Columbia, Missouri 65211, United States; A. P. Rao Arelli, University of Missouri, Dept. of Agronomy, Columbia, Missouri 65211, United States.  
Received 06/02/1997.

**PI 598124. *Glycine max* (L.) Merr.**

Cultivar. Pureline. "Maverick". CV-372; PVP 9800001. Pedigree - Individual F4 selection from LN86 4668 x Resnik. Resistance to soybean cyst nematode (*Heterodera glycines*) race 3 and moderate resistance to race 14. Resistance to races 1 and 3 of phytophthora rot (*Phytophthora sojae*). Relative maturity of 3.8. Indeterminate growth pattern. Pubescence grey, purple flower color, brown pods at maturity, and dull yellow seeds with buff hila. Low lodging score (1.7) and average height of 41 inches.

The following were collected by Robert D. Webster, South Central Family Farms Research, USDA, ARS, 6883 South Hwy. 23, Booneville, Arkansas 72927, United States. Donated by David Burner, USDA-ARS Sugarcane Research Unit, P.O. Box 470, 800 Little Bayou Black Drive, Houma, Louisiana 70361, United States.  
Received 04/30/1997.

**PI 598125. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***

Breeding. WEBSTER 2516. Collected 10/25/1992 in South Carolina, United States. Clarendon County. Hwy 301, 1/2 mile north of Fox Tindal Road. Roadside marsh. Pedigree - Open pollinated full sibs of Webster 2516 were the maternal parent.

**PI 598126. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***

Breeding. WEBSTER 2517. Collected 10/25/1992 in South Carolina, United States. Orangeburg County. Hwy 301, 7 miles east of Orangeburg. Pedigree - Open pollinated full sibs of Webster 2517 were the maternal parent.

**PI 598127. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***

Breeding. WEBSTER 2519. Collected 10/25/1992 in South Carolina, United States. Screven County. Hwy 301, 5 miles south of the state line. Pedigree - Open pollinated full sibs of Webster 2519 were the maternal parent.

**PI 598128. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***

Breeding. WEBSTER 2523. Collected 10/26/1992 in Georgia, United States. Brantly County. Hwy 301, 9 miles north of Nahunta. Sandy loamy wet roadside. Pedigree - Open pollinated full sibs of Webster 2523 were the

maternal parent.

- PI 598129. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***  
Breeding. WEBSTER 2524. Collected 10/26/1992 in Georgia, United States. Charlton County. Hwy 23, 4 miles south of Hwy 15 junction. Pedigree - Open pollinated full sibs of Webster 2524 were the maternal parent.
- PI 598130. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***  
Breeding. WEBSTER 2527. Collected 10/26/1992 in Florida, United States. Clay County. Hwy 301, 17 miles north of Starke. Open loamy roadside. Pedigree - Open pollinated full sibs of Webster 2527 were the maternal parent.
- PI 598131. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***  
Breeding. WEBSTER 2534. Collected 10/27/1992 in Georgia, United States. Grady County. Hwy 84 and Stewart Road. Seasonally wet, sandy roadside, low area. Pedigree - Open pollinated full sibs of Webster 2534 were the maternal parent.
- PI 598132. *Saccharum brevibarbe* (Michx.) Pers. var. *brevibarbe***  
Breeding. WEBSTER 2537. Collected 10/27/1992 in Alabama, United States. Henry County. Hwy 95, 18 miles north of the state line. Loamy roadside. Pedigree - Open pollinated full sibs of Webster 2537 were the maternal parent.

The following were developed by A.K. Singh, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502 324, India; S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India; L.J. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Asia Center (IAC), Patancheru P.O., Andhra Pradesh 502 324, India; P. Subrahmanyam, SADC/ICRISAT, Groundnut Project, Lilongwe, Malawi; N. Govinden, Mauritius Sugar Industry Research Institute, Food Crop Agronomy Division, Reduit, Mauritius; J. P. Moss, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh, India; F. M. Ismael, Mauritius Sugar Industry Research Institute, Food Crop Agronomy Division, Reduit, Mauritius; G. L. Hildebrand, Seed Co-op, P.O. Box CH 142, Chisipite, Harare, Zimbabwe. Received 06/26/1997.

- PI 598133. *Arachis hypogaea* L.**  
Breeding. Pureline. ICGV-SM 86715. GP-89. Pedigree - Cross between *Arachis hypogaea* subsp. *hypogaea* var. *hypogaea* (Cv. Makulu Red) and tetraploid interspecific backcross derivative [Samaru 38/*Arachis diogenii* (GKP 10602)//Samaru 61]. Decumbent 3 growth habit, branching alternate, 7 primary and 4 secondary branches. Leaves green, size medium, elliptic. Matures 117-159 days depending on season and location in southern Africa. Pods medium sized, reticulation prominent, beaks moderate, 2-1 seeded. Seeds red, avg. meat content 64%, weight 57 g 100 seed-1, oil 48%. Resistance to rust (*Puccinia arachidis*), late leaf spot (*Phaeosariopsis personata*), and pepper spot (*Leptosphaerulia crassiasca*). Free from early leaf spot (*Cercospora arachidicola*) in Mauritius.

The following were developed by S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India

; L.J. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Asia Center (IAC), Patancheru P.O., Andhra Pradesh 502 324, India; P. Subrahmanyam, SADC/ICRISAT, Groundnut Project, Lilongwe, Malawi; K.R. Bock, Int. Crops Res. Inst. for the Semi-Arid Tropics, Chitedze Agricultural Research Station, Groundnut Project, Lilongwe, Malawi; N. Govinden, Mauritius Sugar Industry Research Institute, Food Crop Agronomy Division, Reduit, Mauritius; F. M. Ismael, Mauritius Sugar Industry Research Institute, Food Crop Agronomy Division, Reduit, Mauritius; G. L. Hildebrand, Seed Co-op, P.O. Box CH 142, Chisipite, Harare, Zimbabwe. Received 06/26/1997.

**PI 598134. *Arachis hypogaea* L.**

Breeding. Pureline. ICGV-SM 85048. GP-90. Pedigree - [Goldin 1/Faizpur 1-5//Manfredi/M 13] F3-B1-B2-B1. Growth habit erect, flowering sequential. Leaves light green, medium sized, elliptic. Branches 6 primary and 1 secondary. Maturity 116-126 days at Chitedze, Malawi. Pods mainly 2 seeded, reticulation and ridge prominent, meat content 66-71%, seed weight 30-41 g 100 seed-1. Seed color deep red, protein 26%, oil 54%. Resistant to web blotch (*Phoma arachidicola*). In Malawi showed tolerance to early leaf spot (*Cercospora arachidicola*) when compared with local cultivar Malimba. Less susceptible to leaf tier (*Lamprosema indicata*).

The following were developed by S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India ; L.J. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Asia Center (IAC), Patancheru P.O., Andhra Pradesh 502 324, India; P. Subrahmanyam, SADC/ICRISAT, Groundnut Project, Lilongwe, Malawi; K.R. Bock, Int. Crops Res. Inst. for the Semi-Arid Tropics, Chitedze Agricultural Research Station, Groundnut Project, Lilongwe, Malawi; G. L. Hildebrand, Seed Co-op, P.O. Box CH 142, Chisipite, Harare, Zimbabwe; B. Syamasonta, Msekera Regional Research Station, P.O. Box 510089, Chipata, Zambia. Received 06/26/1997.

**PI 598135. *Arachis hypogaea* L.**

Breeding. Pureline. ICGV-SM 83005. GP-91. Pedigree - Robut 33-1/NC Ac 2698 F2-B2-P1-B1-B1-B1-B1-B1-B1-B1. Decumbent 3 growth habit, flowering sequential. Leaves dark green, medium to large, and elliptic. Four primary branches with secondary branches generally absent. Plant height and canopy width approx. 40 cm. Maturity 108-133 days depending upon location and season in southern African region. Pod length avg. 32 mm, width avg. 10 mm, mostly 2 seeded, meat content 64-73%. Seed tan, weight 28-62 g 100 seed-1, oil content 42-52%, and protein content 21%. Oleic to linoleic fatty acid ratio 1:1.

The following were developed by Arvid Boe, South Dakota State University, Plant Science Department, 226 Agricultural Hall, Brookings, South Dakota 57007, United States; J.G. Ross, Department of Agronomy, South Dakota State University, Brookings, South Dakota, United States. Received 06/19/1997.

**PI 598136. *Panicum virgatum* L.**

Cultivar. Population. "SUNBURST SYN 2". CV-193. Pedigree - Selected from open pollinated plants from several native prairies in southeastern (Union Co.) SD. Winterhardy, leafy, and heavy-seeded upland type.

Anthesis early August in eastern SD. Seed weight approx. 200 mg 100 seed-1. Annual forage production 4000 to greater than 9000 kg ha-1 over wide range of environments in northern Great Plains. Total nitrogen in herbage prior to heading approx. 2% and at soft dough less than 1%.

The following were developed by Arvid Boe, South Dakota State University, Plant Science Department, 226 Agricultural Hall, Brookings, South Dakota 57007, United States; R. Bortnem, South Dakota State Univ., Dept. Plant Sciences, Brookings, South Dakota 57007, United States. Donated by Arvid Boe, South Dakota State University, Plant Science Department, 226 Agricultural Hall, Brookings, South Dakota 57007, United States. Received 06/19/1997.

**PI 598137. *Dalea leporina* (Aiton) Bullock**

Cultivar. Population. "SUNDANCE"; NSSL 351140. CV-154. Pedigree - Bulked seed from native stand in southeastern South Dakota (Union Co.). Seed received in 1997 was Syn 2. Growth habit erect, 0.5-1.0 m. Leaves alternate, pinnately compound. Seed weight approx. 300 mg 100 seed-1, produced in erect spikes 2-10 cm in length. Flowers Aug.-Sept. The in vitro digestible dry matter and crude protein concentrations in late Aug. approx 500 g kg-1 and 140 g kg-1 respectively.

The following were developed by Arvid Boe, South Dakota State University, Plant Science Department, 226 Agricultural Hall, Brookings, South Dakota 57007, United States; K. Fluharty, South Dakota State Univ., Dept. Plant Science, Brookings, South Dakota 57007, United States. Received 06/19/1997.

**PI 598138. *Astragalus canadensis* L.**

Cultivar. Population. "SUNRISE". CV-153. Pedigree - Bulked seed from 75 plant nursery established from seed collected from native stand in Brookings Co., SD. Growth habit erect, height at full bloom exceeds 1 m. Flowers June, full bloom by early July. Highly resistant to potato leaf hopper yellowing. Highly susceptible to seed predation by *Acanthoscelides perforatus*. The in vitro digestible dry matter exceeds 650 g kg-1 at full bloom, and forage yields can exceed 8000 kg ha-1 at same stage.

The following were developed by Jeff Pedersen, USDA, ARS, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68583-0937, United States ; J.J. Toy, USDA-ARS, Univ. of Nebraska-Lincoln, Dept. of Agronomy, Lincoln, Nebraska 68583-0937, United States. Received 06/20/1997.

**PI 598139. *Sorghum bicolor* (L.) Moench**

Genetic. A3N242; A3 GREENLEAF. GS-1. Pedigree - A3TX430 x GREENLEAF and backcrossing to GREENLEAF 5 times. General agronomic features of Greenleaf. Completely male sterile in all backcross generations.

**PI 598140. *Sorghum bicolor* (L.) Moench**

Genetic. A3N243; A3 PIPER SUDANGRASS. GS-2. Pedigree - A2TX430 x PIPER and backcrossing to PIPER 5 times. General agronomic characteristics of Piper. Seed set under selfing bags avg. 1%.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

- PI 598141. *Linum usitatissimum* L.  
Cultivar. Pureline. "PAISANO"; Cili 3287. Developed in Argentina.
- PI 598142. *Linum usitatissimum* L.  
Cultivar. Pureline. "TAQUE"; Cili 3288. Developed in Argentina.
- PI 598143. *Linum usitatissimum* L.  
Cultivar. Pureline. "H2"; Cili 3289. Developed in Romania.
- PI 598144. *Linum usitatissimum* L.  
Cultivar. Pureline. "TIA 2"; Cili 3319. Developed in China.
- PI 598145. *Linum usitatissimum* L.  
Cultivar. Pureline. "TIA 5"; Cili 3320. Developed in China.
- PI 598146. *Linum usitatissimum* L.  
Cultivar. Pureline. "LONG 7"; Cili 3321. Developed in China.
- PI 598147. *Linum usitatissimum* L.  
Cultivar. Pureline. "DIN 17"; Cili 3322. Developed in China.
- PI 598148. *Linum usitatissimum* L.  
Cultivar. Pureline. "N2098"; Cili 3323. Developed in Nepal.
- PI 598149. *Linum usitatissimum* L.  
Cultivar. Pureline. "N2360"; Cili 3324. Developed in Nepal.
- PI 598150. *Linum usitatissimum* L.  
Cultivar. Pureline. "N8051"; Cili 3325. Developed in Nepal.
- PI 598151. *Linum usitatissimum* L.  
Cultivar. Pureline. "C7528"; Cili 3326. Developed in Nepal.
- PI 598152. *Linum usitatissimum* L.  
Cultivar. Pureline. "N9202"; Cili 3327. Developed in United States.
- PI 598153. *Linum usitatissimum* L.  
Cultivar. Pureline. "N9215"; Cili 3328. Developed in United States.
- PI 598154. *Linum usitatissimum* L.  
Cultivar. Pureline. "N9219"; Cili 3329. Developed in United States.
- PI 598155. *Linum usitatissimum* L.  
Cultivar. Pureline. "N9221"; Cili 3330. Developed in United States.
- PI 598156. *Linum usitatissimum* L.  
Cultivar. Pureline. "N9222"; Cili 3331. Developed in United States.
- PI 598157. *Linum usitatissimum* L.  
Cultivar. Pureline. FP 966; Cili 3332; CDC Normandy. Developed in Canada.

**PI 598158. *Linum usitatissimum* L.**  
Cultivar. Pureline. "ARIANE"; Cili 3333. Developed in France.

**PI 598159. *Linum usitatissimum* L.**  
Cultivar. Pureline. "VIKING"; Cili 3334. Developed in France. VIKING Cili 3334, PI 598159 and VIKING Cili 981, PI 522913, are different cultivars.

**PI 598160. *Linum usitatissimum* L.**  
Cultivar. Pureline. "LINDA"; Cili 3335. Developed in France. LINDA Cili 3335, PI 598160, and LINDA Cili 1165, PI 523992, are different cultivars.

**PI 598161. *Linum usitatissimum* L.**  
Cultivar. Pureline. "BE 4218"; Cili 3336. Developed in Honduras.

**PI 598162. *Linum usitatissimum* L.**  
Cultivar. Pureline. "ADIN"; Cili 3337. Developed in Romania.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

**PI 598163. *Linum usitatissimum* L.**  
Cultivar. Pureline. "AZUR SEL."; Cili 3338. Collected 1982 in Romania. Developed in France.

**PI 598164. *Linum usitatissimum* L.**  
Cultivar. Pureline. "DETA SEL."; Cili 3339. Collected 1982 in Romania. Developed in France.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

**PI 598165. *Linum usitatissimum* L.**  
Cultivar. Pureline. "GERIA"; Cili 3340. Developed in Romania.

**PI 598166. *Linum usitatissimum* L.**  
Cultivar. Pureline. "I.C.A. 32"; Cili 3341. Developed in Romania.

**PI 598167. *Linum usitatissimum* L.**  
Cultivar. "I.C.A. 44"; Cili 3342. Developed in Romania.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

**PI 598168. *Linum usitatissimum* L.**  
Cultivar. Pureline. "IRIS SEL."; Cili 3343. Collected 1982 in Romania. Developed in France.



The following were donated by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

**PI 598169. *Linum usitatissimum* L.**  
Cultivar. Pureline. "MADARAS"; Cili 3344. Developed in Romania.

The following were collected by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

**PI 598170. *Linum usitatissimum* L.**  
Cultivar. Pureline. "MIDIN SEL."; Cili 3345. Collected 1982 in Romania. Developed in France.

The following were donated by Jerry F. Miller, USDA, ARS, Northern Crops Research Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States. Received 03/03/1997.

**PI 598171. *Linum usitatissimum* L.**  
Cultivar. Pureline. "MURES"; Cili 3346. Developed in Romania.

**PI 598172. *Linum usitatissimum* L.**  
Cultivar. Pureline. "ROLIN"; Cili 3347. Developed in Romania.

**PI 598173. *Linum usitatissimum* L.**  
Cultivar. Pureline. "TIKKURILA (Early)"; Cili 3348. Developed in Finland.

**PI 598174. *Linum usitatissimum* L.**  
Cultivar. Pureline. "APOLO INTA"; Cili 3349. Developed in Argentina.

**PI 598175. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9304"; Cili 3350. Developed in United States.

**PI 598176. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9305"; Cili 3351. Developed in United States.

**PI 598177. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9306"; Cili 3352. Developed in United States.

**PI 598178. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9310"; Cili 3353. Developed in United States.

**PI 598179. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9318"; Cili 3354. Developed in United States.

**PI 598180. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9320"; Cili 3355. Developed in United States.

**PI 598181. *Linum usitatissimum* L.**

- Cultivar. Pureline. "SDT 9322"; Cili 3356. Developed in United States.
- PI 598182. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SDT 9324"; Cili 3357. Developed in United States.
- PI 598183. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9301"; Cili 3358. Developed in United States.
- PI 598184. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9308"; Cili 3359. Developed in United States.
- PI 598185. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9317"; Cili 3360. Developed in United States.
- PI 598186. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9322"; Cili 3361. Developed in United States.
- PI 598187. *Linum usitatissimum* L.**  
Cultivar. Pureline. "LEWIS"; Cili 3388. Developed in United States.
- PI 598188. *Linum usitatissimum* L.**  
Cultivar. Pureline. "CASCADE"; Cili 3389. CASCADE Cili 3389, PI 598188, and CASCADE Cili 1818, PI 524223, are different cultivars.
- PI 598189. *Linum usitatissimum* L.**  
Cultivar. Pureline. "VORONEZHSKI"; Cili 3390. Developed in Russian Federation.
- PI 598190. *Linum usitatissimum* L.**  
Cultivar. Pureline. "START"; Cili 3391. Developed in Russian Federation.
- PI 598191. *Linum usitatissimum* L.**  
Cultivar. Pureline. "TSIAN"; Cili 3392. Developed in Russian Federation.
- PI 598192. *Linum usitatissimum* L.**  
Cultivar. Pureline. "SD91E42"; Cili 3393. Developed in United States.
- PI 598193. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9402"; Cili 3394. Developed in United States.
- PI 598194. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9403"; Cili 3395. Developed in United States.
- PI 598195. *Linum usitatissimum* L.**  
Cultivar. Pureline. "N9409"; Cili 3396. Developed in United States.
- PI 598196. *Linum usitatissimum* L.**  
Cultivar. Pureline. "FP 974"; Cili 3397. Developed in Canada.
- PI 598197. *Linum usitatissimum* L.**  
Cultivar. Pureline. "FP 976"; Cili 3398. Developed in Canada.
- PI 598198. *Linum usitatissimum* L.**  
Cultivar. Pureline. "FP 980"; Cili 3399. Developed in Canada.

- PI 598199. *Linum usitatissimum* L.  
Cultivar. Pureline. "NATASJA"; Cili 3400. Developed in Netherlands.
- PI 598200. *Linum usitatissimum* L.  
Cultivar. Pureline. "N 9502"; Cili 3406.
- PI 598201. *Linum usitatissimum* L.  
Cultivar. Pureline. "FP 997"; Cili 3410. Developed in Canada.
- PI 598202. *Linum usitatissimum* L.  
Cultivar. Pureline. "FP 998"; Cili 3411. Developed in Canada.
- PI 598203. *Linum usitatissimum* L.  
Cultivar. Pureline. "FP 1004"; Cili 3412. Developed in Canada.
- PI 598204. *Linum usitatissimum* L.  
Cultivar. Pureline. "CHILLALLO"; Cili 3416. Developed in Ethiopia.
- PI 598205. *Linum usitatissimum* L.  
Cultivar. Pureline. "SHANXI CHINA 8493-6"; Cili 3417. Developed in China.
- PI 598206. *Linum usitatissimum* L.  
Cultivar. Pureline. "DIANE"; Cili 3418. Developed in France.
- PI 598207. *Linum usitatissimum* L.  
Cultivar. Pureline. "ARGOS"; Cili 3419. Developed in France.
- PI 598208. *Linum usitatissimum* L.  
Cultivar. Pureline. "HERMES"; Cili 3420. Developed in France.

The following were developed by Shallow Water Grain, Inc., United States. Received 1976.

- PI 598209. *Triticum aestivum* L., nom. cons.  
Cultivar. "III". PVP 7500080.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States. Received 1976.

- PI 598210. *Triticum aestivum* L., nom. cons.  
Cultivar. "5411". PVP 7600046.
- PI 598211. *Triticum aestivum* L., nom. cons.  
Cultivar. "5210". PVP 7600045.
- PI 598212. *Triticum aestivum* L., nom. cons.  
Cultivar. "5232". PVP 7600051.

The following were developed by R.J. Jacquinet, Greenbush Seed and Supply, United States; S.M. Jacquinet, Greenbush Seed and Supply, United States. Donated by Seed Research of Oregon, Inc., Corvallis, Oregon, United States.

Received 1977.

**PI 598213. *Triticum aestivum* L., nom. cons.**  
Cultivar. "4555". PVP 7600050.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States. Received 1977.

**PI 598214. *Triticum aestivum* L., nom. cons.**  
Cultivar. "5221". PVP 7600049.

The following were developed by Novartis Seeds, Inc., United States. Received 07/17/1997.

**PI 598215. *Glycine max* (L.) Merr.**  
Cultivar. "S24-12". PVP 9700318.

The following were developed by Tanimura and Antle, Inc., Salinas, California 93912, United States. Received 07/17/1997.

**PI 598216. *Apium graveolens* var. *dulce* (Mill.) Pers.**  
Cultivar. "Exp 340". PVP 9700331.

**PI 598217. *Apium graveolens* var. *dulce* (Mill.) Pers.**  
Cultivar. "Exp 108". PVP 9700332.

**PI 598218. *Apium graveolens* var. *dulce* (Mill.) Pers.**  
Cultivar. "Exp 109A". PVP 9700333.

The following were developed by Rogers Seed Company, Research Center, 6338 Highway 20-26, Nampa, Idaho 83687, United States. Received 07/17/1997.

**PI 598219. *Phaseolus vulgaris* L.**  
Cultivar. "BF609". PVP 9700334.

The following were developed by DeKalb-Pfizer Genetics, United States. Received 07/17/1997.

**PI 598220. *Glycine max* (L.) Merr.**  
Cultivar. "CX 255". PVP 9700335.

The following were developed by Rogers Seed Company, Research Center, 6338 Highway 20-26, Nampa, Idaho 83687, United States. Received 07/17/1997.

**PI 598221. *Lactuca sativa* L.**  
Cultivar. "ADELA". PVP 9700338.

The following were developed by Tennessee Advanced Genetics, Inc., Tennessee,

United States. Received 07/17/1997.

**PI 598222. *Glycine max* (L.) Merr.**  
Cultivar. "TN 4-94". PVP 9700339.

The following were developed by Hartz Seed Company-A Unit of Monsanto, United States. Received 07/17/1997.

**PI 598223. *Glycine max* (L.) Merr.**  
Cultivar. "H564". PVP 9700342.

The following were developed by NDSU Research Foundation, North Dakota, United States. Received 07/17/1997.

**PI 598224. *Triticum aestivum* L., nom. cons.**  
Cultivar. "KEENE". PVP 9700343.

The following were collected by Robert D. Webster, South Central Family Farms Research, USDA, ARS, 6883 South Hwy. 23, Booneville, Arkansas 72927, United States. Donated by David Burner, USDA-ARS Sugarcane Research Unit, P.O. Box 470, 800 Little Bayou Black Drive, Houma, Louisiana 70361, United States. Received 06/27/1997.

**PI 598225. *Saccharum brevibarbe* var. *contortum* (Elliott) R. D. Webster**  
Breeding. WEBSTER 2503. Collected 10/23/1992 in Maryland, United States. Somerset County. Hwy 13, 7 miles north of Pocomoke. Pedigree - Open pollinated full sibs of Webster 2503 were the maternal parent.

**PI 598226. *Saccharum brevibarbe* var. *contortum* (Elliott) R. D. Webster**  
Breeding. WEBSTER 2504. Collected 10/23/1992 in Virginia, United States. Accomack County. Hwy 13, 100 yards off of Parkway, 1 mile north of Keller. Pedigree - Open pollinated full sibs of Webster 2504 were the maternal parent.

**PI 598227. *Saccharum brevibarbe* var. *contortum* (Elliott) R. D. Webster**  
Breeding. WEBSTER 2538. Collected 10/28/1992 in Alabama, United States. Autauga County. Hwy 82, 1 mile east of county road 29. Dry sandy disturbed woods. Pedigree - Open pollinated full sibs of Webster 2538 were the maternal parent.

**PI 598228. *Saccharum brevibarbe* var. *contortum* (Elliott) R. D. Webster**  
Breeding. WEBSTER 2547. Collected 11/06/1992 in Alabama, United States. Lamar County. Hwy 96, 5 miles from Mississippi state line. Loamy roadside. Pedigree - Open pollinated full sibs of Webster 2547 were the maternal parent.

**PI 598229. *Saccharum brevibarbe* var. *contortum* (Elliott) R. D. Webster**  
Breeding. WEBSTER 2611. Collected 11/13/1993 in Texas, United States. Angelina County. Hwy 69, 4 miles north of Hwy 7 junction. Loamy roadside. Pedigree - Open pollinated full sibs of Webster 2611 were the maternal parent.

- PI 598230. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2501. Collected 10/23/1992 in Maryland, United States. Wicomico County. Hwy 50, just west of Exit 331. Open disturbed roadside, uncommon black soil. Pedigree - Open pollinated full sibs of Webster 2501 were the maternal parent.
- PI 598231. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2505. Collected 10/23/1992 in Virginia, United States. Accomack County. Hwy 13, 2 miles north of Hwy 704. Black loamy sandy soil open roadside. Pedigree - Open pollinated full sibs of Webster 2505 were the maternal parent.
- PI 598232. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2506. Collected 10/24/1992 in Virginia, United States. Southampton County. Hwy 258, 2 miles north of North Carolina state line. Border at public boat ramp, sandy-loamy soil. Pedigree - Open pollinated full sibs of Webster 2506 were the maternal parent.
- PI 598233. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2507. Collected 10/24/1992 in North Carolina, United States. Herdford County. Hwy 258, 1 mile south of North Carolina state line. Intermixed with *S. brevibarbe* var. *contortum*. Pedigree - Open pollinated full sibs of Webster 2507 were the maternal parent.
- PI 598234. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2515. Collected 10/25/1992 in South Carolina, United States. Clarendon County. Hwy 301, 1 mile north of Manning. Swampy. Pedigree - Open pollinated full sibs of Webster 2515 were the maternal parent.
- PI 598235. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2518. Collected 10/25/1992 in South Carolina, United States. Bamberg County. Hwy 301, 7 miles south of Bamberg. Pedigree - Open pollinated full sibs of Webster 2518 were the maternal parent. 1% susceptible to sugarcane mosaic virus.
- PI 598236. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2540. Collected 10/28/1992 in Alabama, United States. Bibb County. Hwy 82, 1 mile from junction Hwy 91. Wet area roadside. Pedigree - Open pollinated full sibs of Webster 2540 were the maternal parent. 3% susceptible to sugarcane mosaic virus.

The following were collected by David Burner, USDA-ARS Sugarcane Research Unit, P.O. Box 470, 800 Little Bayou Black Drive, Houma, Louisiana 70361, United States. Received 06/27/1997.

- PI 598237. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2554. Collected 11/07/1992 in Louisiana, United States. Houma. Terrebonne Parish. Bull Run Road, Spanish Trail Farm. Loamy meadow, sparse plants. Pedigree - Open pollinated full sibs of Webster 2554 were the maternal parent.

The following were collected by Robert D. Webster, South Central Family Farms

Research, USDA, ARS, 6883 South Hwy. 23, Booneville, Arkansas 72927, United States. Donated by David Burner, USDA-ARS Sugarcane Research Unit, P.O. Box 470, 800 Little Bayou Black Drive, Houma, Louisiana 70361, United States. Received 06/27/1997.

**PI 598238. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2706. Collected 10/08/1992 in Maryland, United States. Somerset County. Hwy 413, 7 miles from Crisfield. Drainage ditch and cornfield, open loamy soil. Pedigree - Open pollinated full sibs of Webster 2706 were the maternal parent. Plants 5-7 feet.

**PI 598239. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2708. Collected 10/08/1994 in Virginia, United States. Northampton County. Hwy 13, 5 miles N of toll Plaza. Loamy roadside, infrequent. Pedigree - Open pollinated full sibs of Webster 2708 were the maternal parent. Plants 5-7 feet.

**PI 598240. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2710. Collected 10/08/1994 in North Carolina, United States. Hwy 13S, 3 miles north of junction 158. Loamy clay roadside under powerline, infrequent. Pedigree - Open pollinated full sibs of Webster 2710 were the maternal parent. Plants about 7 feet.

**PI 598241. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2714. Collected 10/09/1994 in North Carolina, United States. Pitt County. Hwy 11S, 2 miles north of Ferrell Junction, 7 miles north of Kingdom. Dry loamy site. Pedigree - Open pollinated full sibs of Webster 2714 were the maternal parent. Plant 5-9 feet.

**PI 598242. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2734. Collected 10/16/1994 in Alabama, United States. Covington County. Between Opp and Yellow River. Pedigree - Open pollinated full sibs of Webster 2734 were the maternal parent.

**PI 598243. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2737. Collected 10/18/1994 in Louisiana, United States. Vermilion Parish. Hwy 14W, 1 mile east of Erath. Common on loamy roadside. Pedigree - Open pollinated full sibs of Webster 2737 were the maternal parent. Plants 7-10 feet.

**PI 598244. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2740A. Collected 10/28/1994 in South Carolina, United States. Richland County. 1 mile south of Bluff Rd, north side of Old Bluff Rd., 7 miles south of Williams-Brice Stadium, south side of Columbia. Widely scattered below powerline on boggy, saturated ground. Pedigree - Open pollinated full sibs of Webster 2740A were the maternal parent. Plants 3m tall.

**PI 598245. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2740B. Collected 10/28/1994 in South Carolina, United States. Richland County. 1 mile south of Bluff Road, north side of Bluff Road, about 7 miles south of Williams-Brice Stadium, south side of Columbia. Widely scattered below powerlines on boggy, saturated ground. Pedigree - Open pollinated full sibs of Webster 2740B were the maternal parent. Plants 3 m tall.

- PI 598246. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2545. Collected 10/30/1992 in Louisiana, United States . St. Landry Parish. Hwy 49, 33 miles north of Opelousas. Loamy disturbed area. Pedigree - Open pollinated full sibs of Webster 2545 were the maternal parent. Awns slightly spiraled.
- PI 598247. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2546. Collected 11/06/1992 in Alabama, United States. Lamar County. Hwy 50 at Alabama state line. Open knoll, loamy soil. Pedigree - Open pollinated full sibs of Webster 2546 were the maternal parent.
- PI 598248. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2549. Collected 11/06/1992 in Alabama, United States. Walker County. Hwy 69, 2 miles south of Jasper. Open rolling hills. Slightly awned. Resistant to sugarcane mosaic virus.
- PI 598249. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2550. Collected 11/06/1992 in Alabama, United States. Cullman County. Hwy 91, at 4 mile marker. Red clay. Pedigree - Open pollinated full sibs of Webster 2550 were the maternal parent. Awns short. Closely resembles the South American *S. trinii*. 6% susceptible to sugarcane mosaic virus.
- PI 598250. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2602. Collected 11/08/1993 in Tennessee, United States . Carroll County. Hwy 70A bypass, north of Huntington. Loamy clay hillside. Pedigree - Open pollinated full sibs of Webster 2602 were the maternal parent.
- PI 598251. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2603. Collected 11/09/1993 in Alaska, United States. White County. Hwy 367, 100 yards east of Bradford city limits. Loamy clay, open roadside. Pedigree - Open pollinated full sibs of Webster 2603 were the maternal parent.
- PI 598252. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2741. Collected in United States. Pedigree - Open pollinated full sibs of Webster 2741 were the maternal parent.
- PI 598253. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2526. Collected 10/26/1992 in Georgia, United States. Charlton County. Hwy 23 & 121, 1 12 miles north of the Florida state line. Sandy roadside. Pedigree - Open pollinated full sibs of Webster 2526 were the maternal parent. 56% susceptible to sugarcane mosaic virus.
- PI 598254. *Saccharum giganteum* (Walter) Pers.**  
Breeding. WEBSTER 2529. Collected 10/26/1992 in Florida, United States. Dixie County. Hwy 19 & 98, 1 mile south of county road S358. Pedigree - Open pollinated full sibs of Webster 2529 were the maternal parent. 11% susceptible to sugarcane mosaic virus.
- PI 598255. *Saccharum giganteum* (Walter) Pers.**



Breeding. WEBSTER 2530. Collected 10/26/1992 in Florida, United States. Taylor County. Hwy 51, 6 miles from the Gulf of Mexico. Pedigree - Open pollinated full sibs of Webster 2530 were the maternal parent. 2% susceptible to sugarcane mosaic virus.

**PI 598256. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2531. Collected 10/27/1992 in Florida, United States. Taylor County. Hwy 221, 4 miles north of Perry. Pedigree - Open pollinated full sibs of Webster 2531 were the maternal parent. 16% susceptible to sugarcane mosaic virus.

**PI 598257. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2725. Collected 10/13/1994 in Florida, United States. Osceola County. Hwy 441S, 4 miles north of three lakes cutoff. Wet loamy side, under powerline. Pedigree - Open pollinated full sibs of Webster 2725 were the maternal parent. Plants 7-12 feet.

**PI 598258. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2511. Collected 10/24/1992 in North Carolina, United States. Cumberland County. Hwy 301, 5 miles south of Fayetteville. Pedigree - Open pollinated full sibs of Webster 2511 were the maternal parent.

**PI 598259. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2730. Collected 10/15/1994 in Florida, United States. Levy County. Hwy 71 miles east of Yankee Town, at Izzak County Rd. toward the ocean. Uncommon on loamy roadside. Pedigree - Open pollinated full sibs of Webster 2730 were the maternal parent. Plants 7-9 feet.

**PI 598260. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2733. Collected 10/16/1994 in Georgia, United States. Miller County. Hwy 91, 200 yds. north of Miller County line. Pedigree - Open pollinated full sibs of Webster 2733 were the maternal parent. Plants 5-9 feet.

**PI 598261. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2735. Collected 10/16/1994 in Alabama, United States. Escambia County. Hwy 29 at county Rd 53. Standing water, loamy soil. Pedigree - Open pollinated full sibs of Webster 2735 were the maternal parent. Plants 7-10 feet.

**PI 598262. *Saccharum giganteum* (Walter) Pers.**

Breeding. WEBSTER 2736. Collected 10/17/1994 in Mississippi, United States. George County. Hwy 26, toward Paseagoula River, 200 yards down River Rd. Uncommon on low loamy roadside. Pedigree - Open pollinated full sibs of Webster 2736 were the maternal parent.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 05/18/1989.

**PI 598263. *Phaseolus vulgaris* L.**

Landrace. M89-16; W6 33. Collected 04/18/1989 in Morocco. Latitude 34

deg. 5' N. Longitude 4 deg. 57' W. Market place in city of Fes. Seed medium size, white.

**PI 598264. Phaseolus vulgaris L.**

Landrace. M89-22; W6 37. Collected 04/19/1989 in Morocco. Latitude 33 deg. 53' N. Longitude 5 deg. 37' W. Market place in city of Meknes. Seed small to medium, white.

The following were donated by Anton C. Zeven, Agricultural University, Institute of Plant Breeding (I.v.P.), P.O. Box 386, Wageningen, Gelderland 6700 AJ, Netherlands. Received 06/19/1989.

**PI 598265. Phaseolus vulgaris L.**

Landrace. IVP 4.43; W6 118. Collected in Netherlands. Vlagtwedde. Primitive cultivar.

The following were collected by George S. Abawi, Cornell University, Department of Plant Pathology, New York Agr. Exp. Sta., Geneva, New York 14456-0462, United States. Received 11/08/1988.

**PI 598266. Phaseolus vulgaris L.**

Abawi# 2a; W6 3101. Collected in Peru. Nuna type.

**PI 598267. Phaseolus vulgaris L.**

Abawi# 3; W6 3103. Collected in Peru. Nuna type.

**PI 598268. Phaseolus vulgaris L.**

Abawi# 4; W6 3104. Collected in Peru. Nuna type.

**PI 598269. Phaseolus vulgaris L.**

Abawi# 5a; W6 3105. Collected in Peru. Nuna type.

The following were donated by Robert E. Rand, University of Wisconsin, Department of Plant Pathology, 1630 Linden Drive, Madison, Wisconsin 53706, United States. Received 08/14/1992.

**PI 598270. Phaseolus vulgaris L.**

Breeding. MDR 309; W6 10682. Multiple disease resistant processing type beans.

**PI 598271. Phaseolus vulgaris L.**

Breeding. MDR 315; W6 10683. Multiple disease resistant processing type beans.

The following were donated by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States. Received 06/23/1989.

**PI 598272. Phaseolus vulgaris L.**

W6 327. Collected 06/23/1989 in Dominican Republic.

- PI 598273. Phaseolus vulgaris L.**  
W6 328. Collected 06/23/1989 in Dominican Republic.
- PI 598274. Phaseolus vulgaris L.**  
W6 330. Collected 06/23/1989 in Dominican Republic.
- PI 598275. Phaseolus vulgaris L.**  
W6 331. Collected 06/23/1989 in Dominican Republic.
- PI 598276. Phaseolus vulgaris L.**  
W6 332. Collected 06/23/1989 in Dominican Republic.
- PI 598277. Phaseolus vulgaris L.**  
W6 333. Collected 06/23/1989 in Dominican Republic.
- PI 598278. Phaseolus vulgaris L.**  
W6 334. Collected 06/23/1989 in Dominican Republic.
- PI 598279. Phaseolus vulgaris L.**  
W6 335. Collected 06/23/1989 in Dominican Republic.

The following were donated by R W Robinson, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456, United States; Northwest Agricultural University, Yangling, Shaanxi, China. Received 12/26/1991.

- PI 598280. Phaseolus vulgaris L.**  
Cultivated. W6 9398. Collected 1991 in China.

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 598281. Phaseolus vulgaris L.**  
EX. NO. 00029; W6 11333; Yi gua bian.

The following were donated by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States. Received 06/23/1989.

- PI 598282. Phaseolus vulgaris L.**  
W6 329. Collected 06/23/1989 in Dominican Republic.
- PI 598283. Phaseolus vulgaris L.**  
W6 336. Collected 06/23/1989 in Dominican Republic.
- PI 598284. Phaseolus vulgaris L.**  
W6 340. Collected 06/23/1989 in Dominican Republic.
- PI 598285. Phaseolus vulgaris L.**  
W6 342. Collected 06/23/1989 in Dominican Republic.

The following were collected by D. Mc Cleary, Washington State University, Department of Agronomy, Pullman, Washington 99164, United States. Received 11/30/1990.

**PI 598286. *Phaseolus vulgaris* L.**

Cultivated. PV1-2; W6 6271. Collected 10/20/1990 in Hokkaido, Japan. Farmer's garden, 7.5km south of highway 40 following Teshio River tributary, North Kamikawa District, Hokkaido Prefecture.

**PI 598287. *Phaseolus vulgaris* L.**

Cultivated. PV1-4; W6 6273. Collected 10/20/1990 in Hokkaido, Japan. Farmer's garden, 7.5km south of highway 40 following Teshio River tributary, North Kamikawa District, Hokkaido Prefecture.

**PI 598288. *Phaseolus vulgaris* L.**

Cultivated. PV1-6; W6 6275. Collected 10/20/1990 in Hokkaido, Japan. Farmer's garden, 7.5km south of highway 40 following Teshio River tributary, North Kamikawa District, Hokkaido Prefecture.

**PI 598289. *Phaseolus vulgaris* L.**

Cultivated. PV2-1; Kaimama (shell bean); W6 6276. Collected 10/20/1990 in Hokkaido, Japan. Farmer's garden, 10km west of Highway 238, middle of Soya District, Hokkaido Prefecture.

**PI 598290. *Phaseolus vulgaris* L.**

Cultivated. PV2-2; Kaimama (shell bean); W6 6277. Collected 10/20/1990 in Hokkaido, Japan. Farmer's garden, 10km west of Highway 238, middle of Soya District, Hokkaido Prefecture.

The following were donated by O.W. Norvell, Stanford University, Palo Alto, California, United States. Received 10/31/1989.

**PI 598291. *Phaseolus* sp.**

Wild. 3875; W6 2439.

The following were collected by D. Mc Cleary, Washington State University, Department of Agronomy, Pullman, Washington 99164, United States. Received 11/30/1990.

**PI 598292. *Phaseolus vulgaris* L.**

Cultivated. PV2-3; Kaimama (shell bean); W6 6278. Collected 10/20/1990 in Hokkaido, Japan. Farmer's garden, 10km west of Highway 238, middle of Soya District, Hokkaido Prefecture.

**PI 598293. *Phaseolus vulgaris* L.**

Cultivated. PV4-1; W6 6280. Collected 10/21/1990 in Hokkaido, Japan. Farmer's garden, 10km northwest of Highway 242, by En'garu (city), Abashiri District, Hokkaido Prefecture.

**PI 598294. *Phaseolus vulgaris* L.**

Cultivated. PV5-1; W6 6282. Collected 10/22/1990 in Hokkaido, Japan. Farmer's garden, 5km northeast of Highway 903, near Lake Kussharo,

Abashiri District, Hokkaido Prefecture.

- PI 598295. *Phaseolus vulgaris* L.**  
Cultivated. PV6-1; W6 6285. Collected 10/22/1990 in Hokkaido, Japan.  
Farmer's garden, 7km northeast of Highway 903, near Lake Kussharo,  
Abashiri District, Hokkaido Prefecture.
- PI 598296. *Phaseolus vulgaris* L.**  
Cultivated. PV7-1; W6 6292. Collected 10/23/1990 in Hokkaido, Japan.  
Farmer's garden, on Highway 243, south of Lake Kussharo, Kushiro  
District, Hokkaido Prefecture.
- PI 598297. *Phaseolus vulgaris* L.**  
Cultivated. PV7-4; W6 6295. Collected 10/23/1990 in Hokkaido, Japan.  
Farmer's garden, on Highway 243, south of Lake Kussharo, Kushiro  
District, Hokkaido Prefecture.
- PI 598298. *Phaseolus vulgaris* L.**  
Cultivated. PV7-5; W6 6296. Collected 10/23/1990 in Hokkaido, Japan.  
Farmer's garden, on Highway 243, south of Lake Kussharo, Kushiro  
District, Hokkaido Prefecture.
- PI 598299. *Phaseolus vulgaris* L.**  
Cultivated. PV7-6; W6 6297. Collected 10/23/1990 in Hokkaido, Japan.  
Farmer's garden, on Highway 243, south of Lake Kussharo,, Kushiro  
District, Hokkaido Prefecture.
- PI 598300. *Phaseolus vulgaris* L.**  
Cultivated. PV7-8; W6 6299. Collected 10/23/1990 in Hokkaido, Japan.  
Farmer's garden, on Highway 243, south of Lake Kussharo, Kushiro  
District, Hokkaido Prefecture.
- PI 598301. *Phaseolus vulgaris* L.**  
Cultivated. PV8-1; W6 6300. Collected 10/24/1990 in Hokkaido, Japan.  
Farmer's garden, 10km from Highway 38, Kushiro District, Hokkaido  
Prefecture.
- PI 598302. *Phaseolus vulgaris* L.**  
Cultivated. PV9-3; W6 6305. Collected 10/24/1990 in Hokkaido, Japan.  
Farmer's field on Highway 241, 20km southeast of Akar Lake, Tokachi  
District, Hokkaido Prefecture.
- PI 598303. *Phaseolus vulgaris* L.**  
Cultivated. PV9-4; W6 6306. Collected 10/24/1990 in Hokkaido, Japan.  
Farmer's field on Highway 241, 20km southeast of Akar Lake, Tokachi  
District, Hokkaido Prefecture.
- PI 598304. *Phaseolus vulgaris* L.**  
Cultivated. PV9-5; W6 6307. Collected 10/24/1990 in Hokkaido, Japan.  
Farmer's field on Highway 241, 20km southeast of Akar Lake, Tokachi  
District, Hokkaido Prefecture.
- PI 598305. *Phaseolus vulgaris* L.**  
Cultivated. PV9-6; W6 6308. Collected 10/24/1990 in Hokkaido, Japan.  
Farmer's field on Highway 241, 20km southeast of Akar Lake, Tokachi

District, Hokkaido Prefecture.

**PI 598306. *Phaseolus vulgaris* L.**

Cultivated. HOK7-1; W6 6310. Collected 10/21/1990 in Hokkaido, Japan. Farmer's garden on Highway 242, 15km north of junction of Highway 242 and Highway 39, Abashiri District, Hokkaido Prefecture.

The following were donated by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States. Received 06/23/1989.

**PI 598307. *Phaseolus vulgaris* L.**

W6 337. Collected 06/23/1989 in Dominican Republic.

**PI 598308. *Phaseolus vulgaris* L.**

W6 338. Collected 06/23/1989 in Dominican Republic.

**PI 598309. *Phaseolus vulgaris* L.**

W6 339. Collected 06/23/1989 in Dominican Republic.

**PI 598310. *Phaseolus vulgaris* L.**

W6 341. Collected 06/23/1989 in Dominican Republic.

The following were collected by D. Mc Cleary, Washington State University, Department of Agronomy, Pullman, Washington 99164, United States. Received 11/30/1990.

**PI 598311. *Phaseolus vulgaris* L.**

Cultivated. HOK7-2; W6 6311. Collected 10/21/1990 in Hokkaido, Japan. Farmer's garden on Highway 242, 15km north of junction of Highway 242 and Highway 39, Abashiri District, Hokkaido Prefecture.

**PI 598312. *Phaseolus vulgaris* L.**

Cultivated. HOK8-1; W6 6312. Collected 10/21/1990 in Hokkaido, Japan. Farmer's field, 3km southwest on Highway 244, near Shari (city), Abashiri District, Hokkaido Prefecture.

The following were developed by Robert A. Graybosch, USDA-ARS, University of Nebraska, Dept. of Agronomy, 344 Keim Hall, Lincoln, Nebraska 68583, United States. Received 07/08/1997.

**PI 598313. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. 94L10244; NSGC 6426. Pedigree - Mironovskaya 10/NE7060//NE80413. Contains 1BL.1RS wheat-rye translocation.

**PI 598314. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. 94L10245; NSGC 6427. Pedigree - Mironovskaya 10/NE7060//NE80413. Contains 1BL.1RS wheat-rye translocation.

**PI 598315. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. 94L10326; NSGC 6428. Pedigree - Mironovskaya 10/NE7060//NE80413. Contains 1BL.1RS wheat-rye translocation.

- PI 598316. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10333; NSGC 6429. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1BL.1RS wheat-rye translocation.
- PI 598317. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10524; NSGC 6430. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1BL.1RS wheat-rye translocation.
- PI 598318. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10533; NSGC 6431. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1BL.1RS wheat-rye translocation.
- PI 598319. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10157; NSGC 6432. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1R(1B) rye chromosome substitution.
- PI 598320. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10403; NSGC 6433. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1R(1B) rye chromosome substitution.
- PI 598321. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10404; NSGC 6434. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1R(1B) rye chromosome substitution.
- PI 598322. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10408; NSGC 6435. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1R(1B) rye chromosome substitution.
- PI 598323. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10521; NSGC 6436. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1R(1B) rye chromosome substitution.
- PI 598324. *Triticum aestivum* L., nom. cons.  
Breeding. Pureline. 94L10684; NSGC 6437. Pedigree - Mironovskaya  
10/NE7060//NE80413. Contains 1R(1B) rye chromosome substitution.

The following were donated by A. E. Hall, University of California,  
Department of Botany & Plant, Sciences, Riverside, California 92521, United  
States. Received 02/12/1996.

- PI 598325. *Vigna unguiculata* (L.) Walp. *ssp. unguiculata*  
Cultivated. UCR 3288; COSA-3. Collected in Senegal. Purple shading  
leaves and petiole.
- PI 598326. *Vigna unguiculata* (L.) Walp. *ssp. unguiculata*  
Cultivated. UCR 3295; 58-3. Collected in Senegal.
- PI 598327. *Vigna unguiculata* (L.) Walp. *ssp. unguiculata*  
Cultivated. UCR 4655; TVu 946. Collected in Nigeria. Dehiscent.
- PI 598328. *Vigna unguiculata* (L.) Walp. *ssp. unguiculata*  
Cultivated. UCR 4652; IT85F-2614. Collected in Nigeria.

- PI 598329. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4649; IT85F-1002. Collected in Nigeria.
- PI 598330. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4644; IT83S-341-5. Collected in Nigeria.
- PI 598331. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4631; TVu 3564. Collected in Nigeria.
- PI 598332. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4625; TVu 3404. Collected in Nigeria.
- PI 598333. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4609; TVu 1880. Collected in Nigeria.
- PI 598334. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4674; BOTS 271A. Collected in Botswana.
- PI 598335. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4672; MISSISSIPPI SILVER. Collected in United States.
- PI 598336. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4666; MPINDI 2. Collected in Uganda.
- PI 598337. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4605; TVu 1404. Collected in Nigeria.
- PI 598338. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4599; TVu 707. Collected in Nigeria.
- PI 598339. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4596; TVu 697. Collected in Nigeria.
- PI 598340. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4585; TVu 243. Collected in Nigeria.
- PI 598341. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4581; TVu 113. Collected in Nigeria.
- PI 598342. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4549; IT89KD-355. Collected in Nigeria.
- PI 598343. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4548; IT89KD-288. Collected in Nigeria.
- PI 598344. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 5269; WALPIELTORI. Collected in Ghana.
- PI 598345. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4543; IT88DM-400. Collected in Nigeria.
- PI 598346. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**  
Cultivated. UCR 4541; IT86D-719. Collected in Nigeria.
- PI 598347. *Vigna unguiculata* (L.) Walp. **ssp. unguiculata**



Cultivated. UCR 4538; MUTANT BAMBEY 21. Collected in Senegal.

**PI 598348. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3298; 58-6. Collected in Senegal.

**PI 598349. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3321; 58-98. Collected in Senegal.

**PI 598350. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3325; 58-111. Collected in Senegal.

**PI 598351. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3337; 58-192. Collected in Senegal.

**PI 598352. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3343; 59-17. Collected in Senegal.

**PI 598353. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3344; 59-20A. Collected in Senegal.

**PI 598354. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3351; 60-3. Collected in Senegal.

**PI 598355. *Vigna unguiculata* (L.) Walp. ssp. *unguiculata***  
Cultivated. UCR 3366; 66-25. Collected in Senegal.

The following were developed by H & W Genetex, Inc., United States. Received 07/21/1997.

**PI 598356. *Arachis hypogaea* L.**  
Cultivar. "GENETEX VALENCIA 102". PVP 9700336.

**PI 598357. *Arachis hypogaea* L.**  
Cultivar. "GENETEX VALENCIA 101". PVP 9700337.

The following were developed by Tennessee Advanced Genetics, Inc., Tennessee, United States. Received 07/21/1997.

**PI 598358. *Glycine max* (L.) Merr.**  
Cultivar. "TN 5-95". PVP 9700340.

The following were developed by Hartz Seed Company-A Unit of Monsanto, United States. Received 07/21/1997.

**PI 598359. *Glycine max* (L.) Merr.**  
Cultivar. "H4998 Roundup Ready"; Hartz Variety H4998 Roundup Ready. PVP 9700341.

The following were developed by J & S Research Company, Inc., United States. Received 07/21/1997.

**PI 598360. *Gossypium hirsutum* L.**  
Cultivar. "HS-12". PVP 9700344.

**PI 598361. *Gossypium hirsutum* L.**  
Cultivar. "HS-22". PVP 9700345.

The following were developed by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 07/21/1997.

**PI 598362. *Lactuca sativa* L.**  
Cultivar. "VALLEY GREEN". PVP 9700346.

The following were developed by Snow Brand Seed Company, Ltd., Japan. Received 07/21/1997.

**PI 598363. *Lolium multiflorum* Lam.**  
Cultivar. "TACHIMUSHA". PVP 9700347.

The following were developed by Cebeco Zaden B.V., Rotterdam, Netherlands. Received 07/21/1997.

**PI 598364. *Pisum sativum* L.**  
Cultivar. "SOLIDO". PVP 9700348.

The following were developed by Seeds Inc., United States. Received 07/21/1997.

**PI 598365. *Poa pratensis* L.**  
Cultivar. "CACHE". PVP 9700349.

The following were developed by Barry J. Shelp, University of Guelph, Dept. Horticultural Science, Guelph, Ontario N1G 2W1, Canada; B. N. Kaiser, University of Guelph, Dept. of Horticultural Science, Guelph, Ontario N1G 2W1, Canada; A. M. Deschesne, University of Guelph, Dept. of Horticultural Science, Guelph, Ontario N1G 2W1, Canada. Received 07/07/1997.

**PI 598366. *Pisum sativum* L.**  
Genetic. Pureline. A317I. GS-1. Pedigree - Developed from six backcrosses of an existing Juneau pea mutant, A317, with the recurrent parent cultivar Juneau (PV 7400054). Near-isogenic line. A mutant with less than 6% of the NADH-nitrate reductase (*nar1*) of the wild type, and exhibits incomplete dominance. Nitrate reductase-deficient seedlings were rescued by inoculation with *Rhizobium leguminosarum*, and were fertilized with 0.5 mM NH<sub>4</sub><sup>+</sup> until the root nodules were effective. Propagation must be performed with effectively nodulated plants. This line can be used in agronomic and physiological studies of nitrogen fixation and nitrate metabolism, and as a source of genetic material.

**PI 598367. *Pisum sativum* L.**  
Genetic. Pureline. Nod3I. GS-2. Pedigree - Developed from six

backcrosses of an existing Rondo pea mutant, Nod3, with the recurrent parent cultivar Juneau (PV 7400054). Near-isogenic line. A monogenic recessive mutant. When inoculated with *Rhizobium leguminosarum* nodule numbers are higher than normal even in the presence of nitrates. This line can be used in agronomic and physiological studies of nitrogen fixation, and as a source of genetic material.

**PI 598368. *Pisum sativum* L.**

Genetic. Pureline. A317 Nod3I. GS-3. Pedigree - Developed by crossing two existing mutants, A317 which is in a Juneau background, and Nod3 which is in Rondo background, then backcrossing for six generations the double mutant with the recurrent parent cultivar Juneau (PV 7400054). Near-isogenic line. A double mutant with NADH-nitrate reductase activity (nar 1) that is less than 6% of the wild type (incompletely dominant character), and with a higher than normal number of nodules even in the presence of nitrate (monogenic recessive character). Propagation must be performed with effectively nodulated plants. This line can be useful in agronomic and physiological studies of nitrogen fixation and nitrate metabolism, and as a source of genetic material.

**PI 598369. *Pisum sativum* L.**

Genetic. Pureline. E135I. GS-4. Pedigree - Developed from six backcrosses of an existing Sparkle pea mutant, E135, with the recurrent parent cultivar Juneau (PV7400054). Near-isogenic line. Mutant conditioned by monogenic recessive allele at the sym 13 locus. When inoculated with *Rhizobium leguminosarum*, forms a normal number of white root nodules lacking nitrogenase activity. Can be used in agronomic and physiological studies of nitrogen fixation and as a source of genetic material.

**PI 598370. *Pisum sativum* L.**

Genetic. Pureline. R25I. GS-5. Pedigree - Developed from six backcrosses of an existing Sparkle pea mutant, R25, with the recurrent parent cultivar Juneau (PV 7400054). Near-isogenic line. A non-nodulating mutant conditioned by a monogenic recessive allele at the sym 8 locus. This line can be used in agronomic and physiological studies of nitrogen fixation, and as a source of genetic material.

The following were collected by Thomas S. Elias, Rancho Santa Ana Botanic Garden, Claremont, California 91711-3101, United States; D. Murray. Donated by Thomas S. Elias, Rancho Santa Ana Botanic Garden, Claremont, California 91711-3101, United States. Received 11/12/1988.

**PI 598371. *Elymus sibiricus* L.**

Wild. 11583; BE-2066; W6 83. Collected 08/02/1988 in Russian Federation. Elevation 50 m. Along shoreline of Lake Sirotinka, about 85km NW of Chita between Tasey and Mukhor-Konduy, Chita Oblast, Eastern Siberia. Plants associated with *Larix duhurica* and *Betula platyphylla* forest with some *Salix* and *Populus tremula*. Seeds somewhat immature.

The following were donated by John D. Berdahl, USDA/ARS, Northern Plains Research Lab., P.O. Box 459, Mandan, North Dakota 58554, United States. Received 02/08/1990.

- PI 598372. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 1458; W6 3280. Collected 1979 in South Dakota, United States.  
Elevation 790 m. Perkins County. LD: SWSW36 21N 16E.
- PI 598373. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 1585; W6 3281. Collected 1979 in North Dakota, United States.  
McKenzie County. LD: NENE36 149N 99W.
- PI 598374. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 1665; W6 3284. Collected 1979 in North Dakota, United States.  
Elevation 486 m. Morton County. LD: NWSE36 138N 81W.
- PI 598375. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 169; W6 3285. Collected 1979 in North Dakota, United States.  
Elevation 638 m. Divide County. LD: NENE36 162N 95W.
- PI 598376. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 1799; W6 3286. Collected 1979 in North Dakota, United States.  
Elevation 638 m. Grant County. LD: NENE36 136N 90W.
- PI 598377. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 1866; W6 3287. Collected 1979 in North Dakota, United States.  
Elevation 882 m. Bowman County. LD: SWNW36 131N 105W.
- PI 598378. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 1903; W6 3288. Collected 1979 in North Dakota, United States.  
Elevation 638 m. Oliver County. LD: NENE36 142N 86W.
- PI 598379. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 194; W6 3289. Collected 1979 in North Dakota, United States.  
Elevation 806 m. Slope County. LD: NENE36 134N 98W.
- PI 598380. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 212; W6 3290. Collected 1979 in North Dakota, United States.  
Elevation 562 m. Burleigh County. LD: NESW36 140N 79W.
- PI 598381. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 552; W6 3292. Collected 1979 in South Dakota, United States.  
Elevation 790 m. Perkins County. LD: NENE36 22N 13E.
- PI 598382. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 564; W6 3293. Collected 1979 in South Dakota, United States.  
Elevation 851 m. Perkins County. LD: NWNW36 17N 16E.
- PI 598383. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 628; W6 3295. Collected 1979 in South Dakota, United States.  
Elevation 851 m. Meade County. LD: NWNW36 3N 12E.
- PI 598384. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 698; W6 3297. Collected 1979 in South Dakota, United States.  
Elevation 638 m. Dewey County. LD: NENE36 13N 25E.
- PI 598385. *Pascopyrum smithii* (Rydb.) A. Love  
Wild. 729; W6 3298. Collected 1979 in South Dakota, United States.

Corson County. LD: NWNW36 18W 25E.

**PI 598386. *Pascopyrum smithii* (Rydb.) A. Love**  
Wild. 744; W6 3300. Collected 1979 in South Dakota, United States.  
Corson County. LD: SWSW36 19W 24E.

**PI 598387. *Pascopyrum smithii* (Rydb.) A. Love**  
Wild. 849; W6 3302. Collected 1979 in South Dakota, United States.  
Elevation 547 m. Haakon County. LD: NWSE36 2N 25E.

The following were collected by Gordon Kimber, University of Missouri, Department of Agronomy, 205 Curtis Hall, Columbia, Missouri 65211, United States; Robert J. Metzger, USDA, ARS, Oregon State University, Dept. of Crop Science, Corvallis, Oregon 97331, United States. Donated by Gordon Kimber, University of Missouri, Department of Agronomy, 205 Curtis Hall, Columbia, Missouri 65211, United States. Received 05/31/1990.

**PI 598388. *Amblyopyrum muticum* (Boiss.) Eig**  
Wild. 84TK157-0016; W6 4324. Collected 06/28/1984 in Turkey. Elevation 180 m.

**PI 598389. *Taeniatherum caput-medusae* (L.) Nevski**  
Wild. 84TK159-0047; W6 4333. Collected 06/28/1984 in Turkey. Elevation 275 m. 25km south of Sarigol, about 10km north of Buldan Junction.

The following were donated by Robert J. Metzger, USDA, ARS, Oregon State University, Dept. of Crop Science, Corvallis, Oregon 97331, United States. Received 01/01/1987.

**PI 598390. *Dasypyrum villosum* (L.) P. Candargy**  
Wild. 84B687-1; H85-630; W6 7250. Collected in Former Soviet Union.

The following were donated by J. Mattatia, Agricultural Research Organization, Department of Plant Introduction, P.O. 6, Bet-Dagan, Israel. Received 10/30/1984.

**PI 598391. *Dasypyrum villosum* (L.) P. Candargy**  
Wild. JM 3642; W6 7268. Collected 07/06/1984 in Greece. Elevation 230 m. Plants growing on terraces on hills with low stones and good drainage on a south slope, 2km before Kalambaka from Trikala to Kalambaka, Trikala, Thessaly. Plants growing with *A. neglecta*, *A. triaristata*, *A. triuncialis*, intermediate forms, putative hybrids with sterile spikes, annual and perennial grasses, hemicryptophytes, *Quercus* and *Pyrus amygdaliformis*.

**PI 598392. *Dasypyrum villosum* (L.) P. Candargy**  
Wild. JM 3650; W6 7269. Collected 07/06/1984 in Greece. Elevation 360 m. Plants growing on hills in clay with medium stones and good drainage, 1500m before junctions with Achladea, on road from Kalambaka to Grevena, Trikala, Thessaly. Plants growing with 3 other *Aegilops* species in intermixed populations, annual and perennial grasses in forest of *Quercus* and *Paliurus spina-christi*.

- PI 598393. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3662; W6 7271. Collected 07/07/1984 in Greece. Elevation 560 m. Plants growing on hills in loam with low stones and good drainage, 5km from Kipourio, on road from Kipourio to Grevena, Grevena, West Macedonia. Plants growing with 4 other *Aegilops* species, *Quercus*, *Pyrus amygdaliformis*, annual and perennial grasses.
- PI 598394. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3676; W6 7272. Collected 07/07/1984 in Greece. Elevation 770 m. Plants growing on hills along roadsides in reddish brown basaltic loam and clay with low stones and good drainage, 2km from Kipourio, on road from Kipourio to Sitaras, Grevena, West Macedonia. Plants growing with 3 other *Aegilops* species, *Quercus*, *Pyrus amygdaliformis*, and *Juniperus*.
- PI 598395. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3680; W6 7273. Collected 07/07/1984 in Greece. Elevation 750 m. Plants growing on hills in clay and loam with medium stones and good drainage, 1500m from Sitaras, on road from Kipourio to Sitaras, Grevena, West Macedonia. Plants growing with 3 other *Aegilops* species, *Triticum boeoticum*, *Quercus*, *Juniperus*, and *Pyrus amygdaliformis*.
- PI 598396. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3687; W6 7274. Collected 07/08/1984 in Greece. Elevation 670 m. Plants growing on hills in clay with low stones and good drainage, 2km before Milia, on road from Grevena to Kozani, Grevena, West Macedonia. Plants growing with other *Aegilops* species among scattered oak trees, annual and perennial grasses, *Pyrus spinosa*, *Rubus*, and *Triticum boeoticum*.
- PI 598397. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3691; W6 7275. Collected 07/08/1984 in Greece. Elevation 740 m. Plants growing on hills along margins of cultivated fields and *Vitis* plantations with low stones and good drainage, 2km after junction with Siatista, on road from Grevena to Kozani, West Macedonia. Plants growing with ruderal and segetal plants.
- PI 598398. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3694; W6 7276. Collected 07/08/1984 in Greece. Elevation 810 m. Plants growing on hills in loam with medium stones, 500m after junction with Avgi, on road from Kozani to Veria, Kozani, West Macedonia. Plants growing among scattered shrubs of *Juniperus* and *Pyrus amygdaliformis*, annual and perennial grasses.
- PI 598399. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3698; W6 7277. Collected 07/08/1984 in Greece. Elevation 470 m. Plants growing in margins of heavily grazed, disturbed fields with low stones, 1km after Georgiani, on road from Kozani to Veria, Mathia Veria, Central Macedonia.
- PI 598400. *Dasypyrum villosum* (L.) P. Candargy**  
 Wild. JM 3701; W6 7278. Collected 07/08/1984 in Greece. Elevation 180 m. Plants scattered among tree plantation on hills in clay with low stones, 7km after Lifi, on road from Thessaloniki to North Santa, Thessaloniki, Central Macedonia. Plants growing with *Quercus*, annual and perennial

grasses and radishes.

- PI 598401. *Dasypyrum villosum* (L.) P. Candargy**  
Wild. JM 3713; W6 7281. Collected 07/11/1984 in Greece. Elevation 150 m.  
Plants growing at margins of cultivated cereal and tobacco fields, plain level, in sand loam with low stones, Central Macedonia.

The following were donated by Richard R. Smith, USDA, ARS, U.S. Dairy Forage Research Center, University of Wisconsin, Madison, Wisconsin 53706, United States. Received 04/02/1991.

- PI 598402. *Bromus inermis* Leyss. ssp. *inermis***  
Cultivar. Yu-C-1; W6 7366. Collected in Yugoslavia.
- PI 598403. *Bromus inermis* Leyss. ssp. *inermis***  
Cultivar. Yu-M-1; W6 7367. Collected in Yugoslavia.
- PI 598404. *Bromus inermis* Leyss. ssp. *inermis***  
Cultivar. Yu-S-1; W6 7368. Collected in Yugoslavia.
- PI 598405. *Festuca arundinacea* Schreb.**  
Cultivar. Yu-D-1; W6 7399. Collected in Yugoslavia.

The following were donated by Welsh Plant Breeding Station, Genetic Resources Unit, Aberystwyth, Wales, United Kingdom. Received 09/03/1991.

- PI 598406. *Dactylis glomerata* L.**  
Wild. ABY-BC 6922.79; W6 9089. Collected in Spain. Latitude 42 deg. 32' N. Longitude 8 deg. 6' W. Elevation 740 m. Irijo.
- PI 598407. *Dactylis glomerata* L.**  
Wild. ABY-BC 6925.80; W6 9091. Collected in Spain. Latitude 42 deg. 28' N. Longitude 8 deg. 16' W. Elevation 920 m. Beariz.
- PI 598408. *Dactylis glomerata* L.**  
Wild. ABY-BC 6928.80; W6 9092. Collected in Spain. Latitude 42 deg. 40' N. Longitude 8 deg. 6' W. Elevation 720 m. Lalin.
- PI 598409. *Dactylis glomerata* L.**  
Wild. ABY-BC 6929.79; W6 9093. Collected in Spain. Latitude 42 deg. 47' N. Longitude 8 deg. 10' W. Elevation 700 m. Las Cruces.
- PI 598410. *Dactylis glomerata* L.**  
Wild. ABY-BC 6930.79; W6 9094. Collected in Spain. Latitude 42 deg. 52' N. Longitude 8 deg. 3' W. Elevation 350 m. Santiso.
- PI 598411. *Dactylis glomerata* L.**  
Wild. ABY-BC 6931.79; W6 9095. Collected in Spain. Latitude 42 deg. 45' N. Longitude 8 deg. 0' W. Elevation 650 m. Golada.
- PI 598412. *Dactylis glomerata* L.**  
Wild. ABY-BC 6934.80; W6 9096. Collected in Spain. Latitude 43 deg. 9' N. Longitude 7 deg. 49' W. Elevation 550 m. Parga.

- PI 598413. *Dactylis glomerata* L.  
Wild. ABY-BC 6936.80; W6 9097. Collected in Spain. Latitude 43 deg. 17'  
N. Longitude 7 deg. 41' W. Elevation 500 m. Villalba.
- PI 598414. *Dactylis glomerata* L.  
Wild. ABY-BC 6937.80; W6 9098. Collected in Spain. Latitude 43 deg. 17'  
N. Longitude 7 deg. 41' W. Elevation 500 m. Villalba.
- PI 598415. *Dactylis glomerata* L.  
Wild. ABY-BC 6938.79; W6 9099. Collected in Spain. Latitude 43 deg. 19'  
N. Longitude 7 deg. 36' W. Elevation 750 m. Goiriz.
- PI 598416. *Dactylis glomerata* L.  
Wild. ABY-BC 6941.80; W6 9101. Collected in Spain. Latitude 43 deg. 6'  
N. Longitude 7 deg. 30' W. Elevation 550 m. Tejeiro.
- PI 598417. *Dactylis glomerata* L.  
Wild. ABY-BC 6942.79; W6 9102. Collected in Spain. Latitude 43 deg. 2'  
N. Longitude 7 deg. 47' W. Elevation 570 m. Friol.
- PI 598418. *Dactylis glomerata* L.  
Wild. ABY-BC 6951.79; W6 9103. Collected in Spain. Latitude 42 deg. 44'  
N. Longitude 7 deg. 1' W. Elevation 815 m. Piedrafita.
- PI 598419. *Dactylis glomerata* L.  
Wild. ABY-BC 6952.79; W6 9104. Collected in Spain. Latitude 42 deg. 44'  
N. Longitude 7 deg. 1' W. Elevation 720 m. Piedrafita.
- PI 598420. *Dactylis glomerata* L.  
Wild. ABY-BC 6953.79; W6 9105. Collected in Spain. Latitude 42 deg. 48'  
N. Longitude 7 deg. 6' W. Elevation 610 m. Los Nogales.
- PI 598421. *Dactylis glomerata* L.  
Wild. ABY-BC 6954.79; W6 9106. Collected in Spain. Latitude 42 deg. 48'  
N. Longitude 7 deg. 6' W. Elevation 560 m. Los Nogales.
- PI 598422. *Dactylis glomerata* L.  
Wild. ABY-BC 6956.80; W6 9108. Collected in Spain. Latitude 42 deg. 43'  
N. Longitude 7 deg. 27' W. Elevation 750 m. Oural.
- PI 598423. *Dactylis glomerata* L.  
Wild. ABY-BC 7103.83; W6 9131. Collected in Ireland. Latitude 52 deg.  
5' N. Longitude 7 deg. 37' W. Elevation 70 m. Dungarvan.
- PI 598424. *Dactylis glomerata* L.  
Wild. ABY-BC 7105.83; W6 9133. Collected in Ireland. Latitude 52 deg.  
3' N. Longitude 9 deg. 30' W. Killarney.
- PI 598425. *Dactylis glomerata* L.  
Wild. ABY-BC 6896.80; W6 9135. Collected in Spain. Latitude 42 deg. 40'  
N. Longitude 8 deg. 6' W. Elevation 600 m. Lalin.
- PI 598426. *Dactylis glomerata* L.  
Wild. ABY-BC 6898.80; W6 9136. Collected in Spain. Latitude 42 deg. 28'



- N. Longitude 8 deg. 16' W. Elevation 650 m. Beariz.
- PI 598427. *Dactylis glomerata* L.**  
Wild. ABY-BC 6901.80; W6 9138. Collected in Spain. Latitude 42 deg. 23'  
N. Longitude 8 deg. 15' W. Elevation 600 m. Avion.
- PI 598428. *Dactylis glomerata* L.**  
Wild. ABY-BC 6903.80; W6 9139. Collected in Spain. Latitude 42 deg. 23'  
N. Longitude 8 deg. 15' W. Elevation 600 m. Avion.
- PI 598429. *Lolium perenne* L.**  
Wild. ABY-BA 8602.00; W6 9273. Collected in Italy. Latitude 44 deg. 5'  
N. Longitude 7 deg. 48' E. Elevation 1400 m. Mendatica.
- PI 598430. *Lolium perenne* L.**  
Wild. ABY-BA 8603.00; W6 9274. Collected in Italy. Latitude 44 deg. 5'  
N. Longitude 7 deg. 48' E. Elevation 1200 m. Mendatica.
- PI 598431. *Lolium perenne* L.**  
Wild. ABY-BA 8604.00; W6 9275. Collected in Italy. Latitude 44 deg. 5'  
N. Longitude 7 deg. 48' E. Elevation 1600 m. Mendatica.
- PI 598432. *Lolium perenne* L.**  
Wild. ABY-BA 8614.68; W6 9277. Collected in Italy. Latitude 46 deg. 29'  
N. Longitude 10 deg. 17' E. Elevation 1410 m. Bormio.
- PI 598433. *Lolium perenne* L.**  
Wild. ABY-BA 8616.00; W6 9278. Collected in Italy. Latitude 46 deg. 29'  
N. Longitude 10 deg. 17' E. Elevation 1410 m. Valdidentro.
- PI 598434. *Lolium perenne* L.**  
Wild. ABY-BA 8621.82; W6 9279. Collected in Italy. Latitude 46 deg. 18'  
N. Longitude 11 deg. 28' E. Elevation 950 m. Cavalese.
- PI 598435. *Lolium perenne* L.**  
Wild. ABY-BA 9066.72; W6 9280. Collected in Belgium. Latitude 50 deg.  
2' N. Longitude 5 deg. 50' E. Elevation 500 m. Longvilly.
- PI 598436. *Lolium perenne* L.**  
Wild. ABY-BA 9070.72; W6 9282. Collected in Belgium. Latitude 50 deg.  
43' N. Longitude 5 deg. 59' E. Elevation 200 m. Moresnet.
- PI 598437. *Lolium perenne* L.**  
Wild. ABY-BA 9071.72; W6 9283. Collected in Belgium. Latitude 50 deg.  
43' N. Longitude 5 deg. 59' E. Elevation 200 m. Moresnet.
- PI 598438. *Lolium perenne* L.**  
Wild. ABY-BA 9083.72; W6 9288. Collected in France. Latitude 47 deg. 6'  
N. Longitude 5 deg. 16' E. Elevation 120 m. St. Jean-De-Losne.
- PI 598439. *Lolium perenne* L.**  
Wild. ABY-BA 9085.72; W6 9289. Collected in France. Latitude 47 deg. 6'  
N. Longitude 5 deg. 16' E. Elevation 120 m. St. Jean-De-Losne.
- PI 598440. *Lolium perenne* L.**

- Wild. ABY-BA 9091.72; W6 9292. Collected in Switzerland. Latitude 46 deg. 39' N. Longitude 6 deg. 45' E. Elevation 840 m. Peney Le Jorat.
- PI 598441. *Lolium perenne* L.**  
Wild. ABY-BA 9092.72; W6 9293. Collected in Switzerland. Latitude 46 deg. 35' N. Longitude 6 deg. 56' E. Elevation 860 m. Semsales.
- PI 598442. *Lolium perenne* L.**  
Wild. ABY-BA 9094.72; W6 9294. Collected in Switzerland. Latitude 46 deg. 20' N. Longitude 6 deg. 58' E. Elevation 341 m. Aigle.
- PI 598443. *Lolium perenne* L.**  
Wild. ABY-BA 9097.84; W6 9295. Collected in Switzerland. Latitude 46 deg. 11' N. Longitude 6 deg. 52' E. Elevation 1600 m. Champéry.
- PI 598444. *Lolium perenne* L.**  
Wild. ABY-BA 9250.00; W6 9303. Collected in Netherlands. Latitude 53 deg. 7' N. Longitude 7 deg. 2' E. Winschoten.
- PI 598445. *Lolium perenne* L.**  
Wild. ABY-BA 9252.00; W6 9304. Collected in Netherlands. Latitude 53 deg. 7' N. Longitude 7 deg. 2' E. Winschoten.
- PI 598446. *Lolium perenne* L.**  
Wild. ABY-BA 9790.81; W6 9305. Collected in Wales, United Kingdom. Latitude 52 deg. 29' N. Longitude 4 deg. 3' W. Borth.
- PI 598447. *Lolium perenne* L.**  
Wild. ABY-BA 9793.81; W6 9307. Collected in Wales, United Kingdom. Latitude 52 deg. 25' N. Longitude 3 deg. 55' W. Elevation 70 m. Goginan.
- PI 598448. *Lolium perenne* L.**  
Wild. ABY-BA 9796.80; W6 9309. Collected in Wales, United Kingdom. Latitude 51 deg. 53' N. Longitude 3 deg. 59' W. Elevation 120 m. Llandeilo.
- PI 598449. *Lolium perenne* L.**  
Wild. ABY-BA 9805.80; W6 9316. Collected in Wales, United Kingdom. Latitude 52 deg. 2' N. Longitude 4 deg. 19' W. Elevation 90 m. Llandysul.
- PI 598450. *Lolium perenne* L.**  
Wild. ABY-BA 9806.80; W6 9317. Collected in Wales, United Kingdom. Latitude 52 deg. 2' N. Longitude 4 deg. 19' W. Elevation 100 m. Llandysul.
- PI 598451. *Lolium perenne* L.**  
Wild. ABY-BA 9808.80; W6 9318. Collected in Wales, United Kingdom. Latitude 51 deg. 53' N. Longitude 4 deg. 44' W. Elevation 60 m. Llandysilio.
- PI 598452. *Lolium perenne* L.**  
Wild. ABY-BA 9809.80; W6 9319. Collected in Wales, United Kingdom. Latitude 51 deg. 53' N. Longitude 4 deg. 44' W. Elevation 50 m. Llandysilio.

**PI 598453. *Lolium perenne* L.**

Wild. ABY-BA 9980.A81; W6 9349. Collected in Romania. Latitude 47 deg. 31' N. Longitude 25 deg. 57' E. Elevation 500 m. Guru Humorului.

**PI 598454. *Lolium perenne* L.**

Wild. ABY-BA 9983.81; W6 9351. Collected in Romania. Latitude 47 deg. 40' N. Longitude 22 deg. 28' E. Elevation 25 m. Carei.

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 Department of Agronomy, College of Agriculture, University of Ankara, Ankara, Turkey; Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 10/14/1986.

**PI 598455. *Bromus danthoniae* (Desf.) Trin.**

Wild. TU85-028-01; Tasilk; CS-2; W6 9400. Collected 07/19/1985 in Hakkari, Turkey. Latitude 37 deg. 53' N. Longitude 44 deg. 2' E. Elevation 1530 m. Stony slope above Zap River, 5km S of jct. road to Yuksekova, or 39km N of Hakkari, Hakkari Province. Plants abundant at edges of field, fallow field, bare soil of roadsides.

The following were collected by Melvin D. Rumbaugh, USDA-ARS, Utah State University, Forage & Range Research Lab, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 01/21/1992.

**PI 598456. *Achnatherum splendens* (Trin.) Nevski**

Wild. X910054; W6 9535. Collected 08/30/1991 in China. Latitude 36 deg. 17' N. Longitude 79 deg. 56' E. Elevation 2700 m. Above hillside canal, S of Pixa Village, Hotien Prefecture. 1.75m tall. Not preferred by livestock but eaten by sheep. May be good for winter forage.

**PI 598457. *Agrostis gigantea* Roth**

Wild. X910055; W6 9538. Collected 08/30/1991 in China. Latitude 36 deg. 17' N. Longitude 79 deg. 56' E. Elevation 2700 m. Lowland meadow field in wet area, S of Pixa Village, Hotien Prefecture.

**PI 598458. *Agrostis gigantea* Roth**

Wild. X910067; W6 9539. Collected 09/02/1991 in China. Latitude 41 deg. 16' N. Longitude 80 deg. 14' E. Elevation 1080 m. In meadow area, 12km N Aksu, near Grassland Station, Wensu County. Used for hay harvesting below rice fields.

**PI 598459. *Poa pratensis* L.**

Wild. X910056; W6 9597. Collected 08/30/1991 in China. Latitude 36 deg. 17' N. Longitude 79 deg. 56' E. Elevation 2700 m. Wet area in lowland meadow field, S of Pixa Village, Hotien Prefecture.

The following were collected by Douglas R. Dewey, USDA-ARS, Forage and Range Research Laboratory, Utah State University, UMC-63, Logan, Utah 84322, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 01/27/1992.

**PI 598460. *Agropyron mongolicum* Keng**

Cultivated. D-2778; W6 10207. Collected in China.

**PI 598461. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Cultivated. D-3607; W6 10229. Collected 06/27/1987 in Utah, United States. Roadside at mileage marker 6, from Nevada state line toward Park Valley.

The following were collected by Douglas R. Dewey, USDA-ARS, Forage and Range Research Laboratory, Utah State University, UMC-63, Logan, Utah 84322, United States; Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 01/16/1992.

**PI 598462. *Agrostis trinii* Turcz.**

Wild. DJ-3822; W6 10253. Collected 08/08/1989 in Russian Federation. Elevation 200 m. Meadow outside of Troitskoe, a village between Barnaul and Biysk. Siberia. Growing in a solid stand.

**PI 598463. *Elymus confusus* (Roshev.) Tzvelev**

Wild. DJ-4015; W6 10278. Collected 08/16/1989 in Russian Federation. Elevation 950 m. Moist canyon site. Near 681km marker on Highway M-52 (15km S of Cheketeman camp) toward Aktash and parallel to Katun River (Gorno Altay A.O.). Siberia. Pendulous spikes. Single spikelets. Coarse awns.

**PI 598464. *Elymus dahuricus* Turcz. ex Griseb.**

Wild. DJ-3792; W6 10314. Collected 08/05/1989 in Russian Federation. Field plots of O. & A. Agafonov in Central Siberian Botanical Garden, Academy Town, Novosibirsk, RSFSR. Siberia. Leaves blue. Spikes dense. Awns long, curved.

**PI 598465. *Elymus fibrosus* (Schrenk) Tzvelev**

Wild. DJ-3809; W6 10323. Collected 08/06/1989 in Russian Federation. Elevation 200 m. In pine forest next to the Ob Sea near Academy Town, Novosibirsk, RSFSR. Siberia. Typical drooping spike.

**PI 598466. *Elymus gmelinii* (Ledeb.) Tzvelev**

Wild. DJ-3945; W6 10328. Collected 08/13/1989 in Russian Federation. Elevation 950 m. Ungrazed area. A side canyon to left of Highway M-52 at 667km marker between Cheketeman Pass and Aktash, 1km beyond Cheketeman camp, Gorno Altay A.O. Siberia. Bulk of several plants and some possible hybrids.

**PI 598467. *Elymus gmelinii* (Ledeb.) Tzvelev**

Wild. DJ-4099; W6 10329. Collected 08/16/1986 in Russian Federation.

Primorye Kray, RSFSR. Siberia. Agafonov collection.

- PI 598468. *Elymus trachycaulus*** (Link) Gould ex Shinners  
Wild. DJ-3905; W6 10363. Collected 08/12/1989 in Russian Federation.  
Elevation 1250 m. Top north side of Cheketeman Pass, Gorno Altay A.O.,  
from the summit (660km marker on Highway M-52 at 1250m) to its base  
(656km marker and 1010m). Siberia. Typical.
- PI 598469. *Psathyrostachys juncea*** (Fisch.) Nevski  
Wild. DJ-3864; W6 10381. Collected 08/11/1989 in Russian Federation.  
Elevation 950 m. In an open grassland mixed with *Stipa*. Near 614km  
marker on Highway M-52 beyond Tuetka toward Onguday, Gorno Altay A.O.  
Siberia.
- PI 598470. *Elytrigia* sp.**  
Wild. DJ-3882; W6 10397. Collected 08/12/1989 in Russian Federation.  
Elevation 1000 m. Growing in thorny shrubs, on dry rocky slope. On  
mountainside opposite Cheketeman camp (located on Ilgumen stream at S  
side of Cheketman Pass near the 666km marker on Highway M-52, Gorno  
Altay A.O.). Siberia. Single plant. Culms to 100cm. Spikes  
straw-colored. Lemmas mucronate. Fertile.
- PI 598471. *Elytrigia* sp.**  
Wild. DJ-3939; W6 10398. Collected 08/13/1989 in Russian Federation.  
Elevation 900 m. From a dry, shrubby hillside near mouth of canyon. A  
side canyon the left of Highway M-52 at 667km marker between Cheketeman  
Pass and Aktash, 1km beyond the Cheketeman camp, Gorno Altay A.O.  
Siberia.
- PI 598472. *Elytrigia* sp.**  
Wild. DJ-4010; W6 10404. Collected 08/16/1989 in Russian Federation.  
Elevation 880 m. Heavily grazed valley. Near 681km marker on Highway  
M-52 (15km S of Cheketeman camp) toward Aktash and parallel to Katun  
River (Gorno Altay A.O.). Siberia.
- PI 598473. *Stipa sibirica*** (L.) Lam.  
Wild. DJ-3826; W6 10410. Collected 08/08/1989 in Russian Federation.  
Elevation 250 m. Rocky outcrop next to the Katun River. 79km S of Biysk  
on Highway M-52. Siberia. Awns short.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range  
Research Unit, Utah State University, Logan, Utah 84322-6300, United States;  
Michael D. Casler, University of Wisconsin, Department of Agronomy, 1575  
Linden Drive, Madison, Wisconsin 53706-1597, United States; Kevin B. Jensen,  
USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan,  
Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah  
State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300,  
United States. Received 01/29/1992.

- PI 598474. *Agropyron cristatum*** (L.) Gaertn.  
Wild. AJC-018; W6 10554. Collected 08/16/1988 in Russian Federation.  
Elevation 1368 m. 10km E of Yubagon Pass, Altai region, Siberia.
- PI 598475. *Elymus dahuricus*** Turcz. ex Griseb.

Wild. AJC-231; W6 10565. Collected 08/15/1988 in Russian Federation. On rocky, grazed hillside. On Farm Tinginskiy, Tinginskiy region, Altai Mtns., Siberia.

**PI 598476. *Elymus dahuricus* Turcz. ex Griseb.**

Wild. AJC-235; W6 10566. Collected 01/20/1989 in Russian Federation. Elevation 1368 m. Altai Research Institute of Soil Management and Plant Breeding, Siberian Branch of Lauaas.

**PI 598477. *Elymus gmelinii* (Ledeb.) Tzvelev**

Wild. AJC-259; W6 10569. Collected 08/15/1988 in Russian Federation. Elevation 1368 m. Yubagon pass, Altai region.

**PI 598478. *Elymus sibiricus* L.**

Wild. AJC-270; W6 10571. Collected 08/14/1988 in Russian Federation. Elevation 790 m. Experimental farm in Cherga, Institute of Cytology and Genetics of the Siberian Branch of Academy of Science at Novosibirsk.

**PI 598479. *Elymus sibiricus* L.**

Wild. AJC-276; W6 10572. Collected 08/16/1988 in Russian Federation. Elevation 1368 m. 5km W of Yubagon Village, Altai region.

**PI 598480. *Elytrigia intermedia* (Host) Nevski**

Wild. AJC-301; VIR 37194; W6 10575. Collected 01/17/1989 in Moldova. N.I. Vavilov All-Union Institute of Plant Industry, Leningrad. Dikorastuscij.

**PI 598481. *Agropyron cristatum* (L.) Gaertn. *ssp. cristatum***

Wild. AJC-586; W6 10592. Collected 05/16/1989 in Kazakhstan. Kazakhstan Institute of Fodder Crops, Alma Ata, via the VIR Institute, Leningrad. Strain "Krasnokutsky wide-spike 4".

The following were collected by Douglas R. Dewey, USDA-ARS, Forage and Range Research Laboratory, Utah State University, UMC-63, Logan, Utah 84322, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 01/30/1992.

**PI 598482. *Agropyron mongolicum* Keng**

Wild. D-2826; W6 10609. Collected in Unknown.

**PI 598483. *Agropyron cristatum* (L.) Gaertn.**

Wild. D-3757; Y640a; W6 10622. Collected 08/28/1987 in Xinjiang, China. Elevation 1570 m. On the slopes at the pass of Tianshan, Houxia, Urumqi.

**PI 598484. *Leymus angustus* (Trin.) Pilg.**

Wild. D-3764; Y893; W6 10627. Collected 08/18/1987 in Xinjiang, China. Elevation 960 m. Among trees, Shantangu, Barkol.

**PI 598485. *Leymus angustus* (Trin.) Pilg.**

Wild. D-3765; Y912; W6 10628. Collected 08/21/1987 in Xinjiang, China. Elevation 1440 m. Beside crop field, Pingdinshan forestry centre, protective forestry station, Mori.

**PI 598486. *Elymus aristiglumis*** (Keng & S. L. Chen) S. L. Chen  
Wild. D-3777; Y614; W6 10634. Collected 09/06/1987 in Xinjiang, China.  
Elevation 2620 m. Roadside, between Kudi and Mazar, Yecheng.

The following were collected by Melvin D. Rumbaugh, USDA-ARS, Utah State University, Forage & Range Research Lab, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 01/30/1992.

**PI 598487. *Elymus dahuricus*** Turcz. ex Griseb.  
Wild. JR-35A; W6 10650. Collected 10/17/1985 in Pakistan. 35-40km NW of Gilgit, Mid Nalter Valley.

The following were donated by Danny Mowrey, USDA, ARS, Forage and Livestock Research Laboratory, P.O. Box 1199, El Reno, Oklahoma 73036, United States. Received 07/23/1992.

**PI 598488. *Agropyron cristatum*** (L.) Gaertn.  
Wild. 98; W6 10688. Collected 09/12/1991 in Nei Monggol, China. Latitude 41 deg. 53' N. Longitude 111 deg. 25' E. Zouhe, ~78kl N of Hohhot. Strip with considerably less vegetation than surrounding area, ~2.2kl NW of main road. Heavily grazed. 25% ground cover. Rolling plateau. Soil sandy. Stoniness few. Drainage well. Associated vegetation *Agropyron mongolicum*, *Stipa* sp., *Potentilla* sp., *Artemisia* sp., *Medicago ruthenica*. No. of plants sampled ~75.

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 598489. *Dactylis* sp.**  
Wild. B92-39; W6 10760. Collected 06/28/1992 in Bulgaria. Elevation 30 m. 50m S of Institute of Wheat and Sunflower (IWS) Guest house, Albena.

The following were collected by Robert Klein, Washington State University, Irrigated Agriculture Res. & Ext. Center, Route 2, Box 2953-A, Prosser, Washington 99350-9687, United States. Received 11/18/1992.

**PI 598490. *Achnatherum inebrians*** (Hance) Keng  
Wild. W6 11058. Collected 09/01/1992 in China. Elevation 1800 m. Approx. 80km southwest of Urumchi, Xinjiang Province. Reported to cause staggers when grazed.

The following were donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; L.V. Kaiser, NW 420 Orion Drive, Pullman,

Washington 99164, United States. Received 11/25/1992.

- PI 598491. *Festuca arundinacea* Schreb.**  
Cultivar. "BARTEE"; 573; IV-46-209; W6 11085. Collected in Netherlands.
- PI 598492. *Festuca arundinacea* Schreb.**  
Cultivar. "DABAS/4."; 574; IV-46-132; W6 11086. Collected in Hungary.
- PI 598493. *Festuca arundinacea* Schreb.**  
Cultivar. "FESTAL"; 575; IV-46-213; W6 11087. Collected in Romania.
- PI 598494. *Festuca arundinacea* Schreb.**  
Cultivar. "G"; 576; IV-46-212; W6 11088. Collected in Hungary.
- PI 598495. *Festuca arundinacea* Schreb.**  
Cultivar. "KESZTHELYI 50"; 577; IV-46-211; W6 11089. Collected in Hungary.
- PI 598496. *Festuca arundinacea* Schreb.**  
Cultivar. "SARKAD/5."; 578; IV-46-206; W6 11090. Collected in Hungary.
- PI 598497. *Festuca arundinacea* Schreb.**  
Cultivar. "SZELEVENY/4."; 579; IV-46-207; W6 11091. Collected in Hungary.

The following were donated by Research Centre for Agrobotany, I.P.P.Q., H-2766 Tapioszele. Received 11/25/1992.

- PI 598498. *Festuca pratensis* Huds.**  
Cultivar. "BELIMO"; 582; IV-41-241; W6 11094. Collected in Netherlands.
- PI 598499. *Festuca pratensis* Huds.**  
Cultivar. "COSMOS 11"; 586; IV-41-242; W6 11097.
- PI 598500. *Festuca pratensis* Huds.**  
Cultivar. "FIOLA"; 587; IV-41-244; W6 11098.
- PI 598501. *Festuca pratensis* Huds.**  
Cultivar. "G"; 588; IV-41-237; W6 11099.
- PI 598502. *Festuca pratensis* Huds.**  
Cultivar. "Ovari"; 589; IV-41-238; W6 11100.
- PI 598503. *Festuca pratensis* Huds.**  
Cultivar. "SZARVASI 54"; 590; W6 11101.
- PI 598504. *Festuca rubra* L.**  
Cultivar. "BARFESTA"; 593; IV-42-216; W6 11104.
- PI 598505. *Festuca rubra* L.**  
Cultivar. "DE BRASA"; 594; IV-42-230; W6 11105.
- PI 598506. *Festuca rubra* L.**  
Cultivar. "ENSYLVA"; 595; IV-42-218; W6 11106.



**PI 598507. Festuca rubra L.**  
Cultivar. "SZARVASI 58"; 597; IV-42-214; W6 11108.

**PI 598508. Festuca rubra L.**  
Cultivar. "SZEKKUTASI 319"; 598; IV-42-213; W6 11109.

**PI 598509. Festuca rubra L.**  
Cultivar. "ZERNI KOWER"; 599; IV-42-231; W6 11110. Collected in Germany.

The following were collected by David S. Marshall, Texas A&M University, Research & Extension Center, 17360 Coit Road, Dallas, Texas 75252-6599, United States; Lloyd R. Nelson, Texas Agricultural Experiment Station, The Texas A&M University System, Agricultural Research and Extension Center, Overton, Texas 75684-0290, United States. Donated by Lloyd R. Nelson, Texas Agricultural Experiment Station, The Texas A&M University System, Agricultural Research and Extension Center, Overton, Texas 75684-0290, United States. Received 01/22/1993.

**PI 598510. Lolium perenne L.**  
Wild. 2; W6 11193. Collected 07/03/1992 in Ankara, Turkey. Elevation 900 m. Weedy area, Ankara.

**PI 598511. Lolium sp.**  
Wild. 176; W6 11203. Collected 07/06/1992 in Konya, Turkey. Elevation 1000 m. Near wheat field, Atlanti. Endophyte present.

**PI 598512. Lolium perenne L.**  
Wild. 258; W6 11210. Collected 07/08/1992 in Antalya, Turkey. Elevation 840 m. Mountainside, Dag.

**PI 598513. Dactylis glomerata L.**  
Wild. 337; W6 11217. Collected 07/08/1992 in Turkey. Elevation 1150 m. Hilly roadside, Karadirek, Afyon.

**PI 598514. Lolium perenne L.**  
Wild. 342; W6 11219. Collected 07/08/1992 in Turkey. Elevation 1100 m. Agricultural area, Tinaztepe, Afyon.

**PI 598515. Lolium perenne L.**  
Wild. 346; W6 11221. Collected 07/08/1992 in Turkey. Elevation 1100 m. Agricultural area, Tinaztepe, Afyon.

**PI 598516. Lolium perenne L.**  
Wild. 363; W6 11223. Collected 07/09/1992 in Turkey. Elevation 1150 m. Agricultural and pasture area, Afyon, Afyon.

**PI 598517. Lolium perenne L.**  
Wild. 426; W6 11243. Collected 09/10/1992 in Ankara, Turkey. Elevation 950 m. Waste areas and fields at CIMMYT, Ankara.

**PI 598518. Lolium perenne L.**  
Wild. 454; W6 11251. Collected 07/10/1992 in Ankara, Turkey. Elevation 950 m. Waste areas and fields at CIMMYT, Ankara.

**PI 598519. *Lolium perenne* L.**

Wild. 513; W6 11265. Collected 07/13/1992 in Ankara, Turkey. Elevation 1080 m. Agricultural area, Bala.

**PI 598520. *Lolium perenne* L.**

Wild. 692; W6 11321. Collected in Ankara, Turkey. City border, Bolu.

The following were collected by J.S. Peterson, USDA, SCS, National PMC, Bldg. 509, BARC-East, Beltsville, Maryland 20705, United States. Received 03/24/1993.

**PI 598521. *Achnatherum splendens* (Trin.) Nevski**

Wild. 9070339; W6 11484. Collected 08/19/1992 in Mongolia. Latitude 47 deg. 38' N. Longitude 96 deg. 13' E. Elevation 1824 m. Sandy loam, Durvulgin. Plants associated with *Elymus*, *Leymus*, *Koeleria*, *Allium*.

**PI 598522. *Elymus trachycaulus* (Link) Gould ex Shinners**

Wild. 9070337; W6 11490. Collected 08/19/1992 in Mongolia. Latitude 47 deg. 38' N. Longitude 96 deg. 13' E. Elevation 1824 m. Sandy loam, Durvulgin. Plants associated with *Ptilagrostis*, *Thalictrum*, and *Leymus*.

The following were developed by I. Holms. Donated by P. Berzins, Latvian State Res. Inst. of Agriculture, Skriveri - 1, Aizkraukle Dist., Latvia. Received 04/08/1993.

**PI 598523. *Festuca pratensis* Huds.**

Cultivar. "RITA"; W6 11520. Growth data in Latvia, heads 42 days, blooms 58 days, matures 74 days, seed yield 7-10 t/ha, dry matter 9-11 t/ha and good winter hardiness.

The following were collected by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 11/02/1993.

**PI 598524. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**

Wild. X93005; W6 12923. Collected 08/06/1993 in Xinjiang, China. Latitude 44 deg. 11' N. Longitude 86 deg. 54' E. Elevation 532 m. Hutubi Stud and Dairy Farm, Xinjiang.

**PI 598525. *Leymus karelinii* (Turcz.) Tzvelev**

Wild. X93014; W6 12932. Collected 08/07/1993 in Xinjiang, China. Latitude 43 deg. 53' N. Longitude 86 deg. 22' E. Elevation 1550 m. Steep ungrazed slope above road, 77km southwest of Hutubi and 39km south of Dafeng, Xinjiang. Disturbed site, very large stand of *Leymus angustus* associated with *Koeleria* and *Stipa* species.

**PI 598526. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**

Wild. X93022; W6 12940. Collected 08/07/1993 in Xinjiang, China. Latitude 43 deg. 52' N. Longitude 86 deg. 21' E. Elevation 1600 m. Diverse natural pasture used for hay cutting, gently rolling hills, 44km

southwest of Dafeng, Xinjiang.

- PI 598527. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**  
Wild. X93027; W6 12945. Collected 08/07/1993 in Xinjiang, China.  
Latitude 43 deg. 50' N. Longitude 86 deg. 16' E. Elevation 1665 m. In town of Lao Ba Wan Zi, 100km from Hutubi, 43km southwest of Dafeng, Xinjiang. Natural pasture at base of Tien Shan Mountains, used for hay cutting, close to border of *Pinus Tienshanica*.
- PI 598528. *Elymus dahuricus* ssp. *excelsus* (Turcz. ex Griseb.) Tzvelev**  
Wild. X93029; W6 12947. Collected 08/07/1993 in Xinjiang, China.  
Latitude 43 deg. 50' N. Longitude 86 deg. 16' E. Elevation 1665 m. Town of Lao Ba Wan Zi, 100km from Hutubi, 43km southwest of Dafeng, Xinjiang. Natural pasture at base of Tien Shan Mountains, used for hay cutting, close to border of *Pinus Tienshanica*.
- PI 598529. *Leymus karelinii* (Turcz.) Tzvelev**  
Wild. X93037; W6 12955. Collected 08/08/1993 in Xinjiang, China.  
Latitude 43 deg. 56' N. Longitude 86 deg. 26' E. Elevation 1040 m. Along river drainage, 31km southwest of Dafeng, Xinjiang. Plant diversity immense.
- PI 598530. *Elymus dahuricus* ssp. *excelsus* (Turcz. ex Griseb.) Tzvelev**  
Wild. X93039; W6 12957. Collected 08/08/1993 in Xinjiang, China.  
Latitude 43 deg. 56' N. Longitude 86 deg. 26' E. Elevation 1040 m. Along river drainage, 31km southwest of Dafeng, Xinjiang. Plant diversity of immense.
- PI 598531. *Bromus japonicus* Thunb.**  
Wild. X93053; W6 12971. Collected 08/08/1993 in Xinjiang, China.  
Latitude 43 deg. 53' N. Longitude 86 deg. 24' E. Elevation 1200 m. Gravel soil, uncut hay pasture along river bend, 36km southwest of Dafeng, Xinjiang.
- PI 598532. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**  
Wild. X93056; W6 12974. Collected 08/08/1993 in Xinjiang, China.  
Latitude 43 deg. 53' N. Longitude 86 deg. 24' E. Elevation 1200 m. Gravel soil, uncut hay pasture along river bend 36km southwest of Dafeng, Xinjiang.
- PI 598533. *Elymus dahuricus* ssp. *excelsus* (Turcz. ex Griseb.) Tzvelev**  
Wild. X93058; W6 12975. Collected 08/10/1993 in Xinjiang, China.  
Latitude 44 deg. 6' N. Longitude 86 deg. 2' E. Elevation 900 m. Roadside ditch, 44km from Shihezi and 31km from Shihezi Rd. on way to Zinichuan Stud Farm, Xinjiang.
- PI 598534. *Leymus karelinii* (Turcz.) Tzvelev**  
Wild. X93059; W6 12976. Collected 08/10/1993 in Xinjiang, China.  
Latitude 44 deg. 6' N. Longitude 86 deg. 2' E. Elevation 900 m. Roadside ditch, 44km from Shihezi and 31km from Shihezi Rd. on way to Zinichuan Stud Farm, Xinjiang.
- PI 598535. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**  
Wild. X93069; W6 12985. Collected 08/10/1993 in Xinjiang, China.  
Latitude 44 deg. 0' N. Longitude 85 deg. 52' E. Elevation 1120 m.

Zinichuan Stud Farm, Xinjiang. Site characterized by fenced pasture that is only grazed during winter. Fenced since 1979. Areas outside fence heavily grazed. *Artemisia bolensis* observed but immature.

- PI 598536. *Elymus dahuricus ssp. excelsus* (Turcz. ex Griseb.) Tzvelev  
Wild. X93072; W6 12988. Collected 08/10/1993 in Xinjiang, China.  
Latitude 44 deg. 0' N. Longitude 85 deg. 57' E. Elevation 1220 m.  
Zinichuan Stud Farm, Xinjiang.
- PI 598537. *Elymus dahuricus ssp. excelsus* (Turcz. ex Griseb.) Tzvelev  
Wild. X93078; W6 12994. Collected 08/11/1993 in Xinjiang, China.  
Latitude 44 deg. 9' N. Longitude 84 deg. 38' E. Elevation 1620 m.  
Natural pasture at base of Tien Shan Mountains, approx. 65km south of  
Usu, Xinjiang.
- PI 598538. *Bromus inermis* Leyss. *ssp. inermis*  
Wild. X93082; W6 12998. Collected 08/11/1993 in Xinjiang, China.  
Latitude 44 deg. 9' N. Longitude 84 deg. 38' E. Elevation 1620 m.  
Natural pasture at base of Tien Shan Mountains, approx. 65km south of  
Usu, Xinjiang.
- PI 598539. *Poa pratensis ssp. angustifolia* (L.) Lej.  
Wild. X93088; W6 13004. Collected 08/11/1993 in Xinjiang, China.  
Latitude 44 deg. 9' N. Longitude 84 deg. 38' E. Elevation 1620 m.  
Natural pasture at base of Tien Shan Mountains, approx. 65km south of  
Usu, Xinjiang.
- PI 598540. *Leymus angustus* (Trin.) Pilg.  
Wild. X93091; W6 13007. Collected 08/11/1993 in Xinjiang, China.  
Latitude 44 deg. 9' N. Longitude 84 deg. 36' E. Elevation 1640 m.  
Natural pasture 60km south of Usu, Xinjiang.
- PI 598541. *Leymus karelinii* (Turcz.) Tzvelev  
Wild. X93093; W6 13009. Collected 08/11/1993 in Xinjiang, China.  
Latitude 44 deg. 9' N. Longitude 84 deg. 36' E. Elevation 1640 m.  
Natural pasture 60km south of Usu, Xinjiang.
- PI 598542. *Elymus dahuricus ssp. excelsus* (Turcz. ex Griseb.) Tzvelev  
Wild. X93095; W6 13011. Collected 08/11/1993 in Xinjiang, China.  
Latitude 44 deg. 10' N. Longitude 84 deg. 34' E. Elevation 1500 m.  
Natural pasture just before Chanjing Farm, Xinjiang.
- PI 598543. *Elymus dahuricus ssp. excelsus* (Turcz. ex Griseb.) Tzvelev  
Wild. X93115; W6 13028. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 37' N. Longitude 81 deg. 43' E. Elevation 1200 m.  
Drainage ditch along road to Salimu Lake from Bole, Xinjiang.
- PI 598544. *Agropyron cristatum* (L.) Gaertn.  
Wild. X93116; W6 13029. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 37' N. Longitude 81 deg. 43' E. Elevation 1200 m.  
Drainage ditch along road to Salimu Lake from Bole, Xinjiang.
- PI 598545. *Poa attenuata* Trin.  
Wild. X93117; W6 13030. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 37' N. Longitude 81 deg. 43' E. Elevation 1200 m.

Drainage ditch along road to Salimu Lake from Bole, Xinjiang.

- PI 598546. *Agropyron cristatum* (L.) Gaertn.  
Wild. X93118; W6 13031. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 31' N. Longitude 81 deg. 13' E. Elevation 2100 m.  
Southeast side of Salimu Lake along road, Xinjiang. Most diversity  
observed in areas that had been scraped, which allowed water to collect.
- PI 598547. *Poa pratensis ssp. angustifolia* (L.) Lej.  
Wild. X93121; W6 13034. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 31' N. Longitude 81 deg. 13' E. Elevation 2100 m.  
Southeast side of Salimu Lake along road, Xinjiang. Most diversity  
observed in areas that had been scraped, which allowed water to collect.
- PI 598548. *Poa pratensis ssp. angustifolia* (L.) Lej.  
Wild. X93125; W6 13038. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 31' N. Longitude 81 deg. 8' E. Elevation 2065 m. South  
side of Salimu Lake, about 3km from main road, Xinjiang. Most productive  
site to date.
- PI 598549. *Elymus mutabilis* (Drobow) Tzvelev  
Wild. X93133; W6 13044. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 31' N. Longitude 81 deg. 8' E. Elevation 2065 m. South  
side of Salimu Lake, about 3km from main road, Xinjiang. Most productive  
site to date.
- PI 598550. *Agropyron cristatum* (L.) Gaertn.  
Wild. X93134; W6 13045. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 31' N. Longitude 81 deg. 8' E. Elevation 2065 m. South  
side of Salimu Lake, about 3km from main road, Xinjiang. Most productive  
site to date.
- PI 598551. *Leymus karelinii* (Turcz.) Tzvelev  
Wild. X93141; W6 13050. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 48' N. Longitude 81 deg. 10' E. Elevation 1700 m. About  
10km lower on the road to Wenchuan County than previous site from Lake  
Salimu, Xinjiang. Heavily grazed and very rocky however, grass diversity  
good.
- PI 598552. *Elymus dahuricus ssp. excelsus* (Turcz. ex Griseb.) Tzvelev  
Wild. X93142; W6 13051. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 48' N. Longitude 81 deg. 10' E. Elevation 1700 m. About  
10km lower on road to Wenchuan County than previous site from Lake  
Salimu, Xinjiang. Heavily grazed and very rocky however, grass diversity  
good.
- PI 598553. *Agropyron cristatum* (L.) Gaertn.  
Wild. X93143; W6 13052. Collected 08/14/1993 in Xinjiang, China.  
Latitude 44 deg. 48' N. Longitude 81 deg. 10' E. Elevation 1700 m. About  
10km lower on road to Wenchuan County from previous site from Lake  
Salimu, Xinjiang. Heavily grazed and very rocky however, grass diversity  
good.
- PI 598554. *Elymus dahuricus ssp. excelsus* (Turcz. ex Griseb.) Tzvelev  
Wild. X93145; W6 13054. Collected 08/15/1993 in Xinjiang, China.

Latitude 45 deg. 2' N. Longitude 81 deg. 7' E. Elevation 1300 m. Gravel soil along irrigation ditch, Xinjiang.

**PI 598555. *Elymus dahuricus* ssp. *excelsus*** (Turcz. ex Griseb.) Tzvelev  
Wild. X93158; W6 13067. Collected 08/16/1993 in Xinjiang, China.  
Latitude 44 deg. 39' N. Longitude 82 deg. 55' E. Elevation 300 m.  
Irrigation ditch behind a fruit stand on road from Bole to Usu, Xinjiang.

**PI 598556. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. X93162; W6 13069. Collected 08/18/1993 in Xinjiang, China.  
Latitude 44 deg. 7' N. Longitude 87 deg. 58' E. Elevation 1680 m. Uncut, non-irrigated mountain pasture. Bottom of slope at Y in road 4km from main road to Tien Shi Lake (Heavenly Lake) on left side of road going east, Xinjiang.

**PI 598557. *Poa pratensis* ssp. *angustifolia*** (L.) Lej.  
Wild. X93164; W6 13071. Collected 08/18/1993 in Xinjiang, China.  
Latitude 44 deg. 7' N. Longitude 87 deg. 58' E. Elevation 1680 m. Uncut, non-irrigated mountain pasture. Bottom of slope at Y in road 4km from main road to Tien Shi Lake (Heavenly Lake) on left side of road going east, Xinjiang.

**PI 598558. *Elymus dahuricus* ssp. *excelsus*** (Turcz. ex Griseb.) Tzvelev  
Wild. X93167; W6 13074. Collected 08/18/1993 in Xinjiang, China.  
Latitude 44 deg. 7' N. Longitude 87 deg. 58' E. Elevation 1680 m. Uncut, non-irrigated mountain pasture. Bottom of slope at Y in road 4km from main road to Tien Shi Lake (Heavenly Lake) on left side of road going east, Xinjiang.

**PI 598559. *Psathyrostachys juncea*** (Fisch.) Nevski  
Wild. X93189; W6 13095. Collected 08/20/1993 in Xinjiang, China.  
Latitude 43 deg. 46' N. Longitude 89 deg. 27' E. Elevation 1300 m. Silty clay, 48km south of Chitai, very dry rolling foot hills used for winter pastures, Xinjiang.

**PI 598560. *Poa pratensis* ssp. *angustifolia*** (L.) Lej.  
Wild. X93194; W6 13100. Collected 08/20/1993 in Xinjiang, China.  
Latitude 43 deg. 46' N. Longitude 89 deg. 27' E. Elevation 1300 m. Silty clay, 48km south of Chitai, very dry rolling foot hills used for winter pastures, Xinjiang.

**PI 598561. *Elymus dahuricus* ssp. *excelsus*** (Turcz. ex Griseb.) Tzvelev  
Wild. X93197; W6 13102. Collected 08/20/1993 in Xinjiang, China.  
Latitude 43 deg. 44' N. Longitude 89 deg. 27' E. Elevation 1400 m. Silty clay, 53km south of Chitai, very dry rolling foot hills used for winter pastures, Xinjiang. Dominate species *Medicago varia*. Winter pasture associated with *Artemisia boralensis*, *Kochia postrata*, and *Festuca ovina*.

**PI 598562. *Piptatherum songaricum*** (Trin. & Rupr.) Roshev. ex Nikitina  
Wild. X93200; W6 13105. Collected 08/20/1993 in Xinjiang, China.  
Latitude 43 deg. 44' N. Longitude 89 deg. 27' E. Elevation 1400 m. Silty clay, 53km south of Chitai, very dry rolling foot hills used for winter pastures, Xinjiang. Dominate species *Medicago varia*. Winter pasture associated with *Artemisia boralensis*, *Kochia postrata*, and *Festuca ovina*.

- PI 598563. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**  
 Wild. X93209; W6 13114. Collected 08/21/1993 in Xinjiang, China.  
 Latitude 43 deg. 41' N. Longitude 89 deg. 18' E. Elevation 1870 m. Loam soil, middle pasture, 44km south of Jimsar, east sloping steep hillside pasture near Chuan Zi Jie Village, Xinjiang. Diversity immense.
- PI 598564. *Elymus dahuricus* ssp. *excelsus* (Turcz. ex Griseb.) Tzvelev**  
 Wild. X93214; W6 13119. Collected 08/21/1993 in Xinjiang, China.  
 Latitude 43 deg. 41' N. Longitude 89 deg. 18' E. Elevation 1870 m. Loam soil, middle pasture, 44km south of Jimsar, east sloping steep hillside pasture near Chuan Zi Jie Village, Xinjiang. Diversity immense.
- PI 598565. *Leymus angustus* (Trin.) Pilg.**  
 Wild. X93222; W6 13126. Collected 08/21/1993 in Xinjiang, China.  
 Latitude 43 deg. 44' N. Longitude 89 deg. 17' E. Elevation 1500 m. 25km south of Jimsar along field margins of road, non-irrigated, Xinjiang.
- PI 598566. *Elymus dahuricus* ssp. *excelsus* (Turcz. ex Griseb.) Tzvelev**  
 Wild. X93225; W6 13129. Collected 08/24/1993 in Xinjiang, China.  
 Latitude 43 deg. 48' N. Longitude 87 deg. 51' E. Elevation 1600 m. High winter pasture at Tu Juan south of Xiejago Stud Farm, 90km S & E of Urumqi, lowland seepage, upper sites very dry. Bottom lands clay loam, side hills gravelly. Dominant species include *Artemisa boralensis*, *Stipa capillata*, *Festuca ovina*.
- PI 598567. *Poa pratensis* ssp. *angustifolia* (L.) Lej.**  
 Wild. X93232; W6 13136. Collected 08/24/1993 in Xinjiang, China.  
 Elevation 1600 m. High winter pasture at Tu Juan south of Xiejago Stud Farm, 90km S & E of Urumqi, lowland seepage, upper sites very dry. Bottom lands clay loam, side hills gravelly. Dominant species include *Artemisa boralensis*, *Stipa capillata*, *Festuca ovina*.
- PI 598568. *Achnatherum splendens* (Trin.) Nevski**  
 Wild. X93249; W6 13153. Collected 08/24/1993 in Xinjiang, China.  
 Latitude 43 deg. 49' N. Longitude 87 deg. 52' E. Elevation 1500 m.  
 Lowland bench above river, silty clay soil, gentle slope, heavily grazed pasture at Tu Juan south of Xiejago Stud Farm, 60km south and east of Urumqi, Xinjiang. Dominate species *Achnatherum splendens* and *A. inebrians*.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 10/25/1993.

- PI 598569. *Bromus inermis* Leyss. ssp. *inermis***  
 Wild. JA-306; VIR U-0134723; K-69432; W6 13164. Collected 01/1993 in Kazakhstan.
- PI 598570. *Bromus inermis* Leyss. ssp. *inermis***  
 Wild. JA-307; VIR U-0134743; K-30694; W6 13165. Collected 01/1993 in Russian Federation. Collected in Omsk Region, Russia (Siberia), by the Omsk-Siberian Research Inst. of Agriculture.

- PI 598571. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-308; VIR U-0134598; K-46721; W6 13166. Collected 01/1993 in Poland.
- PI 598572. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-309; VIR U-0134740; K-47287; W6 13167. Collected 01/1993 in Former Soviet Union. Collected in Primorskiy Region, Far East of Russia.
- PI 598573. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-310; VIR U-0134732; K-73701; W6 13168. Collected 01/1993 in Kazakhstan. Collected in Kustanay Region.
- PI 598574. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-311; VIR U-0134720; K-58016; W6 13169. Collected 01/1993 in Kazakhstan.
- PI 598575. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-313; VIR U-0134724; K-69433; W6 13171. Collected 01/1993 in Kazakhstan.
- PI 598576. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-314; VIR U-0134727; K-45264; W6 13172. Collected 01/1993 in Russian Federation. Collected in city of Irkutsk (Siberia) Russia.
- PI 598577. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-315; VIR U-0134730; K-35227; W6 13173. Collected 01/1993 in Russian Federation. Collected in Altay Botanical Garden, (Siberia) Russia.
- PI 598578. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-316; K-34974; W6 13174. Collected 01/1993 in Kazakhstan. Collected in East Kazakhstan Region.
- PI 598579. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-318; VIR U-0134599; K-27889; W6 13176. Collected 01/1993 in Kazakhstan. Collected in Kustanay Region.
- PI 598580. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-319; VIR U-0134735; K-38691; W6 13177. Collected 01/1993 in Kazakhstan.
- PI 598581. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-320; VIR U-0134949; W6 13178. Collected 07/19/1992 in Kazakhstan. Latitude 47 deg. 29' N. Longitude 58 deg. 15' E. Elevation 200 m. Clay soil along dry creek bed, wet drainage area, 105km west-southwest of Chelkar. Annual precipitation 220mm. Dominant vegetation *Bromus inermis*, *Leymus angustus*, *Elytigia repens*, *Agropyron cristatum* and *Psathyrostachys juncea* in better moisture areas, *Artemisia terrae-albae*, *Kochia prostrata*, and tall shrubs.
- PI 598582. *Bromus inermis* Leyss. ssp. *inermis***  
Wild. JA-321; VIR U-0134801; W6 13179. Collected 07/19/1992 in Kazakhstan. Latitude 47 deg. 29' N. Longitude 58 deg. 15' E. Elevation 200 m. Clay soil along dry creek bed, upslope, drier area, 105km west-southwest of Chelkar. Annual precipitation 200mm. Dominant



vegetation *Bromus inermis*, *Leymus angustus*, *Elytrigia repens*, *Agropyron cristatum* and *Psathyrostachys juncea* in better moisture areas, *Artemisia terrae-albae*, *Kochia prostrata*, and tall shrubs.

**PI 598583. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-322; VIR U-0134891; W6 13180. Collected 07/19/1992 in Kazakhstan. Latitude 47 deg. 17' N. Longitude 58 deg. 13' E. Elevation 190 m. Center of Shagan Valley, along dry water way, 120km west-southwest of Chelkar. Annual precipitation 220mm. Dominant vegetation *Agropyron desertorum*, *A. fragile*, *Bromus inermis*, and *Psathyrostachys juncea*.

**PI 598584. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-323; VIR U-0134981; W6 13181. Collected 07/22/1992 in Kazakhstan. Latitude 47 deg. 31' N. Longitude 59 deg. 46' E. Elevation 230 m. Dry water-drainage area dominated by several grass species, 41km south of Chelkar. Annual precipitation 150mm. Dominant vegetation *Psathyrostachys juncea*, *Agropyron desertorum*, *A. cristatum*, *Bromus inermis*, *Elytrigia repens*.

**PI 598585. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-324; VIR U-0134807; W6 13182. Collected 07/25/1992 in Kazakhstan. Latitude 48 deg. 10' N. Longitude 60 deg. 14' E. Elevation 230 m. Dry gully with better moisture than surrounding area, 60km east northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation *Agropyron cristatum*, *Elytrigia repens*, *Medicago sativa*, and shrubs (*Artemisia terrae-albae*). *Poa bulbosa* in surrounding (more droughty) area.

**PI 598586. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-325; VIR U-0134924; W6 13183. Collected 07/28/1992 in Kazakhstan. Latitude 48 deg. 20' N. Longitude 60 deg. 9' E. Elevation 245 m. Low area where water had previously collected and dried up, heavily grazed, 68km northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation *Stipa* spp., *Artemisia terrae-albae*, *Bromus inermis*, *Agropyron cristatum* in projected areas, and *Agropyron fragile* on harsh sites. Growing along *A. cristatum*.

**PI 598587. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-327; VIR U-0134976; W6 13185. Collected 07/29/1992 in Kazakhstan. Latitude 49 deg. 41' N. Longitude 60 deg. 12' E. Elevation 225 m. White alkalai soil, along stream, 210km north northeast of Chelkar. Annual precipitation 225mm. Dominant vegetation *Leymus angustus*, *Psathyrostachys juncea*, *Tamarix*, and *Agropyron cristatum*.

**PI 598588. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-328; VIR U-0134969; W6 13186. Collected 07/30/1992 in Kazakhstan. Latitude 50 deg. 15' N. Longitude 58 deg. 18' E. Elevation 335 m. Silty-loam soil, along stream bottom, waste area, 80km east of Aktyubinsk, north edge of Khromtau. Annual precipitation 300mm. Dominant vegetation *Bromus inermis*, *Agropyron cristatum*, *A. desertorum*, *A. fragile*, *Artemisia* spp., *Psathyrostachys juncea*, and annual weeds.

**PI 598589. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-329; VIR U-0134980; W6 13187. Collected 07/28/1992 in

Kazakhstan. Latitude 48 deg. 36' N. Longitude 60 deg. 13' E. Elevation 230 m. Silty-sand soil, dry waterway, 95km north northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation *Artemisia* spp., *Stipa* spp., *Agropyron cristatum* (where soil moisture is more favorable), *Agropyron fragile* (on more upland, dry areas), and some miscellaneous shrubs.

**PI 598590. *Bromus riparius* Rehmann**

Wild. JA-330; VIR U-0134741; K-34878; W6 13188. Collected 01/1993 in Czechoslovakia.

**PI 598591. *Bromus erectus* Huds.**

Wild. JA-331; VIR U-0134736; K-44131; W6 13189. Collected 01/1993 in Kazakhstan. Collected in Tselinograd Region.

**PI 598592. *Bromus inermis* Leyss. ssp. *inermis***

Wild. JA-333; VIR U-0134814; W6 13191. Collected 07/16/1992 in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 43' E. Elevation 240 m. Sandy soil, Experiment Station at Chelkar. Annual precipitation 150mm. Dominant vegetation *Artemisia terrae-albae*, *Kochia prostrata*, and *Agropyron fragile* in waste area, clay soil.

**PI 598593. *Colopodium humile* (M. Bieb.) Griseb.**

Wild. JA-334; VIR U-0134935; W6 13192. Collected 07/19/1992 in Kazakhstan. Latitude 47 deg. 27' N. Longitude 58 deg. 14' E. Elevation 200 m. Along rim of Shagan Valley, upper edge of melted snow field, 110km west-southwest of Chelkar. Annual precipitation 220mm. Dominant vegetation *Artemisia terrae-albae*, *Kochia prostrata*, and miscellaneous shrubs.

**PI 598594. *Festuca* sp.**

Wild. JA-337; VIR U-0134948; W6 13195. Collected 07/18/1992 in Kazakhstan. Latitude 47 deg. 32' N. Longitude 58 deg. 17' E. Elevation 220 m. 90km west-southwest of Chelkar. Annual precipitation 180mm. Dominant vegetation *Poa bulbosa*, *Stipa* spp., *Agropyron fragile*, and *Agropyron desertorum*.

**PI 598595. *Alopecurus arundinaceus* Poir.**

Wild. JA-340; VIR U-0134983; W6 13198. Collected 07/28/1992 in Kazakhstan. Latitude 48 deg. 21' N. Longitude 60 deg. 7' E. Elevation 245 m. Low area where water had previously collected and dried up, heavily grazed, 68km north northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation *Stipa* and shrubs (*Artemisia terrae-albae*), *Bromus inermis* and *Agropyron cristatum* in protected areas, *Agropyron fragile* on harsh sites.

**PI 598596. Unident-Poaceae sp.**

Wild. JA-345; VIR U-0134929; W6 13203. Collected 07/20/1992 in Kazakhstan. Latitude 47 deg. 4' N. Longitude 58 deg. 1' E. Elevation 220 m. Silty clay soil, Shagan Valley, 170km southwest of Chelkar. Annual precipitation 180mm. Dominant vegetation *Artemisia terrae-albae*, *Agropyron desertorum* and *A. fragile*.

**PI 598597. *Stipa tirsia* Steven**

Wild. JA-348; VIR U-0134900; W6 13206. Collected 07/29/1992 in

- Kazakhstan. Latitude 49 deg. 14' N. Longitude 60 deg. 40' E. Elevation 230 m. Sandy soil, 172km north northeast of Chelkar. Annual precipitation 200mm. Expansive stand of shrubs and grasses dominated by *Stipa* spp., *Artemisia terrae-albae*, *Agropyron fragile*, and *Kochia prostrata*.
- PI 598598. *Stipa capillata* L.**  
Wild. JA-349; VIR U-0134972; W6 13207. Collected 07/18/1992 in Kazakhstan. Latitude 47 deg. 31' N. Longitude 58 deg. 20' E. Elevation 230 m. Sandy-clay soil, 100km west-southwest of Chelkar. Annual precipitation 180mm. *Kochia prostrata*, *Agropyron desertorum* and *A. fragile* in mixed stand, *Poa bulbosa*, *Stipa* spp.
- PI 598599. *Stipa capillata* L.**  
Wild. JA-350; VIR U-0134940; W6 13208. Collected 07/18/1992 in Kazakhstan. Latitude 47 deg. 32' N. Longitude 58 deg. 17' E. Elevation 220 m. 90km west-southwest of Chelkar. Annual precipitation 180mm. Dominant vegetation *Poa bulbosa*, *Stipa* spp., *Agropyron fragile* and *Agropyron desertorum*.
- PI 598600. *Stipa capillata* L.**  
Wild. JA-351; VIR U-0134899; W6 13209. Collected 07/18/1992 in Kazakhstan. Latitude 47 deg. 26' N. Longitude 59 deg. 0' E. Elevation 155 m. Along rim of Shagan Valley, upper edge of melted snow field, 110km west-southwest of Chelkar. Annual precipitation 220mm. Dominant vegetation *Artemisia terrae-albae*, *Kochia prostrata* and miscellaneous shrubs.
- PI 598601. *Stipa capillata* L.**  
Wild. JA-352; VIR U-0134944; W6 13210. Collected 07/19/1992 in Kazakhstan. Latitude 47 deg. 24' N. Longitude 58 deg. 14' E. Elevation 200 m.
- PI 598602. *Stipa capillata* L.**  
Wild. JA-353; VIR U-0134951; W6 13211. Collected 07/22/1992 in Kazakhstan. Latitude 46 deg. 49' N. Longitude 59 deg. 47' E. Elevation 150 m. Dry water drainage area, 112km south of Chelkar. Annual precipitation 150mm. Dominated by shrubs (*Artemisia* spp., *Salsola* spp., *Stipa* spp., and *Atraphaxis spinosa*).
- PI 598603. *Stipa capillata* L.**  
Wild. JA-354; W6 13212. Collected 07/18/1992 in Kazakhstan. Latitude 47 deg. 19' N. Longitude 58 deg. 28' E. Elevation 190 m. Sandy-clay (silty) soil, 105km west-southwest of Chelkar. Annual precipitation 160mm. Dominant vegetation *Artemisia terrae-albae*, *Poa bulbosa*, *Stipa capillata*, and some *Agropyron fragile* (about 10%). Lower drought limit of *Agropyron*. *A. fragile* is only *Agropyron* on site.
- PI 598604. *Poa pratensis* L.**  
Wild. JA-360; VIR U-0134986; W6 13218. Collected 07/30/1992 in Kazakhstan. Latitude 50 deg. 18' N. Longitude 57 deg. 38' E. Elevation 245 m. Along roadway, 30km east of Aktyubinsk. Annual precipitation 330-400mm. Dominant vegetation *Stipa* spp. and *Artemisia terrae-albae*.
- PI 598605. *Poa* sp.**

Wild. JA-361; VIR U-0134922; W6 13219. Collected 07/24/1992 in Kazakhstan. Latitude 47 deg. 48' N. Longitude 59 deg. 48' E. Elevation 240 m. Margin of saline-alkalai dry lake bed, 15km east of Chelkar. Annual precipitation 150mm. Sparse stand of shrubs and grasses (Agropyron spp., Psathyrostachys juncea, Russian olive, Achnatherum spp., and Sophora).

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/03/1993.

- PI 598606. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-210; VIR 35900; VIR U-0134926; W6 13233. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 43' E. Elevation 240 m. Sandy soil, Experiment Station at Chelkar. Annual precipitation 150mm. Dominant vegetation Artemisia terrae-albae, Kochia prostrata, and Agropyron fragile.
- PI 598607. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-212; VIR U-0134930; W6 13235. Collected in Kazakhstan. Latitude 47 deg. 31' N. Longitude 58 deg. 15' E. Elevation 200 m. Dry water ways, clay soil slightly alkalai, 103km west-southwest of Chelkar. Annual precipitation 180mm. Associated with Agropyron fragile and A. desertorum, Anabasis salsa, and Aphylla spp.
- PI 598608. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-213; VIR U-0134952; W6 13236. Collected in Kazakhstan. Latitude 47 deg. 29' N. Longitude 58 deg. 15' E. Elevation 200 m. Clay soil along dry creek bed, 105km west-southwest of Chelkar. Annual precipitation about 200mm. Associated with Bromus inermis, Leymus angustus, Elytrigia repens, Agropyron cristatum and Psathyrostachys juncea in better moisture areas, Artemisia terrae-albae, Lochia prostrata, and tall shrubs. Several small colonies.
- PI 598609. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-217; VIR U-0134908; W6 13240. Collected in Kazakhstan. Latitude 46 deg. 27' N. Longitude 57 deg. 30' E. Elevation 150 m. Clay soil, dry drainage area, 221km southwest of Chelkar. Annual precipitation 180mm. Dominated by Artemisia shrubs and sparse stand of Psathyrostachys juncea and Agropyron spp.
- PI 598610. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-218; VIR U-0134973; W6 13241. Collected in Kazakhstan. Latitude 46 deg. 27' N. Longitude 58 deg. 27' E. Elevation 160 m. Dry alkalai drainage area, 194km south southwest of Chelkar. Annual precipitation 170mm. Vegetation dominated by shrubs (including Tamarix and Salsola spp.), and sparse stand of Psathyrostachys juncea, Agropyron spp., and Festuca spp.

- PI 598611. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-221; VIR U-0134932; W6 13244. Collected in Kazakhstan. Latitude 47 deg. 13' N. Longitude 59 deg. 50' E. Elevation 230 m. Silty-clay soil, 77km south of Chelkar. Annual precipitation 150mm. Range site dominated by *Artemisia* spp., *Tamarix* spp., *Agropyron* spp., *Psathyrostachys juncea*, and *Thinopyrum intermedium*.
- PI 598612. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-223; VIR U-0134943; W6 13246. Collected in Kazakhstan. Latitude 47 deg. 50' N. Longitude 60 deg. 22' E. Elevation 230 m. Dry drainage area surrounded by a nearly pure stand of *Artemisia terrae-albae*, 55km east of Chelkar. Annual precipitation 150mm. Vegetation dominated by *Agropyron* spp., *Leymus angustus*, and a lesser amount of *Psathyrostachys juncea*.
- PI 598613. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-225; VIR U-0134994; W6 13248. Collected in Kazakhstan. Latitude 50 deg. 9' N. Longitude 58 deg. 51' E. Elevation 310 m. Silty-clay soil, 115km east of Aktyubinsk. Annual precipitation 250mm. Dominant vegetation *Artemisia* spp., *Psathyrostachys juncea*, *Medicago sativa*, *Agropyron cristatum*, *A. desertorum*, *A. cristatum*, miscellaneous shrubs, and annual weeds.
- PI 598614. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-226; VIR U-0134923; W6 13249. Collected in Kazakhstan. Latitude 50 deg. 15' N. Longitude 58 deg. 18' E. Elevation 335 m. Silty-loam soil, along stream bottom, waste area, north edge of Khromtau, 80km east of Aktyubinsk. Annual precipitation 300mm. Vegetation - *Bromus inermis*, *Agropyron cristatum*, *A. desertorum*, *A. fragile*, *Artemisia* spp., *Psathyrostachys juncea*, and annual weeds.
- PI 598615. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-227; VIR U-0134907; W6 13250. Collected in Kazakhstan. Latitude 50 deg. 16' N. Longitude 57 deg. 56' E. Elevation 320 m. Along roadway, 55km east of Aktyubinsk. Annual precipitation 350mm. Vegetation - *Bromus inermis*, *Agropyron* spp., *Psathyrostachys juncea*, and several other grasses.
- PI 598616. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-229; VIR U-0134617; K-36807; W6 13252. Collected in Kazakhstan. Dzhambul region. Represents four accessions bulked from the Dzhambul Region thus the B is added to the collection number.
- PI 598617. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-236; VIR U-0134616; K-36817; W6 13254. Collected in Kazakhstan. Dzhambul region.
- PI 598618. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-244; VIR U-0134634; K-36825; W6 13255. Collected in Kazakhstan. Turgay region. Represents two accessions bulked from the Turgay region thus the B is added to the collection number.
- PI 598619. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-246; VIR U-0134632; K-36827; W6 13256. Collected in Kazakhstan. Aktyubinsk region. Represents six accessions bulked from the Aktyubinsk

region thus the B is added to the collection number.

- PI 598620. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-251; VIR U-0134656; K-71707; W6 13258. Collected in Russian Federation. Novosibirsk region, Russia.
- PI 598621. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-258; VIR U-0134601; K-68099; W6 13259. Collected in Kazakhstan. East Kazakhstan region.
- PI 598622. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-259; VIR U-0134600; K-274175; W6 13260. Collected in Kazakhstan . Wild growing.
- PI 598623. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-260; VIR U-0134635; K-71953; W6 13261. Collected in Russian Federation. Altay region, Russia (Siberia). Represents 5 accessions bulked from the Altay region thus the B is added to the collection number.
- PI 598624. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-264; VIR U-0134659; K-63029; W6 13262. Collected in Kazakhstan. Taldy Kurgan region. Represents 2 accessions bulked from teh Taldy Kurgan region thus the B is added to the collection number.
- PI 598625. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-265; VIR U-0134662; K-61167; W6 13263. Collected in Kazakhstan. Issyk Kul region.
- PI 598626. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-270; VIR U-0134627; K-63043; W6 13264. Collected in Kazakhstan. Karaganda region.
- PI 598627. *Psathyrostachys juncea* (Fisch.) Nevski**  
Wild. JA-283; VIR U-0134661; K-68061; W6 13265. Collected in Kazakhstan. Akyubinsk region.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 10/24/1993.

- PI 598628. *Agropyron cristatum* (L.) Gaertn.**  
Wild. JA-1; VIR U-0134789; W6 13276. Collected in Kazakhstan. Latitude 47 deg. 0' N. Longitude 57 deg. 56' E. Elevation 220 m. Dry water way on plateau above Shagan Valley, 190km southwest of Chelkar. Annual precipitation 180mm. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata*, *Agropyron* spp., *Stipa* spp.
- PI 598629. *Agropyron cristatum* (L.) Gaertn.**  
Wild. JA-2; VIR U-0134843; W6 13277. Collected in Kazakhstan. Latitude 47 deg. 31' N. Longitude 59 deg. 46' E. Elevation 230 m. Dry water-drainage area, 41km south of Chelkar. Annual precipitation 150mm. Vegetation dominated by several grass species - *Psathyrostachys juncea*,

*Agropyron desertorum*, *A. cristatum*, *Bromus inermis*, *Elytrigia repens*.

**PI 598630. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-4; VIR U-0134806; W6 13279. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 43' E. Elevation 240 m. Sandy soil, Experiment Station at Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata*, and *Agropyron fragile*.

**PI 598631. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-5; VIR U-0134793; W6 13280. Collected in Kazakhstan. Latitude 48 deg. 36' N. Longitude 60 deg. 13' E. Elevation 230 m. Silty-sand soil, dry waterway, 95km north northeast of Chelkar. Annual precipitation 150mm. Vegetation - *Artemisia* spp., *Stipa* spp., *Agropyron cristatum* (where soil moisture is more favorable), *Agropyron fragile* (on more upland, dry areas), and some miscellaneous shrubs.

**PI 598632. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-6; VIR U-0134796; W6 13281. Collected in Kazakhstan. Latitude 48 deg. 40' N. Longitude 60 deg. 15' E. Elevation 230 m. Sandy soil, dry water way (gully), 103km north northeast of Chelkar. Annual precipitation 175mm. Vegetation - *Artemisia* spp., *Kochia prostrata*, and *Agropyron* spp.

**PI 598633. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-7; VIR U-0134853; W6 13282. Collected in Kazakhstan. Latitude 48 deg. 47' N. Longitude 60 deg. 12' E. Elevation 145 m. Edge of river bottom with lush vegetation, 112km north northeast of Chelkar. Annual precipitation 175mm. Vegetation consisting of *Agropyron cristatum*, *Bromus inermis*, *Leymus angustus*, *Astragalus* spp., and others.

**PI 598634. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-8; VIR U-0134836; W6 13283. Collected in Kazakhstan. Latitude 48 deg. 52' N. Longitude 60 deg. 11' E. Elevation 150 m. Sandy soil, water way (gully), 120km north northeast of Chelkar. Annual precipitation 175mm. Vegetation - multiple species, *Bromus inermis*, *Elytrigia* spp., and several shrubs.

**PI 598635. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-9; VIR U-0134827; W6 13284. Collected in Kazakhstan. Latitude 49 deg. 41' N. Longitude 60 deg. 12' E. Elevation 225 m. White alkalai soil along stream, 210km north northeast of Chelkar. Annual precipitation 225mm. Vegetation - *Leymus angustus*, *Psathyrostachys juncea*, *Tamarix*, and *Agropyron cristatum*.

**PI 598636. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-10; VIR U-0134819; W6 13285. Collected in Kazakhstan. Latitude 49 deg. 53' N. Longitude 60 deg. 8' E. Elevation 230 m. Silty loam soil, upland site, 230km north of Chelkar. Annual precipitation 250mm. Vegetation - *Agropyron fragile*, *A. cristatum*, *A. desertorum*, *Medicago* spp., *Artemisia* spp., and some annual weeds.

**PI 598637. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-12; VIR U-0134792; W6 13287. Collected in Kazakhstan. Latitude 50 deg. 15' N. Longitude 58 deg. 18' E. Elevation 335 m. Silty-loam

soil, along stream bottom, waste area, 80km east of Aktyubinsk, north edge of Khromtau. Annual precipitation 300mm. Vegetation - *Bromus inermis*, *Agropyron cristatum*, *A. desertorum*, *A. fragile*, *Artemisia* spp., *Psathyrostachys juncea* and annual weeds.

**PI 598638. *Agropyron cristatum* (L.) Gaertn.**

Cultivated. JA-13; VIR U-0134794; W6 13288. Collected in Kazakhstan. Latitude 50 deg. 13' N. Longitude 58 deg. 8' E. Elevation 335 m. Cultivated stand of *Agropyron cristatum* (variety Aktyubinsky schirokolosiy) in spring wheat area, 68km east of Aktyubinsk. Annual precipitation 300-350mm.

**PI 598639. *Agropyron cristatum* (L.) Gaertn.**

Cultivated. JA-14; VIR U-0134825; W6 13289. Collected in Kazakhstan. Latitude 50 deg. 13' N. Longitude 58 deg. 8' E. Elevation 335 m. Cultivated stand of *Agropyron cristatum* (variety Aktyubinsky schirokolosiy) in spring wheat area, 68km east of Aktyubinsk. Annual precipitation 300-350mm.

**PI 598640. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-15; VIR U-0134803; W6 13290. Collected in Kazakhstan. Latitude 50 deg. 16' N. Longitude 57 deg. 56' E. Elevation 320 m. Along roadway, 55km east of Aktyubinsk. Annual precipitation 350mm. Vegetation - *Bromus inermis*, *Agropyron* spp., *Psathyrostachys juncea*, and several other grasses.

**PI 598641. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-16; VIR U-0134845; W6 13291. Collected in Kazakhstan. Latitude 50 deg. 18' N. Longitude 57 deg. 38' E. Elevation 245 m. Along roadway, 30km east of Aktyubinsk. Annual precipitation 350-400mm. Dominant vegetation - *Stipa* spp. and *Artemisia terrae-albae*.

**PI 598642. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-17; VIR U-0134844; W6 13292. Collected in Kazakhstan. Latitude 50 deg. 18' N. Longitude 57 deg. 22' E. Elevation 230 m. Along roadway, 15km east northeast of Aktyubinsk. Annual precipitation 350-400mm. Dominant vegetation - *Stipa* spp. and *Artemisia terrae-albae*. Spikes large.

**PI 598643. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-18; VIR U-0134854; W6 13293. Collected in Kazakhstan. Latitude 50 deg. 18' N. Longitude 57 deg. 22' E. Elevation 230 m. Along roadway, 15km east northeast of Aktyubinsk. Annual precipitation 350-400mm. Dominant vegetation - *Stipa* spp. and *Artemisia terrae-albae*. Spikes large.

**PI 598644. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-19; VIR U-0134791; W6 13294. Collected in Kazakhstan. Latitude 47 deg. 29' N. Longitude 58 deg. 15' E. Elevation 200 m. Clay soil along dry creek bed, 105km west-southwest of Chelkar. Annual precipitation 200mm. Vegetation - *Bromus inermis*, *Leymus angustus*, *Elytrigia repens*, *Agropyron cristatum* and *Psathyrostachys juncea* in better moisture areas, *Artemisia terrae-albae*, *Kochia prostrata*, and tall shrubs.

**PI 598645. *Agropyron cristatum* (L.) Gaertn.**



- Wild. JA-20; VIR U-0134851; W6 13295. Collected in Kazakhstan. Latitude 47 deg. 29' N. Longitude 58 deg. 15' E. Elevation 200 m. Clay soil along dry creek bed, 105km west-southwest of Chelkar. Annual precipitation 200mm. Vegetation - *Bromus inermis*, *Leymus angustus*, *Elytrigia repens*, *Agropyron cristatum* and *Psathyrostachys juncea* in better moisture areas, *Artemisia terrae-albae*, *Kochia prostrata*, and tall shrubs.
- PI 598646. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-21; VIR U-0134855; W6 13296. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 43' E. Elevation 240 m. Sandy soil, Experiment Station at Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata* and *Agropyron fragile*.
- PI 598647. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-22; VIR U-0134798; W6 13297. Collected in Kazakhstan. Latitude 47 deg. 32' N. Longitude 58 deg. 17' E. Elevation 220 m. 90km west-southwest of Chelkar. Annual precipitation 180mm. Vegetation - *Poa bulbosa*, *Stipa* spp., *Agropyron fragile* and *Agropyron desertorum*.
- PI 598648. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-24; VIR U-0134757; W6 13299. Collected in Kazakhstan. Latitude 47 deg. 17' N. Longitude 58 deg. 13' E. Elevation 190 m. Center of Shagan Valley along dry water way, 120km west-southwest of Chelkar. Annual precipitation 220mm. Dominant vegetation - *Agropyron desertorum*, *A. fragile*, *Bromus inermis*, and *Psathyrostachys juncea*.
- PI 598649. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-25; VIR U-0134812; W6 13300. Collected in Kazakhstan. Latitude 47 deg. 8' N. Longitude 58 deg. 7' E. Elevation 220 m. Plateau overlooking Shagan Valley, shale type soil with dark rocks and sand, little domestic grazing in area, 144km southwest of Chelkar. Annual precipitation 200mm.
- PI 598650. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-26; VIR U-0134755; W6 13301. Collected in Kazakhstan. Latitude 47 deg. 2' N. Longitude 57 deg. 58' E. Elevation 220 m. Dry water way, 180km southwest of Chelkar. Annual precipitation 180mm. Dominant vegetation - *Artemisia terrae-albae*, *Agropyron* spp., *Stipa* spp., *Psathyrostachys juncea*, and *Ceratoides* spp.
- PI 598651. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-28; VIR U-0134810; W6 13303. Collected in Kazakhstan. Latitude 46 deg. 27' N. Longitude 58 deg. 27' E. Elevation 160 m. Dry alkalai drainage area, 194km south southeast of Chelkar. Annual precipitation 170mm. Vegetation dominated by shrubs (including *Tamarix* and *Salsola* spp.), and sparse stand of *Psathyrostachys juncea*, *Agropyron* spp., and *Festuca* spp.
- PI 598652. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-29; VIR U-0134841; W6 13304. Collected in Kazakhstan. Latitude 46 deg. 17' N. Longitude 58 deg. 35' E. Elevation 150 m. 195km south-southwest of Chelkar and 10km north of Bosoy (gas pump station #10). Annual precipitation 150mm. Collection of mixed pubescent and nonpubescent types. Vegetation dominated by shrubs - *Tamarix* and *Salsola*

spp., *Agropyron* spp., *Festuca* spp.

- PI 598653. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-30; VIR U-0134756; W6 13305. Collected in Kazakhstan. Latitude 46 deg. 34' N. Longitude 59 deg. 48' E. Elevation 75 m. Low drainage area with silty-clay soil, 147km south of Chelkar, about 25km north of Aral Sea. Annual precipitation 130mm. Sparse stand of 20 to 30 plants. Dominant vegetation *Tamarix* spp., *Eurotia eresmania*, *Poa bulbosa*, *Agropyron* spp., *Psathyrostachys juncea*, and *Leymus angustus*.
- PI 598654. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-31; VIR U-0134860; W6 13306. Collected in Kazakhstan. Latitude 46 deg. 49' N. Longitude 59 deg. 47' E. Elevation 150 m. Dry water drainage area, 112km south of Chelkar. Annual precipitation 150mm. Vegetation dominated by shrubs (*Artemisia* spp., *Salsola* spp., *Stipa* spp., and *Atraphaxis spinosa*).
- PI 598655. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-32; VIR U-0134828; W6 13307. Collected in Kazakhstan. Latitude 47 deg. 13' N. Longitude 59 deg. 50' E. Elevation 230 m. Silty-clay soil, 77km south of Chelkar. Annual precipitation 150mm. Range site dominated by *Artemisia* spp., *Tamarix* spp., *Agropyron* spp., *Psathyrostachys juncea*, and *Thinopyrum intermedium*.
- PI 598656. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-33; VIR U-0134802; W6 13308. Collected in Kazakhstan. Latitude 47 deg. 31' N. Longitude 59 deg. 46' E. Elevation 230 m. Dry water-drainage area, 41km south of Chelkar. Annual precipitation 150mm. Vegetation dominated by several grass species - *Psathyrostachys juncea*, *Agropyron desertorum*, *A. cristatum*, *Bromus inermis*, *Elytrigia repens*.
- PI 598657. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-34; VIR U-0134804; W6 13309. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 43' E. Elevation 240 m. Sandy soil, Experiment Station at Chelkar. Annual precipitation 150mm. Dominant vegetation *Artemisia terrae-albae*, *Kochia prostrata*, and *Agropyron fragile*.
- PI 598658. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-35; VIR U-0134758; W6 13310. Collected in Kazakhstan. Latitude 48 deg. 20' N. Longitude 60 deg. 9' E. Elevation 245 m. Low area where water had previously collected and dried up, heavily grazed, 68km northeast of Chelkar. Annual precipitation 150mm. Vegetation dominated by *Stipa* spp., *Artemisia terrae-albae*, *Bromus inermis*, *Agropyron cristatum* in protected areas, and *Agropyron fragile* on harsh sites.
- PI 598659. *Agropyron desertorum*** (Fisch. ex Link) Schult.  
Wild. JA-36; VIR U-0134759; W6 13311. Collected in Kazakhstan. Latitude 48 deg. 21' N. Longitude 60 deg. 7' E. Elevation 245 m. Low area where water had previously collected and dried up, heavily grazed, 68km north northeast of Chelkar. Annual precipitation 150mm. Vegetation - *Stipa* and shrubs (*Artemisia terrae-albae*), *Bromus inermis* and *Agropyron cristatum* in protected areas, *Agropyron fragile* on harsh sites.
- PI 598660. *Agropyron desertorum*** (Fisch. ex Link) Schult.

- Wild. JA-37; VIR U-0134760; W6 13312. Collected in Kazakhstan. Latitude 49 deg. 53' N. Longitude 60 deg. 8' E. Elevation 230 m. Silty loam soil, upland site, 230km north of Chelkar. Annual precipitation 250mm. Vegetation - *Agropyron fragile*, *A. cristatum*, *A. desertorum*, *Medicago* spp., *Artemisia* spp., and some annual weeds.
- PI 598661. *Agropyron desertorum* (Fisch. ex Link) Schult.**  
Wild. JA-38; VIR U-0134799; W6 13313. Collected in Kazakhstan. Latitude 50 deg. 9' N. Longitude 58 deg. 51' E. Elevation 310 m. Silty-clay soil, 115km east of Aktyubinsk. Annual precipitation 250mm. Vegetation - *Artemisia* spp., *Psathyrostachys juncea*, *Medicago sativa*, *Agropyron cristatum*, *A. desertorum*, *A. cristatum*, miscellaneous shrubs, and annual weeds.
- PI 598662. *Agropyron desertorum* (Fisch. ex Link) Schult.**  
Wild. JA-39; VIR U-0134849; W6 13314. Collected in Kazakhstan. Latitude 50 deg. 16' N. Longitude 57 deg. 56' E. Elevation 320 m. Along roadway, 55km east of Aktyubinsk. Annual precipitation 350mm. Vegetation - *Bromus inermis*, *Agropyron* spp., *Psathyrostachys juncea*, and several other grasses.
- PI 598663. *Agropyron desertorum* (Fisch. ex Link) Schult.**  
Wild. JA-40; VIR U-0134805; W6 13315. Collected in Kazakhstan. Latitude 50 deg. 18' N. Longitude 57 deg. 38' E. Elevation 245 m. Along roadway, 30km east of Aktyubinsk. Annual precipitation 350-400mm. Dominant vegetation - *Stipa* spp. and *Artemisia terrae-albae*.
- PI 598664. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-41; VIR U-0134781; W6 13316. Collected in Kazakhstan. Latitude 47 deg. 57' N. Longitude 59 deg. 40' E. Elevation 240 m. Sandy soil, Chelkar, Kazakhstan airport, 10km north of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata*, *Agropyron fragile*, and *Psathyrostachys juncea*.
- PI 598665. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-42; VIR U-0134826; W6 13317. Collected in Kazakhstan. Latitude 47 deg. 53' N. Longitude 59 deg. 38' E. Elevation 240 m. Very sandy soil near railway, 2km southeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Leymus* spp., and *Agropyron fragile*.
- PI 598666. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-43; VIR U-0134848; W6 13318. Collected in Kazakhstan. Latitude 47 deg. 53' N. Longitude 59 deg. 38' E. Elevation 240 m. Very sandy soil near railway, 2km southeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Leymus* spp., and *Agropyron fragile*.
- PI 598667. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-44; VIR U-0134783; W6 13319. Collected in Kazakhstan. Latitude 47 deg. 22' N. Longitude 59 deg. 10' E. Elevation 165 m. Sandy, saline soil near alkali lake, 60km southwest of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Poa bulbosa*, and sparse stand of *Agropyron fragile*.

- PI 598668. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-45; VIR U-0134820; W6 13320. Collected in Kazakhstan. Latitude 47 deg. 19' N. Longitude 58 deg. 28' E. Elevation 190 m. Sandy clay (silty) soil, 105km west-southwest of Chelkar. Annual precipitation 160mm. Vegetation - *Artemisia terrae-alba*, *Poa bulbosa*, *Stipa capillata*, and some *Agropyron fragile* (about 10%). Lower drought limit of *Agropyron*. *A. fragile* is only *Agropyron* on site.
- PI 598669. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-46; VIR U-0134856; W6 13321. Collected in Kazakhstan. Latitude 47 deg. 22' N. Longitude 58 deg. 17' E. Elevation 230 m. Sandy-clay soil, 115km west-southwest of Chelkar. Annual precipitation 170mm. Dominant vegetation - *Artemisia terrae-albae*, *Stipa capillata*, *Poa bulbosa*, and *Agropyron fragile*. *Agropyron fragile* in colonies.
- PI 598670. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-47; VIR U-0134850; W6 13322. Collected in Kazakhstan. Latitude 47 deg. 27' N. Longitude 58 deg. 18' E. Elevation 230 m. Sandy-clay soil, 105km west-southwest of Chelkar. Annual precipitation 180mm. Possibly mixed with *Agropyron desertorum*. Vegetation - *Artemisia terrae-albae*, *Poa bulbosa*, *Stipa* spp., *A. fragile* in stand with *A. desertorum*.
- PI 598671. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-48; VIR U-0134838; W6 13323. Collected in Kazakhstan. Latitude 47 deg. 27' N. Longitude 58 deg. 18' E. Elevation 230 m. Sandy-clay soil, 105km west-southwest of Chelkar. Annual precipitation 180mm. Pubescent form. Vegetation - *Artemisia terrae-albae*, *Poa bulbosa*, *Stipa* spp., *A. fragile* in stand with *A. desertorum*.
- PI 598672. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-49; VIR U-0134790; W6 13324. Collected in Kazakhstan. Latitude 47 deg. 31' N. Longitude 58 deg. 20' E. Elevation 230 m. Sandy-clay soil, 100km west-southwest of Chelkar. Annual precipitation 180mm. Pubescent type. Vegetation - *Kochia prostrata*, *Agropyron desertorum* and *A. fragile* in mixed stand, *Poa bulbosa*, *Stipa* spp.
- PI 598673. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-50; VIR U-0134776; W6 13325. Collected in Kazakhstan. Latitude 47 deg. 32' N. Longitude 58 deg. 17' E. Elevation 220 m. 90km west-southwest of Chelkar. Annual precipitation 180mm. Mixed with *Agropyron desertorum*. Vegetation - *Poa bulbosa*, *Stipa* spp., *Agropyron fragile* and *Agropyron desertorum*.
- PI 598674. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-51; VIR U-0134762; W6 13326. Collected in Kazakhstan. Latitude 47 deg. 29' N. Longitude 58 deg. 15' E. Elevation 200 m. Clay soil along dry creek bed, 105km west-southwest of Chelkar. Annual precipitation 200mm. Vegetation - *Bromus inermis*, *Leymus angustus*, *Elytrigia repens*, *Agropyron cristatum* and *Psathyrostachys juncea* in better moisture areas, *Artemisia terrae-albae*, *Kochia prostrata*, and tall shrubs.
- PI 598675. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-52; VIR U-0134773; W6 13327. Collected in Kazakhstan. Latitude 47 deg. 27' N. Longitude 58 deg. 14' E. Elevation 200 m. Along rim of

Shagan Valley, upper edge of melted snow field, 110km west-southwest of Chelkar. Annual precipitation 220mm. Pubescent form. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata*, and miscellaneous shrubs.

**PI 598676. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-53; VIR U-0134815; W6 13328. Collected in Kazakhstan. Latitude 47 deg. 24' N. Longitude 58 deg. 14' E. Elevation 200 m. Along rim of Shagan Valley, upper edge of melted snow field, 110km west-southwest of Chelkar. Annual rainfall 220mm. Nonpubescent form. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata*, and miscellaneous shrubs.

**PI 598677. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-54; VIR U-0134772; W6 13329. Collected in Kazakhstan. Latitude 47 deg. 17' N. Longitude 58 deg. 13' E. Elevation 190 m. Center of Shagan Valley, along dry water way, 120km west-southwest of Chelkar. Annual precipitation 220mm. Dominant vegetation - *Agropyron desertorum*, *A. fragile*, *Bromus inermis*, and *Psathyrostachys juncea*.

**PI 598678. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-56; VIR U-0134840; W6 13331. Collected in Kazakhstan. Latitude 47 deg. 20' N. Longitude 58 deg. 13' E. Elevation 190 m. Shale soil with black rock outcroppings (apparently high iron content), along rim of Shagan Valley, 116km west-southwest of Chelkar. Annual precipitation 190mm. Dominant vegetation - *Artemisia terrae-albae*, *Agropyron desertorum*, *A. fragile*.

**PI 598679. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-57; VIR U-0134859; W6 13332. Collected in Kazakhstan. Latitude 47 deg. 8' N. Longitude 58 deg. 7' E. Elevation 220 m. Shale type soil with dark rocks and sand, plateau overlooking Shagan Valley, little domestic grazing in area, 144km southwest of Chelkar. Annual precipitation 200mm. Vegetation - sparse small-statured shrubs (*Artemisia terrae-albae* and *Kochia prostrata*) and *Agropyron fragile*.

**PI 598680. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-58; VIR U-0134857; W6 13333. Collected in Kazakhstan. Latitude 47 deg. 4' N. Longitude 58 deg. 1' E. Elevation 220 m. Silty clay soil, Shagan Valley, 170km southwest of Chelkar. Annual precipitation 180mm. Pubescent form. Vegetation - *Artemisia terrae-albae*, *Agropyron desertorum* and *A. fragile*.

**PI 598681. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-59; VIR U-0134767; W6 13334. Collected in Kazakhstan. Latitude 47 deg. 4' N. Longitude 58 deg. 1' E. Elevation 220 m. Silty clay soil, Shagan Valley, 170km southwest of Chelkar. Annual precipitation 180mm. Nonpubescent form. Vegetation - *Artemisia terrae-albae*, *Agropyron desertorum* and *A. fragile*.

**PI 598682. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-62; VIR U-0134765; W6 13337. Collected in Kazakhstan. Latitude 46 deg. 18' N. Longitude 59 deg. 2' E. Elevation 90 m. Sandy soil, 175km south southwest of Chelkar. Annual precipitation 120mm. Dominant stand of *Agropyron fragile* surrounded by shrubs (*Artemisia* spp. and *Kochia prostrata*), some *Leymus racemosus* and *Colligonum* spp.

- PI 598683. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-63; VIR U-0134770; W6 13338. Collected in Kazakhstan. Latitude 46 deg. 21' N. Longitude 59 deg. 13' E. Elevation 85 m. 162km south southwest of Chelkar and about 10km northwest of Aral Sea. Annual precipitation 100mm. Very sparse vegetation consisting of *Artemisia* spp., *Kochia prostrata*, *Agropyron* spp., and *Poa bulbosa*.
- PI 598684. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-64; VIR U-0134852; W6 13339. Collected in Kazakhstan. Latitude 46 deg. 25' N. Longitude 59 deg. 26' E. Elevation 75 m. Sandy soil, 158km south of Chelkar and 5km north of Aral Sea. Annual precipitation 100mm. Sparse vegetation consisting of *Artemisia* spp., *Kochia prostrata*, *Agropyron* spp., and *Poa bulbosa*.
- PI 598685. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-65; VIR U-0134774; W6 13340. Collected in Kazakhstan. Latitude 46 deg. 24' N. Longitude 59 deg. 38' E. Elevation 75 m. Salt-basin area, 160km south of Chelkar about 1km north of Aral Sea. Annual precipitation 100mm. Dominated by shrubs (*Artemisia* spp.) and *Agropyron fragile*.
- PI 598686. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-66; VIR U-0134821; W6 13341. Collected in Kazakhstan. Latitude 46 deg. 17' N. Longitude 60 deg. 4' E. Elevation 75 m. Water drainage area, 175km south of Chelkar. Annual precipitation 100mm. Dominated by *Artemisia* spp., *Salsola*, and *Agropyron fragile*.
- PI 598687. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-67; VIR U-0134761; W6 13342. Collected in Kazakhstan. Latitude 46 deg. 17' N. Longitude 58 deg. 55' E. Elevation 110 m. Sandy soil, 183km south southwest of Chelkar. Annual precipitation 120mm. Vegetation about 99% shrubs (*Kochia prostrata* and *Artemisia* spp.), and some *Agropyron*.
- PI 598688. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-70; VIR U-0134779; W6 13345. Collected in Kazakhstan. Latitude 47 deg. 2' N. Longitude 59 deg. 53' E. Elevation 200 m. 92km south of Chelkar. Annual precipitation 150mm. North-facing slope dominated by *Artemisia* spp., *Stipa* spp., *Agropyron fragile*, and *A. desertorum*.
- PI 598689. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-71; VIR U-0134787; W6 13346. Collected in Kazakhstan. Latitude 47 deg. 18' N. Longitude 59 deg. 49' E. Elevation 230 m. 65km south of Chelkar. Annual precipitation 150mm. Vegetation - shrubs (*Artemisia*) surrounded by colonies of grass (*Agropyron* spp. and *Stipa* spp.).
- PI 598690. *Agropyron fragile* (Roth) P. Candargy**  
 Wild. JA-72; VIR U-0134786; W6 13347. Collected in Kazakhstan. Latitude 47 deg. 47' N. Longitude 59 deg. 44' E. Elevation 240 m. Sandy area, 8km east of Chelkar. Annual precipitation 150mm. Area dominated by *Leymus secalinus*, *L. racemosus*, *Agropyron fragile*, *Astragalus* spp., *Colligonum* spp., and Chee grass (*Achnatherum* spp.).
- PI 598691. *Agropyron fragile* (Roth) P. Candargy**

- Wild. JA-73; VIR U-0134839; W6 13348. Collected in Kazakhstan. Latitude 47 deg. 48' N. Longitude 59 deg. 48' E. Elevation 240 m. Margin of a saline-alkalai dry lake bed, 15km east of Chelkar. Annual precipitation 150mm. Vegetation - sparse stand of shrubs and grasses (*Agropyron* spp., *Psathyrostachys juncea*, Russian olive, *Achnatherum* spp., and *Sophora*).
- PI 598692. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-75; VIR U-0134837; W6 13350. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 44' E. Elevation 240 m. Sandy area, 12km east northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Leymus secalinus*, *Artemisia* spp., and *Agropyron fragile*.
- PI 598693. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-76; VIR U-0134784; W6 13351. Collected in Kazakhstan. Latitude 47 deg. 56' N. Longitude 49 deg. 51' E. Elevation 240 m. Very sandy site, 22km east northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Artemisia* spp. (*arbusculiforme*), *Leymus secalinus*, and *Agropyron fragile*.
- PI 598694. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-77; VIR U-0134782; W6 13352. Collected in Kazakhstan. Latitude 47 deg. 54' N. Longitude 59 deg. 56' E. Elevation 240 m. Sandy area, 25km east northeast of Chelkar. Annual precipitation 150mm.
- PI 598695. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-78; VIR U-0134778; W6 13353. Collected in Kazakhstan. Latitude 47 deg. 49' N. Longitude 60 deg. 3' E. Elevation 230 m. Alkaline lake area with clay soil, 35km east of Chelkar. Annual precipitation 150mm. Vegetation - *Leymus secalinus*, *Agropyron fragile*, and *Artemisia* spp.
- PI 598696. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-79; VIR U-0134768; W6 13354. Collected in Kazakhstan. Latitude 47 deg. 50' N. Longitude 60 deg. 11' E. Elevation 230 m. Sandy soil, 42km east of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae* (90%) and *Agropyron fragile*.
- PI 598697. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-80; VIR U-0134824; W6 13355. Collected in Kazakhstan. Latitude 47 deg. 48' N. Longitude 60 deg. 13' E. Elevation 215 m. Sandy soil, 48km east of Chelkar. Annual precipitation 150mm. Possibly mixed with *Agropyron desertorum*. Dominant vegetation - *Artemisia terrae-albae*, *Agropyron fragile*, and a much smaller amount of *A. desertorum*.
- PI 598698. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-81; VIR U-0134771; W6 13356. Collected in Kazakhstan. Latitude 47 deg. 47' N. Longitude 60 deg. 22' E. Elevation 215 m. Old lake bottom with some alkalinity, 55km east of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Agropyron fragile*, and *Elytrigia repens*.
- PI 598699. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-82; VIR U-0134830; W6 13357. Collected in Kazakhstan. Latitude 47 deg. 50' N. Longitude 60 deg. 22' E. Elevation 230 m. Dry drainage area surrounded by a nearly pure stand of *Artemisia terrae-albae*, 55km east of Chelkar. Annual precipitation 150mm. Vegetation in drainage

area dominated by *Agropyron* spp., *Leymus angustus*, and a lesser amount of *Psathyrostachys juncea*.

- PI 598700. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-84; VIR U-0134809; W6 13359. Collected in Kazakhstan. Latitude 48 deg. 2' N. Longitude 60 deg. 20' E. Elevation 230 m. Clay soil, dry water-drainage area, 60km east northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - pubescent form of *Agropyron fragile*, *Poa bulbosa*, and *Salsola* spp.
- PI 598701. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-85; VIR U-0134829; W6 13360. Collected in Kazakhstan. Latitude 48 deg. 5' N. Longitude 60 deg. 18' E. Elevation 230 m. Clay soil, 61km east northeast of Chelkar. Annual precipitation 150mm. Pubescent form. Shrub community dominated by *Artemisia terrae-albae* with colonies of *Agropyron* spp.
- PI 598702. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-86; VIR U-0134766; W6 13361. Collected in Kazakhstan. Latitude 48 deg. 5' N. Longitude 60 deg. 18' E. Elevation 230 m. Clay soil, 61km east northeast of Chelkar. Annual precipitation 150mm. Shrub community dominated by *Artemisia terrae-albae* with colonies of *Agropyron* spp.
- PI 598703. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-87; VIR U-0134833; W6 13362. Collected in Kazakhstan. Latitude 48 deg. 19' N. Longitude 60 deg. 10' E. Elevation 245 m. Silty-loam soil, 68km northeast of Chelkar. Annual precipitation 150mm. Vegetation dominated by *Artemisia terrae-albae* and *Kochia prostrata* with very sparse stand of *Agropyron fragile*.
- PI 598704. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-88; VIR U-0134788; W6 13363. Collected in Kazakhstan. Latitude 48 deg. 29' N. Longitude 60 deg. 10' E. Elevation 230 m. Sandy soil, dry water way, 86km north northeast of Chelkar. Annual precipitation 150mm. Vegetation - *Artemisia arbustiformis*, *Agropyron fragile*, and *Leymus angustus*.
- PI 598705. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-89; VIR U-0134834; W6 13364. Collected in Kazakhstan. Latitude 48 deg. 40' N. Longitude 60 deg. 15' E. Elevation 230 m. Sandy soil, dry water way (gully), 103km north northeast of Chelkar. Annual precipitation 175mm. Vegetation - *Artemisia* spp., *Kochia prostrata*, and *Agropyron* spp.
- PI 598706. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-90; VIR U-0134775; W6 13365. Collected in Kazakhstan. Latitude 48 deg. 47' N. Longitude 60 deg. 19' E. Elevation 150 m. Sandy soil, 110km north northeast of Chelkar. Annual precipitation 175mm. Dominant vegetation - *Agropyron fragile* and *Kochia prostrata*.
- PI 598707. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-91; VIR U-0134777; W6 13366. Collected in Kazakhstan. Latitude 48 deg. 56' N. Longitude 60 deg. 10' E. Elevation 145 m. Sandy soil, dry water way, 128km north northeast of Chelkar. Annual precipitation 175mm. Solid stand of *Leymus angustus* in bottom of draw. *Agropyron*



fragile, *Kochia prostrata*, *Artemisia terrae-albae* on higher sites.

- PI 598708. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-92; VIR U-0134780; W6 13367. Collected in Kazakhstan. Latitude 49 deg. 14' N. Longitude 60 deg. 40' E. Elevation 230 m. Sandy soil, 172km north northeast of Chelkar. Annual precipitation 200mm. Expansive stand of shrubs and grasses dominated by *Stipa* spp., *Artemisia terrae-albae*, *Agropyron fragile*, and *Kochia prostrata*.
- PI 598709. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-93; VIR U-0134813; W6 13368. Collected in Kazakhstan. Latitude 49 deg. 25' N. Longitude 60 deg. 19' E. Elevation 230 m. Silty-sand soil, area surrounding dry lake bed, 188km north northeast of Chelkar. Annual precipitation 200mm. Vegetation dominated by *Artemisia terrae-albae* and other shrubs, *Agropyron* spp., *Poa* spp., and *Stipa* spp.
- PI 598710. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-94; VIR U-0134769; W6 13369. Collected in Kazakhstan. Latitude 49 deg. 25' N. Longitude 60 deg. 19' E. Elevation 230 m. Silty-sand soil, area surrounding dry lake bed, 188km north northeast of Chelkar. Annual precipitation 200mm. Red-stemmed type. Vegetation dominated by *Artemisia terrae-albae* and other shrubs, *Agropyron* spp., *Poa* spp., and *Stipa* spp.
- PI 598711. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-95; VIR U-0134811; W6 13370. Collected in Kazakhstan. Latitude 49 deg. 25' N. Longitude 60 deg. 19' E. Elevation 230 m. Silty-sand soil, area surrounding dry lake bed, 188km north northeast of Chelkar. Annual precipitation 200mm. Two-plant collection. Red spikes and red nodes. Vegetation dominated by *Artemisia terrae-albae* and other shrubs, *Agropyron* spp., *Poa* spp., and *Stipa* spp.
- PI 598712. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-96; VIR U-0134823; W6 13371. Collected in Kazakhstan. Latitude 49 deg. 53' N. Longitude 60 deg. 8' E. Elevation 230 m. Silty loam soil, upland site, 230km north of Chelkar and 5km south of Karabutak. Annual precipitation 250mm. Vegetation - *Agropyron fragile*, *A. cristatum*, *A. desertorum*, *Medicago* spp., *Artemisia* spp., and some annual weeds.
- PI 598713. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-97; VIR U-0134846; W6 13372. Collected in Kazakhstan. Latitude 50 deg. 9' N. Longitude 58 deg. 51' E. Elevation 310 m. Silty-clay soil, 115km east of Aktyubinsk. Annual precipitation 250mm. Vegetation - *Artemisia* spp., *Psathyrostachys juncea*, *Medicago sativa*, *Agropyron cristatum*, *A. desertorum*, *A. cristatum*, miscellaneous shrubs and annual weeds.
- PI 598714. *Agropyron fragile* (Roth) P. Candargy**  
Wild. JA-98; VIR U-0134858; W6 13373. Collected in Kazakhstan. Latitude 47 deg. 50' N. Longitude 59 deg. 22' E. Elevation 215 m. Heavily grazed range, 20km west southwest of Chelkar. Annual precipitation 150mm. Vegetation dominated by *Artemisia terrae-albae*, some *Salsola*, and 6 or 7 plants of *Agropyron fragile* in protected area.
- PI 598715. *Agropyron fragile* (Roth) P. Candargy**

Wild. JA-99; VIR U-0134832; W6 13374. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 29' E. Elevation 230 m. Sandy soil area surrounding a dry lake bed, 13km west southwest of Chelkar. Annual precipitation 150mm. Vegetation dominated by *Artemisia terrae-albae*, *Tamarix*, and *Agropyron fragile*.

**PI 598716. *Agropyron cristatum* (L.) Gaertn.**

Wild. JA-100; VIR U-0134795; W6 13375. Collected in Kazakhstan. Latitude 47 deg. 48' N. Longitude 59 deg. 28' E. Elevation 230 m. Clay soil, dry area where water had previously collected, in center of heavily grazed range, 23km southwest of Chelkar. Annual precipitation 150mm. Vegetation dominated by *Artemisia terrae-albae* with essentially no grasses.

**PI 598717. *Agropyron cristatum* (L.) Gaertn.**

Cultivated. JA-101; VIR U-0134753; K-37237; W6 13376. Collected 07/1992 in Kazakhstan. Turf type. Seed harvested from breeder's nursery.

The following were collected by G. Oliva; Montes. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598718. *Alopecurus pratensis* L.**

Wild. RGA 071; W6 13813. Collected in Argentina. Hacienda Viamonte.

The following were donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598719. *Bromus araucanus* Phil.**

Wild. RGA 441; W6 13814. Collected in Argentina. Shrimp Bay (Chubut).

The following were collected by D. Molina Sanchez. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598720. *Bromus auleticus* Trin. ex Nees**

Wild. RGA 339; W6 13815. Collected in Argentina. Trelew Experiment Station Selection 177 DMS.

The following were collected by D. Molina Sanchez. Received 11/18/1993.

**PI 598721. *Bromus mango* E. Desv.**

Wild. RGA 343; W6 13816. Collected in Argentina. Trelew Experiment Station.

The following were collected by G. Oliva; G. Humano. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598722. Bromus setifolius J. Presl**

Wild. RGA 031; W6 13817. Collected in Argentina. Hacienda San Miguel. National Route 40-50 km before Esperanza on route to Calafete-Rio Gallegos.

The following were collected by Teddy Lloyd. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598723. Bromus setifolius J. Presl**

Wild. RGA 294; W6 13818. Collected in Argentina. The Z - Esquel - Chubut.

The following were donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598724. Bromus auleticus Trin. ex Nees**

Cultivated. RGA 438; W6 13819. Collected in Argentina. Grown at the Institute Nacional de Tecnologia Agropecuaria (INTA) station at Trelew.

The following were collected by G. Oliva; G. Humano. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598725. Bromus catharticus Vahl**

Wild. RGA 030; W6 13820. Collected in Argentina. National Route 40 to entrance of Hacienda San Miguel (50 km before Esperanza on the highway to Rio Gallegos).

The following were collected by D. Molina Sanchez. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598726. Elymus patagonicus Speg.**

Wild. RGA 338; W6 13829. Collected in Argentina. Estacion Experimental Agropecuaria Trelew Experiment Station Material originally from Esquel - Chubut.

The following were collected by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598727. Leymus racemosus ssp. sabulosus (M. Bieb.) Tzvelev**

Wild. RGA 230; W6 13830. Collected in Argentina. San Martin Lake - Hacienda La Tercere - Medano.

The following were collected by Teddy Lloyd. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598728. *Festuca pallescens* (St.-Yves) Parodi var. *pallescens***  
Wild. RGA 292; W6 13839. Collected in Argentina. The Z - Chubut.

The following were collected by Jorge Dubcovsky, University of California, Department of Agronomy & Range Science, Agricultural Experiment Station, Davis, California 95616-8515, United States; G. Oliva. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598729. *Festuca pallescens* var. *scabra* (St.-Yves) Parodi**  
Wild. RGA 020; W6 13840. Collected in Argentina. San Martin of the Andes.

The following were collected by Baetti-Oliva. Received 11/18/1993.

**PI 598730. *Festuca rubra* L. ssp. *rubra***  
Wild. RGA 049; W6 13842. Collected in Argentina. Karken Inn.

The following were collected by Carlos Baetti; G. Oliva. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598731. *Festuca rubra* L. ssp. *rubra***  
Wild. RGA 057; W6 13843. Collected in Argentina. Camping Lashifasaj - Route "J" Hacienda Harberton.

The following were collected by G. Oliva; Montes. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598732. *Holcus lanatus* L.**  
Wild. RGA 074; W6 13844. Collected in Argentina. Kaiken Inn.

The following were collected by Soto-Utrilla-Salazar. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598733. *Poa duseinii* Hack.**  
Wild. RGA 061; W6 13848. Collected in Argentina. Cmte Luis Piedrabuena.

The following were collected by G. Oliva; Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Donated by Leopoldo Montes, E.E.A. - I.N.T.A., Santa Cruz, CC. 332 - (9400) Rio Gallegos, Santa Cruz, Santa Cruz, Argentina. Received 11/18/1993.

**PI 598734. *Poa duseinii* Hack.**  
Wild. RGA 429; W6 13850. Collected in Argentina. Hacienda Two Lagoons, km 2310, Route 3.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/17/1993.

**PI 598735. *Elytrigia intermedia* (Host) Nevski**

Wild. JA-133; VIR U-0134960; W6 13893. Collected 1992 in Former Soviet Union. Latitude 47 deg. 54' N. Longitude 60 deg. 17' E. Elevation 185 m. Clay soil, dry water-drainage area 50km east of Chelkar. Annual precipitation 150mm. Vegetation - *Thinopyrum intermedium* and *Elytrigia repens*.

**PI 598736. *Elytrigia* sp.**

Wild. JA-135; VIR U-0134978; W6 13894. Collected 1992 in Former Soviet Union. Latitude 48 deg. 2' N. Longitude 60 deg. 20' E. Elevation 230 m. Clay soil dry water-drainage area, 60km east northeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - pubescent form of *Agropyron fragile*, *Poa bulbosa*, and *Salsola* spp.

**PI 598737. *Elytrigia intermedia* (Host) Nevski**

Wild. JA-132; VIR U-0134892; W6 13895. Collected 1992 in Former Soviet Union. Latitude 46 deg. 28' N. Longitude 59 deg. 50' E. Elevation 75 m. Sandy soil adjacent to Aral Sea flats, 153km south of Chelkar, about 20km north of Aral Sea. Annual precipitation 130mm. Area dominated by species of *Salsola*, *Artemisia*, *Aristida*, and *Tamarix*.

**PI 598738. *Elytrigia intermedia* (Host) Nevski**

Wild. JA-139; VIR U-0134987; W6 13896. Collected 1992 in Former Soviet Union. Latitude 47 deg. 13' N. Longitude 59 deg. 50' E. Elevation 230 m. Silty-clay 77km south of Chelkar. Annual precipitation 150mm. Range site dominated by *Artemisia* spp., *Tamarix* spp., *Agropyron* spp., *Psathyrostachys juncea*, and *Thinopyrum intermedium*.

**PI 598739. *Elytrigia intermedia* (Host) Nevski**

Wild. JA-137; VIR U-0134936; W6 13897. Collected 1992 in Former Soviet Union. Latitude 47 deg. 32' N. Longitude 58 deg. 15' E. Elevation 215 m. Clay soil with alkalai evident, dry water way, 95km west- southwest of Chelkar. Annual precipitation 180mm. Dominant vegetation - *Artemisia terrae-albae*, *Poa bulbosa*, *Agropyron desertorum* and *A. fragile*, and some *Psathyrostachys juncea*.

**PI 598740. *Elytrigia intermedia* (Host) Nevski**

Wild. JA-140; VIR U-0134945; W6 13902. Collected 1992 in Former Soviet Union. Latitude 47 deg. 47' N. Longitude 59 deg. 19' E. Elevation 230 m. Clay soil, heavily grazed range 25km west southwest of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia* spp., *Tamarix* spp., *Agropyron* spp., *Psathyrostachys juncea*, and *Thinopyrum intermedium*.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Michael D. Casler, University of Wisconsin, Department of Agronomy, 1575

Linden Drive, Madison, Wisconsin 53706-1597, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/17/1993.

**PI 598741. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. AJC-302; MA-74-6--15; W6 13931. Collected in Former Soviet Union. Dikorastuscij Lvov Region, USSR 1984. Received from N.I. Vavilov All-Union Inst. of Plant Industry, Leningrad, USSR. 10/1988.

**PI 598742. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. AJC-308; MA-70-31--40; W6 13932. Collected in Former Soviet Union. Dikorastuscij Buryat ASSR, USSR 1986. Received from N.I. Vavilov All-Union Inst. of Plant Industry, Leningrad, USSR, October 1988.

**PI 598743. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. AJC-316; MA-71-11--20; W6 13936. Collected in Former Soviet Union. Ungrazed and uncut area along road and hay fields, mixed grass/forbs on Gregarin State Farm, 15km southeast of Karavanniy, USSR.

**PI 598744. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. AJC-320; MA-71-46--55; W6 13939. Collected in Former Soviet Union. Elevation 730 m. Roadside along Sema River, Cherga, Altai Region, USSR. 40-50 plants, mostly rhizomatus.

**PI 598745. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. AJC-321; MA-71-56--65; W6 13940. Collected in Former Soviet Union. Near old bridge 3km west of Cherga, Altai Region, USSR.

**PI 598746. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. AJC-323; MA-71-76--85; W6 13941. Collected in Former Soviet Union. Tuekta (Memorial to Socialist Revolution across road, white fence), Altai Region, USSR. Spike red. Growing in stones. No rhizomes.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/17/1993.

**PI 598747. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. JA-143; W6 13951. Collected in Former Soviet Union. Latitude 47 deg. 31' N. Longitude 59 deg. 46' E. Elevation 230 m. Dry water-drainage area 41km south of Chelkar, Kazakhstan. Annual precipitation 150mm. Dominated by several grass species - *Psathyrostachys juncea*, *Agropyron desertorum*, *A. cristatum*, *Bromus inermis*, *Elytrigia repens*.

**PI 598748. *Elytrigia repens* (L.) Desv. ex Nevski**  
Wild. JA-144; W6 13952. Collected in Former Soviet Union. Latitude 47 deg. 48' N. Longitude 59 deg. 28' E. Elevation 230 m. Clay soil, dry area where water had previously collected in center of heavily grazed range, 23km southwest of Chelkar, Kazakhstan. Annual precipitation

150mm. Dominated by *Artemisia terrae-albae* with essentially no grasses.

**PI 598749. *Elytrigia repens* (L.) Desv. ex Nevski**

Wild. JA-141; W6 13953. Collected in Former Soviet Union. Latitude 47 deg. 47' N. Longitude 60 deg. 22' E. Elevation 215 m. Old lake bottom with some alkalinity 55km east of Chelkar, Kazakhstan. Annual precipitation 150mm. Dominant vegetation *Artemisia terrae-albae*, *Agropyron fragile*, and *Elytrigia repens*.

**PI 598750. *Leymus angustus* (Trin.) Pilg.**

Wild. JA-117; VIR U-0134957; W6 14118. Collected in Kazakhstan. Latitude 49 deg. 25' N. Longitude 60 deg. 19' E. Elevation 230 m. Silty-sand soil area surrounding a dry lake bed, 188km north northeast of Chelkar. Annual precipitation 200mm. Vegetation dominated by *Artemisia terrae-albae* and other shrubs, *Agropyron* spp., *Poa* spp., and *Stipa* spp.

**PI 598751. *Leymus angustus* (Trin.) Pilg.**

Wild. JA-118; VIR U-0134910; W6 14119. Collected in Kazakhstan. Latitude 49 deg. 41' N. Longitude 60 deg. 12' E. Elevation 225 m. White alkalai soil along stream, 210km north northeast of Chelkar. Annual precipitation 225mm. Vegetation - *Leymus angustus*, *Psathyrostachys juncea*, *Tamarix*, and *Agropyron cristatum*.

**PI 598752. *Leymus racemosus* (Lam.) Tzvelev**

Wild. JA-120; VIR U-0134894; W6 14121. Collected in Kazakhstan. Latitude 47 deg. 20' N. Longitude 58 deg. 13' E. Elevation 190 m. Sandy-shale soil with black rock outcroppings (apparently high iron content) along rim of Shagan Valley, 116km west-southwest of Chelkar. Annual precipitation 190mm. Dominant vegetation - *Artemisia terrae-albae*, *Agropyron desertorum*, *A. fragile*.

**PI 598753. *Leymus racemosus* (Lam.) Tzvelev**

Wild. JA-122; VIR U-0134991; W6 14123. Collected in Kazakhstan. Latitude 47 deg. 52' N. Longitude 59 deg. 43' E. Elevation 240 m. Sandy soil, Experiment Station at Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Kochia prostrata*, and *Agropyron fragile*.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 11/30/1993.

**PI 598754. *Leymus secalinus* (Georgi) Tzvelev**

Wild. JA-124; VIR U-0134970; W6 14125. Collected in Kazakhstan. Latitude 47 deg. 53' N. Longitude 59 deg. 38' E. Elevation 240 m. Very sandy and dark soil near railroad, 2km southeast of Chelkar. Annual precipitation 150mm. Dominant vegetation - *Artemisia terrae-albae*, *Leymus* spp., and *Agropyron fragile*.

**PI 598755. *Leymus secalinus* (Georgi) Tzvelev**

Wild. JA-125; VIR U-0134921; W6 14126. Collected in Kazakhstan. Latitude 47 deg. 53' N. Longitude 59 deg. 38' E. Elevation 240 m. Very sandy soil near railroad, 2km southeast of Chelkar. Annual precipitation 150mm.

Dominant vegetation - *Artemisia terrae-albae*, *Leymus* spp., and *Agropyron fragile*.

- PI 598756. *Leymus secalinus* (Georgi) Tzvelev**  
Wild. JA-126; VIR U-0134896; W6 14127. Collected in Kazakhstan. Latitude 46 deg. 18' N. Longitude 59 deg. 2' E. Elevation 90 m. Sandy soil 175km south southwest of Chelkar. Annual precipitation 120mm. Dominant stand of *Agropyron fragile* surrounded by shrubs (*Artemisia* spp. and *Kochia prostrata*), some *Leymus racemosus* and *Colligonum* spp.
- PI 598757. *Leymus secalinus* (Georgi) Tzvelev**  
Wild. JA-127; VIR U-0134915; W6 14128. Collected in Kazakhstan. Latitude 47 deg. 47' N. Longitude 59 deg. 44' E. Elevation 240 m. Sandy area 8km east of Chelkar. Annual precipitation 150mm. Dominate vegetation - *Leymus secalinus*, *L. racemosus*, *Agropyron fragile*, *Astragalus* spp., *Colligonum* spp., and Chee grass (*Achnatherum* spp.).

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 12/10/1993.

- PI 598758. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-148; K-45820; VIR U-0134704; W6 14506. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598759. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-149; K-45816; VIR U-0134696; W6 14507. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598760. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-150; K-45763; VIR U-0134700; W6 14508. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598761. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-151; K-45758; VIR U-0134697; W6 14509. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598762. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-152; K-45810; VIR U-0134718; W6 14510. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598763. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-153; K-45812; VIR U-0134709; W6 14511. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598764. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-154; K-45760; VIR U-0134698; W6 14512. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598765. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. JA-155; K-45752; VIR U-0134699; W6 14513. Collected in Kazakhstan.



Chita Region, Siberia.

- PI 598766. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-157; K-38153; VIR U-013413; W6 14515. Collected in Kazakhstan.  
Alma Ata Region.
- PI 598767. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-158; K-44168; VIR U-0134708; W6 14516. Collected in Kazakhstan.  
Primorsky Region.
- PI 598768. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-159; K-45817; VIR U-0134702; W6 14517. Collected in Kazakhstan.  
Southeast of Baikal, Buryat Autonomous Republic.
- PI 598769. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-160; K-45754; VIR U-0134712; W6 14518. Collected in Kazakhstan.  
Southeast of Baikal, Buryat Autonomous Republic.
- PI 598770. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-161; K-45765; VIR U-0134713; W6 14519. Collected in Kazakhstan.  
Southeast of Baikal, Buryat Autonomous Republic.
- PI 598771. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-162; K-45766; VIR U-0134703; W6 14520. Collected in Kazakhstan.  
Southeast of Baikal, Buryat Autonomous Republic.
- PI 598772. *Elymus dahuricus* Turcz. ex Griseb.  
Wild. JA-163; K-45807; VIR U-0134728; W6 14521. Collected in Kazakhstan.  
Southeast of Baikal, Buryat Autonomous Republic.
- PI 598773. *Elymus sibiricus* L.  
Wild. JA-167; K-42061; VIR U-0134726; W6 14525. Collected in Kazakhstan.
- PI 598774. *Elymus sibiricus* L.  
Wild. JA-168; K-40808; VIR U-0134725; W6 14526. Collected in Kazakhstan.  
Kami, northeast of Leningrad, Ukhta.
- PI 598775. *Elymus sibiricus* L.  
Wild. JA-169; K-44159; VIR U-0134611; W6 14527. Collected in Kazakhstan.  
Primorsky Region, Far East of Russia.
- PI 598776. *Elymus sibiricus* L.  
Wild. JA-171; K-44139; VIR U-0134695; W6 14529. Collected in Kazakhstan.  
Amur Region, Far East of Russia.
- PI 598777. *Elymus sibiricus* L.  
Wild. JA-172; K-42062; VIR U-0134742; W6 14530. Collected in Kazakhstan.  
Khabarovsk Region, Far East of Russia.
- PI 598778. *Elymus sibiricus* L.  
Wild. JA-173; K-44145; VIR U-0134694; W6 14531. Collected in Kazakhstan.
- PI 598779. *Elymus sibiricus* L.  
Wild. JA-176; K-40007; VIR U-0134738; W6 14534. Collected in Kazakhstan.  
Amur Region, Far East of Russia.

- PI 598780. *Elymus sibiricus* L.  
Wild. JA-178; K-44160; VIR U-0134710; W6 14536. Collected in Kazakhstan. Primorsky Region, Maritime Territory, Vladivostok, Far East of Russia.
- PI 598781. *Elymus sibiricus* L.  
Wild. JA-179; K-46471; VIR U-0134706; W6 14537. Collected in Kazakhstan. Southwest of Baikal, Buryat Autonomous Republic.
- PI 598782. *Elymus sibiricus* L.  
Wild. JA-180; K-45753; VIR U-0134711; W6 14538. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598783. *Elymus sibiricus* L.  
Wild. JA-190; K-46470; W6 14548. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598784. *Elymus sibiricus* L.  
Wild. JA-191; K-45762; VIR U-0134674; W6 14549. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598785. *Elymus sibiricus* L.  
Wild. JA-195; K-42063; W6 14553. Collected in Kazakhstan. Amur Region, Far East of Russia.
- PI 598786. *Elymus sibiricus* L.  
Wild. JA-196; K-45757; VIR U-0134693; W6 14554. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.
- PI 598787. *Elymus sibiricus* L.  
Wild. JA-197; K-40000; VIR U-0134691; W6 14555. Collected in Kazakhstan. Amur Region, Far East of Russia.
- PI 598788. *Elymus sibiricus* L.  
Wild. JA-198; K-39237; VIR U-0134672; W6 14556. Collected in Kazakhstan. Alma Ata.
- PI 598789. *Elymus sibiricus* L.  
Wild. JA-199; K-45751; VIR U-0134688; W6 14557. Collected in Kazakhstan. Chita (Siberia).
- PI 598790. *Elymus fibrosus* (Schrenk) Tzvelev  
Wild. JA-201; K-47035; VIR U-0134678; W6 14559. Collected in Kazakhstan. Southeast of Lake Baikal, Buryat Autonomous Republic.
- PI 598791. *Elymus trachycaulus* (Link) Gould ex Shinners  
Wild. JA-206; K-45825; VIR U-0134675; W6 14564. Collected in Kazakhstan. Southeast of Baikal, Buryat Autonomous Republic.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Michael D. Casler, University of Wisconsin, Department of Agronomy, 1575 Linden Drive, Madison, Wisconsin 53706-1597, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State

University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 12/14/1993.

- PI 598792. *Elymus dahuricus* Turcz. ex Griseb.**  
Wild. AJC-227; W6 14570. Collected 08/17/1988 in Russian Federation.  
Elevation 1100 m. 3.5km north of Cherga, Altai Region.
- PI 598793. *Elymus gmelinii* (Ledeb.) Tzvelev**  
Wild. AJC-255; W6 14579. Collected 08/16/1988 in Russian Federation. 5km west of Yubagon Village, Altai Region, Siberia.
- PI 598794. *Elymus gmelinii* (Ledeb.) Tzvelev**  
Wild. AJC-256; W6 14580. Collected 08/16/1988 in Russian Federation.  
10km east of Yubagon Pass, Altai Region.
- PI 598795. *Elymus sibiricus* L.**  
Wild. AJC-269; W6 14587. Collected 08/15/1988 in Russian Federation.  
Subalpine meadow near Topuchee Pass, Altai Mountains, Siberia. Mixed grass/forbs.
- PI 598796. *Elymus sibiricus* L.**  
Wild. AJC-271; W6 14588. Collected 08/14/1988 in Russian Federation.  
Experimental farm in Cherga, Inst. of Cytology & Genetics of the Siberian Branch of Scademy of Science at Novosibirsk.
- PI 598797. *Elymus sibiricus* L.**  
Wild. AJC-272; W6 14589. Collected 08/14/1988 in Russian Federation.  
Experimental farm in Cherga, Inst. of Cytology & Genetics of the Siberian Branch of Academy of Science, Novosibirsk.
- PI 598798. *Elymus sibiricus* L.**  
Wild. AJC-273; W6 14590. Collected 08/14/1988 in Russian Federation.  
Experimental farm in Cherga, Inst. of Cytology and Genetics of the Siberian Branch of Academy of Science, Novosibirsk.
- PI 598799. *Elymus sibiricus* L.**  
Wild. AJC-274; W6 14591. Collected 08/14/1988 in Russian Federation.  
Experimental farm in Cherga, Inst. of Cytology and Genetics of the Siberian Branch of Academy of Science, Novosibirsk.
- PI 598800. *Elymus sibiricus* L.**  
Wild. AJC-275; W6 14592. Collected 08/17/1988 in Russian Federation.  
Near Cherga village, Altai Region, Siberia.
- PI 598801. *Elymus sibiricus* L.**  
Wild. AJC-279; W6 14595. Collected 08/17/1988 in Russian Federation.  
Elevation 1200 m. Top of Kukuya Pass 30km west of Cherga, Altai Region, Siberia.
- PI 598802. *Elymus sibiricus* L.**  
Wild. AJC-282; W6 14598. Collected 08/17/1988 in Russian Federation. 2km northwest of Kamlak, Altai Mountains, Siberia.
- PI 598803. *Leymus angustus* (Trin.) Pilg.**

Wild. AJC-373; VIR-40623; W6 14602. Collected 01/17/1989 in Russian Federation.

**PI 598804. *Leymus angustus* (Trin.) Pilg.**  
Wild. AJC-375; W6 14604. Collected 08/25/1988 in Russian Federation. Edge of road, no grazing, dry, Martuk-1, 15km west northwest of Martuk, on route from Aktyubinsk to Orenburg, USSR.

**PI 598805. *Leymus angustus* (Trin.) Pilg.**  
Wild. AJC-392; W6 14613. Collected 08/26/1988 in Russian Federation. Sandy, ungrazed area, Lenin State Farm, 6km east of Kruchkovka, Orenburg Region.

**PI 598806. *Leymus racemosus* (Lam.) Tzvelev**  
Wild. AJC-418; W6 14622. Collected 08/23/1988 in Russian Federation. Next to Malaya Khobda River, some grazing, near Aktu-70, 72km southwest of Aktyubinsk.

**PI 598807. *Leymus racemosus* (Lam.) Tzvelev**  
Wild. AJC-420; W6 14623. Collected 08/23/1988 in Russian Federation. Dryland area of farm, right next to power transformer station, Saraldjy State Farm-2, Aktyubinsk Region.

**PI 598808. *Agropyron fragile* (Roth) P. Candargy**  
Wild. AJC-594; W6 14627. Collected 05/16/1989 in Russian Federation. Kazakhstan Inst. of Fodder Crops, Alma Ata. Origin: Strain "Takumsky". 1986 seed.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States. Donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598809. *Elymus lanceolatus* (Scribn. & J. G. Sm.) Gould *ssp. lanceolatus***  
Wild. K164; Acc:361; W6 14629. Collected in Wyoming, United States. Northeast Kemmerer, Lincoln County.

**PI 598810. *Elymus lanceolatus* (Scribn. & J. G. Sm.) Gould *ssp. lanceolatus***  
Wild. K165; Acc:362; W6 14630. Collected in Wyoming, United States. Northeast Kemmerer, Lincoln County.

**PI 598811. *Elymus lanceolatus* (Scribn. & J. G. Sm.) Gould *ssp. lanceolatus***  
Wild. K166; Acc:363; W6 14631. Collected in Wyoming, United States. East Kemmerer, Lincoln County.

The following were collected by Stan Kitchen, U.S. Forest Service, Shrub Science Lab., 735 North 500 East, Provo, Utah 84606, United States. Donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598812. *Elymus wawawaiensis* ined.**

Wild. B51; Acc:773; W6 14641. Collected in Oregon, United States.  
Enterprise, Wallowa County.

The following were donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598813. *Elymus wawawaiensis* ined.**

Wild. T-427; W6 14642. Collected in Oregon, United States. 11.5m northeast Joseph on Highway 82, Wallowa County.

**PI 598814. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. Acc:704; W6 14646. Collected in Utah, United States. 2m southwest Curlew Junction (Highway 42 and 30) on Highway 30, Box Elder County.

The following were collected by D.C. Nielson, USDA, ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598815. *Pseudoroegneria spicata* (Pursh) A. Love**

Wild. Acc:65; W6 14647. Collected in Idaho, United States. 10m south Howe on Highway 33, Butte County.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States. Donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598816. *Pseudoroegneria spicata* (Pursh) A. Love**

Wild. K67; Acc:237; W6 14649. Collected in Washington, United States. 2m south Connell on Highway 395, Franklin County.

**PI 598817. *Pseudoroegneria spicata* (Pursh) A. Love**

Wild. K62; Acc:653; W6 14652. Collected in Utah, United States. Wellsville Canyon, Cache County.

The following were collected by Stan Kitchen, U.S. Forest Service, Shrub Science Lab., 735 North 500 East, Provo, Utah 84606, United States. Donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598818. *Pseudoroegneria spicata* (Pursh) A. Love**

Wild. B91; Acc:701; W6 14656. Collected in Oregon, United States. 9m northwest Ontario on I-84, Malheur County.

The following were collected by Dave Stout, Washington State University, Regional Plant Introduction Station, Johnson Hall, Room 61, Pullman, Washington 99164-6402, United States; A. M. Davis, USDA, ARS, Regional Plant

Introduction Station, 59 Johnson Hall, Pullman, Washington 99164-6402, United States. Donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598819. *Pseudoroegneria spicata* (Pursh) A. Love**  
Wild. D&S 114 (mix 2); Acc:1036; W6 14658. Collected in Washington, United States. 1m south Asotin on Highway 129, Asotin County.  
Originally mixed with *Elymus lanceolatus* spp. *wawawaiensis*.

The following were donated by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States. Received 12/09/1993.

**PI 598820. *Pseudoroegneria spicata* (Pursh) A. Love**  
Wild. T-1; W6 14659. Collected in Utah, United States. 1m west Curlew Junction (Highway 42 and 30) on Highway 42, Box Elder County.

**PI 598821. *Pseudoroegneria spicata* (Pursh) A. Love**  
Wild. T-15; W6 14660. Collected in Washington, United States. Wawawai Park, Whitman County.

**PI 598822. *Pseudoroegneria spicata* (Pursh) A. Love**  
Wild. T-456; W6 14665. Collected in Colorado, United States. 17.5m northeast Meeker on Highway 13, Rio Blanco County.

**PI 598823. *Pseudoroegneria spicata* (Pursh) A. Love**  
Wild. T-568; W6 14666. Collected in Washington, United States. 3m east Maryhill on Highway 14, Klickitat County.

The following were collected by Kay H. Asay, USDA, ARS, Forage & Range Research Unit, Utah State University, Logan, Utah 84322-6300, United States; Michael D. Casler, University of Wisconsin, Department of Agronomy, 1575 Linden Drive, Madison, Wisconsin 53706-1597, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 12/10/1993.

**PI 598824. *Agropyron desertorum* (Fisch. ex Link) Schult.**  
Wild. AJC-029; MA-82-44-45; W6 14908. Collected 08/24/1988 in Kazakhstan . Near Uil River, Aktyubinsk region. Associated with bluegrass.

Unknown source. Received 02/07/1994.

**PI 598825. *Bromus mango* E. Desv.**  
W6 14986. Collected in Argentina.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Saddik Saidi, Morocco. Received 08/19/1994.

- PI 598826. *Festuca arundinacea* Schreb.**  
 Wild. MO04.CPG94; W6 15733. Collected 07/12/1994 in Morocco. Latitude 35 deg. 7' 5'' N. Longitude 5 deg. 17' 22'' W. Elevation 426 m. Near Chefchaouen, 8 km southeast of Chefchaouen at intersection of roads P28 and P39. Grazed. River bed/edge. Slope 0-5%, aspect W. 1/4 shade. Soil loam, pH 6.0-6.5. Seasonally inundated, stream terrace, wet river bottom/shale-alluvium bed rock. Area sampled 40,000 sq. m. Surrounding vegetation evergreen open forest with closed lower layers. Dominant tree species *Quercus suber*. Dom. shrub sp. Oleander. Dom herb/grass sp. Couch, Bermuda. Population distribution patchy, abundance occasional. Growth habit erect.
- PI 598827. *Dactylis glomerata* L.**  
 Wild. MO07.CPG94; W6 15736. Collected 07/12/1994 in Morocco. Latitude 35 deg. 3' 39'' N. Longitude 50 deg. 10' 38'' W. Elevation 910 m. Near Bab-taza, 3 km east of Bab-taza on road P39. Grazed. Slope 11-40%, aspect W. 1/4 shade. Soil loam, pH 6.5. Rainfall 1150 mm. Seasonally dry, upper slope. Vegetation closed, evergreen open forest with closed lower layers. Surrounding veg. seasonal tall grass. Dominant tree species *Quercus suber*, *Q. ilex*. Dom. shrub sp. *Cistus mont.*, *Pistacia lent.* Dom. herb/grass sp. tall annual grasses, *Avena* sp. Population distribution patchy, abundance frequent. Growth habit erect.
- PI 598828. *Festuca arundinacea* Schreb.**  
 Wild. MO09.CPG94; W6 15738. Collected 07/12/1994 in Morocco. Latitude 35 deg. 4' 53'' N. Longitude 5 deg. 4' 18'' W. Elevation 907 m. Near Cherafa, 4 km east of Cherafa on road P39-Chefchaouen to Al-Hoceima. Grazed. Roadside spring seep. Slope 11-40%, aspect S. 1/4 shade. Soil sandy loam on shale sandstone mix, pH 10.0. Rainfall 1200 mm. Moist, basin, mid slope. Assoc. spp. *Juncus*, Oleander, Couch. Vegetation closed, seasonal tall grass. Population distribution patchy, abundance occasional. Growth habit erect.
- PI 598829. *Festuca arundinacea* Schreb.**  
 Wild. MO12.CPG94; W6 15741. Collected 07/12/1994 in Morocco. Latitude 34 deg. 56' 11'' N. Longitude 4 deg. 27' 59'' W. Elevation 1506 m. Near Ketama, 13 km east of Retana on P39 road, Chefchaouen to Al-Hoceima. Grazed. Slope 11-40%, aspect E. Open. Soil clay, heavy/basic, on limestone type rock, pH 9.5-10.0. Rainfall 900 mm. Moist, mid slope, spring bog. Assoc. sp. *Juniper* sp., *Juncus* sp. in weep, *Lotus* c., thistle, clovers, *T. stell.*, *T. camp.*, *Medics-Burr.* Population distribution patchy, abundance frequent. Growth habit erect.
- PI 598830. *Dactylis glomerata* L.**  
 Wild. MO14.CPG94; W6 15743. Collected 07/12/1994 in Morocco. Latitude 34 deg. 56' 11'' N. Longitude 4 deg. 27' 59'' W. Elevation 1506 m. Near Ketama, 13 km east of Retana on P39 road, Chefchaouen to Al-Hoceima. Grazed. Slope 11-40%, aspect E. Open. Soil clay, heavy/basic, on limestone type rock, pH 9.5-10.0. Rainfall 900 mm. Moist, mid slope, spring bog. Assoc. spp. *Juniper* sp., *Juncus* sp. in weep, *Lotus* c., thistle, clovers, *T. stell.*, *T. camp.*, *Medics-Burr.* Population distribution patchy, abundance frequent. Growth habit erect.
- PI 598831. *Festuca arundinacea* Schreb.**

Wild. MO17.CPG94; W6 15746. Collected 07/12/1994 in Morocco. Latitude 34 deg. 34' 28'' N. Longitude 4 deg. 35' 34'' W. Elevation 380 m. Near Taounate, 5 km northeast of Taounate, 1 km. east on road S304 from S302, Ketama-Taounate. Grazed. Slope 11-40%, aspect E. Open. Soil loam, heavy calcareous, on dolomite bedrock, stony on surface, pH 8.5-9.0. Rainfall 800 mm. Moist, ravine watercourse. Vegetation closed, seasonal tall grass. Surrounding veg. seasonal tall and short grass. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598832. *Festuca arundinacea* Schreb.**

Wild. MO20.CPG94; W6 15749. Collected 07/13/1994 in Morocco. Latitude 34 deg. 42' 38'' N. Longitude 3 deg. 55' 20'' W. Elevation 1400 m. Near Aknoul, 10 km west of Aknoul on road S304, 9 km. west of intersection with S312. Grazed. Slope 11-40%, aspect NE. 1/4 shade. Soil loam, heavy, on calcareous shale, pH 9.0-9.5. Rainfall 500 mm. Moist, ravine by irr. orchard/alfalfa crops. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-vineyard-orchard. Dominant tree species *Quercus ilex* on slopes, Poplar and *Salix* spp. in ravine. Dom. shrub sp. *Calycotome villosus*. Dom. herb/grass sp. annual/perennial grass, *Avena*, *Festuca arundinacea*. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598833. *Dactylis glomerata* L.**

Wild. MO21.CPG94; W6 15750. Collected 07/13/1994 in Morocco. Latitude 34 deg. 42' 38'' N. Longitude 3 deg. 55' 20'' W. Elevation 1400 m. Near Aknoul, 10 km west of Aknoul on road S304, 9 km. west of intersection with S312. Grazed. Slope 11-40%, aspect NE. 1/4 shade. Soil loam, pH 9.0-9.5. Rainfall 500 mm. Seasonally dry, upper slope. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-vineyard-orchard agriculture. Dominant tree species *Quercus ilex* on slope, Poplar and *Salix* spp. in ravine. Dom. shrub sp. *Calycotome villosus*. Dom. herb/grass sp. annual/perennial grass, *Avena*, *Festuca arundinacea*. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598834. *Festuca arundinacea* Schreb.**

Wild. MO24.CPG94; W6 15753. Collected 07/13/1994 in Morocco. Latitude 34 deg. 44' 5'' N. Longitude 3 deg. 49' 13'' W. Elevation 1110 m. Near Aknoul, 12 km north of Aknoul on road S312. Grazed. Slope 0-5%, aspect S. Light open. Riverbed on alluvial shale. Soil loam, pH 8.5-9.0. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Populus*, *Salix* sp. Dom. shrub sp. *Oleander*. Dom. herb/grass sp. annual grasses, *Avena* sp. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598835. *Dactylis glomerata* L.**

Wild. MO25.CPG94; W6 15754. Collected 07/13/1994 in Morocco. Latitude 34 deg. 44' 5'' N. Longitude 3 deg. 49' 13'' W. Elevation 1110 m. Near Aknoul, 12 km north of Aknoul on road S312. Grazed. Slope 0-5%, aspect S. Light open. Riverbed on alluvial shale. Soil loam, pH 8.5-9.0. Seasonally dry, mid slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Populus*, *Salix* spp. Dom. shrub sp. *Oleander*. Dom. herb/grass sp. annual grasses, *Avena* sp. Population distribution patchy, abundance frequent. Growth habit erect.



- PI 598836. *Festuca arundinacea* Schreb.**  
 Wild. MO26.CPG94; W6 15755. Collected 07/13/1994 in Morocco. Latitude 34 deg. 47' 17'' N. Longitude 3 deg. 45' 35'' W. Elevation 826 m. Near Tizi-Ouzli, 7 km north of Tizi-Ouzli on road S312. Grazed. Slope 0-5%, aspect N. Light open. Soil loam, pH 9.5-10.0. Rainfall 440 mm. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen open forest with closed lower layers. Dominant tree species *Populus*, *Salix* spp. Dom. shrub sp. Oleander. Dom. herb/grass sp. tall annual grass, *Avena* and couch grass. Population distribution patchy, abundance frequent. Growth habit erect.
- PI 598837. *Dactylis glomerata* L.**  
 Wild. MO27.CPG94; W6 15756. Collected 07/13/1994 in Morocco. Latitude 34 deg. 47' 17'' N. Longitude 3 deg. 45' 35'' W. Elevation 826 m. Near Tizi-Ouzli, 7 km north of Tizi-Ouzli on road S312. Grazed. Slope 0-5%, aspect N. Light open. Soil loam, pH 9.5-10.0. Rainfall 440 mm. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen forest with closed lower layers. Dominant tree species *Populus*, *Salix* spp. Dom. shrub sp. Oleander. Dom. herb/grass sp. tall annual grass, *Avena* and couch grass. Population distribution patchy, abundance frequent. Growth habit erect.
- PI 598838. *Festuca* sp.**  
 Wild. MO29.CPG94; W6 15758. Collected 07/13/1994 in Morocco. Latitude 34 deg. 47' 17'' N. Longitude 3 deg. 45' 35'' W. Elevation 826 m. Near Tizi-Ouzli, 7 km north of Tizi-Ouzli on road S312. Grazed. Slope 0-5%, aspect N. Open. Riverbed on alluvial shale. Soil loam, pH 9.5-10.0. Rainfall 440 mm. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen forest with closed lower layers. Dominant tree species *Populus*, *Salix* spp. Dom. shrub sp. Oleander. Dom. herb/grass sp. tall annual grass, *Avena* and couch grass. Population distribution patchy, abundance frequent. Growth habit erect.
- PI 598839. *Lolium perenne* L.**  
 Wild. MO30.CPG94; W6 15759. Collected 07/13/1994 in Morocco. Latitude 34 deg. 8' 42'' N. Longitude 4 deg. 0' 51'' W. Elevation 1120 m. Near Taza, 16 km south of Taza near Ras-El-Oued on road S311. Grazed. Slope 11-40%, aspect NE. Light open. Soil hillside loam on calcareous dolomite bedrock, pH 7.5-8.0. Moist, ravine, mid slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Quercus ilex*. Dom. shrub sp. *Calycotome villosa*, *Juniperus* sp. Dom. herb/grass sp. perennial clovers, grasses, couch. Population distribution patchy, abundance frequent. Growth habit semi-erect.
- PI 598840. *Dactylis glomerata* L.**  
 Wild. MO32.CPG94; W6 15761. Collected 07/13/1994 in Morocco. Latitude 34 deg. 8' 42'' N. Longitude 4 deg. 0' 51'' W. Elevation 1120 m. Near Taza, 16 km south of Taza near Ras-El-Oued on road S311. Grazed. Slope 11-40%, aspect NE. Light open. Soil loam on calcareous dolomite bedrock, pH 7.5-8.0. Moist, ravine, mid slope. Vegetation closed, seasonal tall grass. Surrounding vegetation evergreen open forest with closed lower layers. Dominant tree species *Quercus ilex*. Dom. shrub sp., *Calycotome*

villosa, Juniperus sp. Dom. herb/grass sp. perennial clovers, grasses, couch. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598841. Festuca arundinacea Schreb.**

Wild. MO35.CPG94; W6 15764. Collected 07/13/1994 in Morocco. Latitude 34 deg. 8' 42'' N. Longitude 4 deg. 0' 51'' W. Elevation 1120 m. Near Taza, 16 km south of Taza near Ras-El-Oued on road S311. Grazed. Slope 11-40%, aspect NE. Open. Loam on calcareous dolomite bedrock, pH 7.5-8.0. Rainfall 900 mm. Moist, ravine, mid slope, spring weep. Veg. closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species Quercus ilex. Dom. shrub sp. Calycotome villosa, Juniperus sp. Dom. herb/grass sp. perennial clovers, grasses, couch. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598842. Festuca arundinacea Schreb.**

Wild. MO36.CPG94; W6 15765. Collected 07/13/1994 in Morocco. Latitude 33 deg. 56' 47'' N. Longitude 4 deg. 24' 50'' W. Elevation 760 m. Near Tahala, 17 km south of Tahala on road 4803 to Ribat-El-Kheir. Grazed. Slope 11-40%, aspect W. Open. Loam on calcareous dolomite bedrock, pH 9.0. Rainfall 700 mm. Moist, ravine in wheat/olive orchard. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species Callistris articulata. Dom. shrub sp. Chamaerops humilis, Jujube. Dom. herb/grass sp. tall annual, Avena, Couch. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598843. Dactylis glomerata L.**

Wild. MO37.CPG94; W6 15766. Collected 07/13/1994 in Morocco. Latitude 33 deg. 56' 47'' N. Longitude 4 deg. 24' 50'' W. Elevation 760 m. Near Tahala, 17 km south of Tahala on road 4803 to Ribat-El-Kheir. Grazed. Slope 11-40%, aspect W. Light pen. Soil loam on calcareous dolomite bedrock, pH 9.0. Rainfall 700 mm. Seasonally dry, mid slope. Veg. closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species Callitris articulata. Dom. shrub sp. Chamaerops humilis, Jujube. Dom. herb/grass sp. tall annual, Avena, Couch. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598844. Festuca arundinacea Schreb.**

Wild. MO39.CPG94; W6 15768. Collected 07/13/1994 in Morocco. Latitude 33 deg. 51' 50'' N. Longitude 4 deg. 30' 56'' W. Elevation 940 m. Near El-Menzel, 5 km east of El-Menzel on road 4610 to Sefrou. Cultivated. Slope 0-5%, aspect S. Light open. Soil loam on highly calcareous bedrock, surface rock with free lime, pH 9.5. Rainfall 600 mm. Moist, irrigation canal. Vegetation closed, seasonal tall grass. Surrounding veg. irrigated agricul. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598845. Dactylis glomerata L.**

Wild. MO40.CPG94; W6 15769. Collected 07/13/1994 in Morocco. Latitude 33 deg. 51' 50'' N. Longitude 4 deg. 30' 56'' W. Elevation 940 m. Near El-Menzel, 5 km east of El-Menzel on road 4610 to Sefrou. Cultivated. Slope 0-5%, aspect S. Light open. Soil loam on highly calcareous

bedrock, surface rock with free lime, pH 9.5. Rainfall 600 mm. Seasonally dry, plateau. Vegetation closed, seasonal tall grass. Surrounding veg. irrigated agricul. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598846. *Festuca arundinacea* Schreb.**

Wild. MO42.CPG94; W6 15771. Collected 07/13/1994 in Morocco. Latitude 33 deg. 49' 48'' N. Longitude 4 deg. 42' 2'' W. Elevation 732 m. Near Sefrou, 15 km east of Sefrou on road 4610. Grazed. Slope 0-5%, aspect N. 1/2 shade. Soil loam on calcareous bedrock, rocky, free limestone, pH 9.5. Rainfall 600 mm. Moist-seasonally dry, irrigation canal. Vegetation closed, seasonal tall grass. Surrounding veg. orchard-veg. crops. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598847. *Lolium perenne* L.**

Wild. MO43.CPG94; W6 15772. Collected 07/14/1994 in Morocco. Latitude 33 deg. 39' 3'' N. Longitude 5 deg. 2' 22'' W. Elevation 1410 m. Near Imouzzer, 9 km south of Imouzzer off road P24, 1 km. to east on road 4628. Grazed. Slope 0-5%, aspect N. 1/2 shade. Soil loam on calcareous dolomite bedrock, rocky, pH 8.5-9.0. Rainfall 800 mm. Moist, alluvial fan, lake shore. Vegetation closed, seasonal short grass. Surrounding vegetation evergreen forest. Population distribution patchy, abundance frequent. Growth habit semi-erect.

**PI 598848. *Festuca arundinacea* Schreb.**

Wild. MO44.CPG94; W6 15773. Collected 07/14/1994 in Morocco. Latitude 33 deg. 39' 3'' N. Longitude 5 deg. 2' 22'' W. Elevation 1410 m. Near Imouzzer, 9 km south of Imouzzer off road P24, 1 km. to east on road 4628. Grazed. Slope 0-5%, aspect N. 1/2 shade. Soil loam on calcareous dolomite bedrock, pH 8.5-9.0. Rainfall 800 mm. Moist, alluvial fan, lake shore. Vegetation closed, seasonal short grass. Surrounding veg. evergreen forest. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598849. *Festuca arundinacea* Schreb.**

Wild. MO46.CPG94; W6 15775. Collected 07/14/1994 in Morocco. Latitude 33 deg. 37' 24'' N. Longitude 4 deg. 54' 6'' W. Elevation 1460 m. Near Annoceur, 8 km SW of Annoceur on road 3325 west of road P20. Grazed. Slope 11-40%, aspect E. Open. Soil loam, hydromorphic, on calcareous bedrock, surface stony, free limestone, pH 10.0. Rainfall 800 mm. Seasonally inundated, basin. Veg. closed, seasonal tall grass. Surrounding veg. evergreen forest. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598850. *Festuca arundinacea* Schreb.**

Wild. MO49.CPG94; W6 15778. Collected 07/14/1994 in Morocco. Latitude 33 deg. 46' 9'' N. Longitude 4 deg. 49' 40'' W. Elevation 1055 m. Near Sefrou, 7 km south of Sefrou on road P20, Fes to Ifrane. Grazed-cultivated. Slope 0-5%, aspect S. 1/2 shade. Soil loam on calcareous bedrock, pH 10.0. Rainfall 650 mm. Seasonally inundated, irrigation ditch. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598851. *Festuca arundinacea* Schreb.**

Wild. MO50.CPG94; W6 15779. Collected 07/14/1994 in Morocco. Latitude 33 deg. 45' 40'' N. Longitude 5 deg. 0' 14'' W. Elevation 1080 m. Near Imouzzer, 3 km north of Imouzzer on road P24, Fes-Ifrane. Past grazed, now roadway/cultivated lavender shrub plantation. Slope 11-40%, aspect SW. Open. Soil loam on calcareous rock free limestone, pH 9.5-10.0. Rainfall 650 mm. Seasonally inundated, basin. Vegetation closed, seasonal tall grass. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598852. *Festuca arundinacea* Schreb.**

Wild. MO53.CPG94; W6 15782. Collected 07/16/1994 in Morocco. Latitude 33 deg. 46' 5'' N. Longitude 6 deg. 16' 9'' W. Elevation 530 m. Near Tiflet, 18 km south of Tiflet on S209, Tiflet-Oulmes. Grazed. Slope 0-5%, aspect W. Light open. Soil clay, heavy cracking, on calcareous bedrock, surface rocky, eroded, pH 9.5. Rainfall 500 mm. Moist, ravine. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-pasture agriculture. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598853. *Dactylis glomerata* L.**

Wild. MO55.CPG94; W6 15784. Collected 07/16/1994 in Morocco. Latitude 33 deg. 31' 17'' N. Longitude 6 deg. 15' 29'' W. Elevation 750 m. Near Tiddas, 8 km south of Tiddas on road S109, Tiflet-Oulmes. Grazed. Slope 11-40%, aspect NE. 1/4 shade. Soil clay, heavy cracking, on calcareous schist, surface rocky, eroded, pH 8.5. Rainfall 600 mm. Seasonally dry, ravine, mid slope. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-pasture agri. Population distribution patchy, abundance frequent. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, University of California, Cooperative Extension Service, 777 E. Rialto Avenue, San Bernadino, California 92415-0730, United States; Saddik Saidi, Morocco. Received 08/19/1994.

**PI 598854. *Lolium perenne* L.**

Wild. MO58.CPG94; W6 15787. Collected 07/16/1994 in Morocco. Latitude 33 deg. 29' 9'' N. Longitude 6 deg. 8' 45'' W. Elevation 980 m. Near Oulmes, 18 km west of Oulmes on road S209, Tiflet-Oulmes. Grazed. Slope 0-5%, aspect S. Light open. Soil loam on schist bedrock, pH 6.0. Rainfall 700 mm. Moist meadow in watercourse. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Quercus suber*. Dom. shrub sp. *Lavandula stoechas*. Dom. herb/grass sp. perennial grass/clovers, couch, strawberry. Area sampled 20,000 sq. m. Population distribution patchy, abundance frequent. Growth habit semi-erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Saddik Saidi, Morocco. Received 08/19/1994.

**PI 598855. *Festuca arundinacea* Schreb.**

Wild. MO59.CPG94; W6 15788. Collected 07/16/1994 in Morocco. Latitude 33 deg. 29' 9'' N. Longitude 6 deg. 8' 45'' W. Elevation 980 m. Near Oulmes, 18 km west of Oulmes on road S209, Tiflet-Oulmes. Grazed. Slope 0-5%, aspect S. Open. Soil loam on schist bedrock, pH 6.0. Rainfall 700 mm. Moist meadow in watercourse. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Quercus suber*. Dom. shrub sp. *Lavandula stoechas*. Dom. herb/grass sp. perennial grass/clovers, couch, strawberry. Area sampled 40,000 sq. m. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598856. *Dactylis glomerata* L.**

Wild. MO60.CPG94; W6 15789. Collected 07/16/1994 in Morocco. Latitude 33 deg. 29' 9'' N. Longitude 6 deg. 8' 45'' W. Elevation 980 m. Near Oulmes, 18 km west of Oulmes on road S209, Tiflet-Oulmes. Grazed. Slope 6-10%, aspect N,E,S,W. 1/4 shade. Soil loam on schist bedrock, pH 6.0. Rainfall 700 mm. Seasonally dry, ridgetop, lower-upper slope, adjacent to watercourse. Vegetation closed, seasonal tall grass. Dominant tree species *Quercus suber*. Dom. shrub sp. *Lavandula stoechas*. Dom. herb/grass sp. perennial grass/clovers, couch, strawberry. Area sampled 10,000 sq. m. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598857. *Phalaris aquatica* L.**

Wild. MO61.CPG94; W6 15790. Collected 07/16/1994 in Morocco. Latitude 33 deg. 29' 9'' N. Longitude 6 deg. 8' 45'' W. Elevation 980 m. Near Oulmes, 18 km west of Oulmes on road S209, Tiflet-Oulmes. Grazed. Slope 6-10%, aspect N, S. Open. Soil loam on schist bedrock, pH 6.0. Rainfall 700 mm. Seasonally dry, lower slope, up from ravine. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Quercus suber*. Dom. shrub sp. *Lavandula stoechas*. Dom. herb/grass sp. perennial grass/clovers, couch, strawberry. Area sampled 40,000 sq. m. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598858. *Festuca arundinacea* Schreb.**

Wild. MO64.CPG94; W6 15793. Collected 07/16/1994 in Morocco. Latitude 33 deg. 24' 7'' N. Longitude 5 deg. 57' 37'' W. Elevation 1240 m. Near Oulmes, 5 km east of Oulmes on Dirt road S109, Oulmes-Mrirt. Grazed. Slope 6-10%, aspect NE. Open. Soil loam, eroded, watercourse on rocky schist bedrock, pH 7.0. Rainfall 800 mm. Moist, ravine. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species *Quercus ilex*, *Q. suber*. Dom. shrub sp. *Lavandula stoechas*, *Ulex* sp. Dom. herb/grass sp. perennial grass, annual grass, couch, *Avena*. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598859. *Dactylis glomerata* L.**

Wild. MO65.CPG94; W6 15794. Collected 07/16/1994 in Morocco. Latitude 33 deg. 24' 7'' N. Longitude 5 deg. 57' 37'' W. Elevation 1240 m. Near Oulmes, 5 km east of Oulmes on Dirt road S109, Oulmes-Mrirt. Grazed. Slope 11-40%, aspect E,W. Open. Soil loam, eroded, pH 7.0. Rainfall 800 mm. Seasonally dry, lower-upper slope next to ravine-watercourse. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Dominant tree species

*Quercus ilex*, *Q. suber*. Dom. shrub sp. *Lavandula stoechas*, *Ulex* sp.,  
Dom. herb/grass sp. perennial grass/annual grass, couch, *Avena*.  
Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598860. *Festuca arundinacea* Schreb.**

Wild. MO67.CPG94; W6 15796. Collected 07/16/1994 in Morocco. Latitude 33 deg. 20' 14'' N. Longitude 5 deg. 49' 54'' W. Elevation 1310 m. Near Oulmes, 32 km southeast of Oulmes on Dirt road S209, Oulmes-Mrirt. Grazed slope 11-40%, aspect W. Open. Soil rocky eroded loam on cereal slopes, pH 5.5-6.0. Rainfall 900+ mm. Moist, ravine, waterway on shale. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population distribution patchy, abundance frequent. Growth habit erect. Area sampled 40,000 sq. m.

**PI 598861. *Phalaris aquatica* L.**

Wild. MO68.CPG94; W6 15797. Collected 07/16/1994 in Morocco. Latitude 33 deg. 20' 14'' N. Longitude 5 deg. 49' 54'' W. Elevation 1310 m. Near Oulmes, 32 km southeast of Oulmes on Dirt road S209, Oulmes-Mrirt. Grazed. Slope 11-40%, aspect W. Open. Soil rocky eroded loam, pH 5.5-6.0. Rainfall 900+ mm. Moist, ravine, waterway on shale. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population distribution patchy, abundance frequent. Growth habit erect. Area sampled 40,000 sq. m.

**PI 598862. *Dactylis glomerata* L.**

Wild. MO70.CPG94; W6 15799. Collected 07/16/1994 in Morocco. Latitude 33 deg. 21' 43'' N. Longitude 5 deg. 33' 21'' W. Elevation 900 m. Near Mrirt, 24 km north of Mrirt on road S331, Mrirt-Meknes. Past grazed, now cultivated, orchard. Slope 6-10%, aspect W. 1/4 shade. Soil degraded loam, some cracking, rocky on top of calcareous bedrock, pH 9.0. Rainfall 500 mm. Seasonally dry, mid slope. Vegetation closed, seasonal short grass. Dominant tree species cultivated olive. Dom. shrub sp. *Zizyphus lotus*. Dom. herb/grass sp. annual grasses, *Vulpia*, some *Avena* sp., per. grass, *Hyperrhinia hirta*. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598863. *Festuca arundinacea* Schreb.**

Wild. MO72.CPG94; W6 15801. Collected 07/16/1994 in Morocco. Latitude 33 deg. 34' 44'' N. Longitude 5 deg. 26' 58'' W. Elevation 1030 m. Near Meknes/Boufekrane, 37 km south of Meknes on road S331, Mrirt-Meknes. Past grazed, now cultivated. Slope 0-5%, aspect S. 1/4 shade. Soil clay, heavy cracking, on calcareous bedrock, pH 9.5-10.0. Rainfall 600 mm. Moist, alluvial fan-flood plain. Vegetation closed, seasonal short grass. Area sampled 20,000 sq. m. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598864. *Lolium perenne* L.**

Wild. MO73.CPG94; W6 15802. Collected 07/16/1994 in Morocco. Latitude 33 deg. 34' 44'' N. Longitude 5 deg. 26' 58'' W. Elevation 1030 m. Near Meknes/Boufekrane, 37 km south of Meknes on road S331, Mrirt-Meknes. Past grazed, now cultivated. Slope 0-5%, aspect S. 1/4 shade. Soil clay, heavy cracking, on calcareous bedrock, pH 9.5-10.0. Rainfall 600 mm. Moist, alluvial fan-flood plain. Vegetation closed, seasonal short grass. Area sampled 20,000 sq. m. Population distribution patchy, abundance frequent. Growth habit semi-erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Badia Baya, Morocco. Received 08/19/1994.

**PI 598865. *Phalaris aquatica* L.**

Wild. MO76.CPG94; W6 15805. Collected 07/18/1994 in Morocco. Latitude 33 deg. 30' 35'' N. Longitude 5 deg. 18' 1'' W. Elevation 1370 m. Near Azrou, 12 km northwest of Azrou on road P21, El-Hajeb-Azrou. Grazed. Slope 0-5%, aspect NW. Open. Soil rocky degraded loam on calcareous dolomite, pH 8.5-9.0. Rainfall 800 mm. Seasonally dry, plateau. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-pasture agri. Area sampled 60,000 sq. m. Population distribution patchy, abundance frequent. Growth habit erect.

**PI 598866. *Festuca arundinacea* Schreb.**

Wild. MO77.CPG94; W6 15806. Collected 07/18/1994 in Morocco. Latitude 33 deg. 30' 35'' N. Longitude 5 deg. 18' 1'' W. Elevation 1370 m. Near Azrou, 12 km northwest of Azrou on road P21, El-Hajeb-Azrou. Grazed. Slope 0-5%, aspect NW. Open. Soil rocky degraded loam on calcareous dolomite, pH 8.5-9.0. Rainfall 800 mm. Seasonally dry, plateau. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-pasture agri. Area sampled 60,000 sq. m. Population distribution patchy, abundance occasional. Growth habit erect.

**PI 598867. *Lolium rigidum* Gaudin**

Wild. MO81.CPG94; W6 15810. Collected 07/18/1994 in Morocco. Latitude 33 deg. 29' 37'' N. Longitude 5 deg. 15' 49'' W. Elevation 1270 m. Near Azrou, 7 km northwest of Azrou on road P21, El-Hajeb-Azrou. Grazed. Slope 11-40%, aspect SE. Open. Soil loam on calcareous rock, pH 9.5-10.0. Rainfall 825 mm. Moist, ravine, spring bog. Vegetation closed, seasonal tall grass. Surrounding veg. cereal-pasture-orchard agriculture. Population distribution patchy, abundance frequent. Growth habit semi-erect.

**PI 598868. *Festuca arundinacea* Schreb.**

Wild. MO82.CPG94; W6 15811. Collected 07/18/1994 in Morocco. Latitude 33 deg. 26' 24'' N. Longitude 5 deg. 14' 53'' W. Elevation 1150 m. Near Azrou, 4 km southwest of Azrou at Ain Abhbal. Grazed. Slope 0-5%, aspect S. Open. Soil alluvium loam on calcareous rock, pH 9.5-10.0. Rainfall 840 mm. Seasonally inundated, stream/meadow terrace. Vegetation closed, seasonal tall grass. Surrounding veg. orchard-cereal-pasture agriculture.

**PI 598869. *Lolium perenne* L.**

Wild. MO86.CPG94; W6 15815. Collected 07/18/1994 in Morocco. Latitude 33 deg. 18' 35'' N. Longitude 5 deg. 20' 19'' W. Elevation 1280 m. Near Ain-Leuh, 3 km north of Ain-Leuh on road S303, south of Azrou. Grazed. Slope 0-5%, aspect W. Open. Soil loam on calcareous rock, pH 9.5-10.0. Rainfall 840 mm. Seasonally dry, plateau, next to orchard/roadside. Vegetation closed, seasonal short grass. Surrounding veg. orchard-cereal-pasture agriculture. Population distribution patchy, abundance occasional. Growth habit semi-erect.

- PI 598870. *Festuca arundinacea* Schreb.**  
Wild. MO87.CPG94; W6 15816. Collected 07/18/1994 in Morocco. Latitude 33 deg. 17' 12'' N. Longitude 5 deg. 20' 29'' W. Elevation 1440 m. School yard of Villale of Ain-Leuh. Past grazed, now settlement. Slope 0-5%, aspect N. Area open. Soil disturbed loam on calcareous schist, pH 9.5-10.0. Rainfall 840 mm. Seasonally dry, plateau. Vegetation closed, seasonal tall grass. Surrounding veg. orchard agri. Population abundant, distribution patchy. Growth habit erect.
- PI 598871. *Lolium perenne* L.**  
Wild. M092.CPG94; W6 15821. Collected 07/18/1994 in Morocco. Latitude 33 deg. 26' 15'' N. Longitude 5 deg. 12' 16'' W. Elevation 1360 m. 1 km northeast of Azrou center at intersection of Ifrane-Midelt roads. Grazed. Slope 11-40%, aspect W. Area open. Soil degraded loam on calcareous schist bedrock, pH 9.5-10.0. Rainfall 840 mm. Seasonally dry, mid slope. Vegetation closed, seasonal short grass. Surrounding veg. degraded evergreen forest. Population abundance occasional, distribution patchy. Growth habit semi-erect.
- PI 598872. *Dactylis glomerata* L.**  
Wild. MO94.CPG94; W6 15823. Collected 07/19/1994 in Morocco. Latitude 33 deg. 31' 9'' N. Longitude 5 deg. 6' 58'' W. Elevation 1510 m. Near Ifrane, entrance to Ifrane from Azrou on P24. Grazed, settlement. Slope 11-40%, aspect W. Area open. Soil rocky loam on limestone type bedrock, pH 9.5-10.0. Rainfall 1100 mm. Seasonally dry, lower-upper slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest. Population abundance frequent, distribution patchy. Growth habit erect.
- PI 598873. *Lolium perenne* L.**  
Wild. MO96.CPG94; W6 15825. Collected 07/19/1994 in Morocco. Latitude 33 deg. 33' 3'' N. Longitude 5 deg. 6' 43'' W. Elevation 1500 m. 3 km from center of Ifrane toward El-Hajeb on road S309. Grazed, settlement. Slope 0-5%, aspect W. 1/4 shade. Soil loam on calcareous alluvium bedrock, pH 9.5-10.0. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest. Population abundance occasional, distribution patchy. growth habit semi-erect.
- PI 598874. *Dactylis glomerata* L.**  
Wild. M101.CPG94; W6 15830. Collected 07/19/1994 in Morocco. Latitude 33 deg. 27' 32'' N. Longitude 5 deg. 2' 23'' W. Elevation 1880 m. 11 km southeast of Ifrane on road 3206, Ifrane-Michliffen. Grazed. Slope 11-40%, aspect E. Area open. Soil degraded rocky loam on calcareous chalky bedrock, pH 7.0-7.5-9.0. Seasonally dry, mid-upper slope. Vegetation closed, evergreen forest. Surrounding veg. seasonal tall grass, pasture-cereal. Population abundance frequent, distribution patchy. Growth habit erect.
- PI 598875. *Dactylis glomerata* L.**  
Wild. M106.CPG94; W6 15835. Collected 07/19/1994 in Morocco. Latitude 33 deg. 24' 53'' N. Longitude 5 deg. 10' 47'' W. Elevation 1780 m. Near Azrou, 9 km south on road P21, Azrou-Midelt. Past grazed, now protected forest. Slope 0-5%, aspect N. 1/2 shade. Soil loam, rocky basalt on calcareous bedrock, pH 9.0. Rainfall 900 mm. Seasonally dry, lower slope. Veg. closed, seasonal tall grass. Surrounding veg. evergreen



forest. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598876. *Dactylis glomerata* L.**

Wild. M107.CPG94; W6 15836. Collected 07/19/1994 in Morocco. Latitude 33 deg. 23' 15'' N. Longitude 5 deg. 9' 36'' W. Elevation 1940 m. Near Azrou/Jbel Hebri, 12 km south of Azrou on road P21, Azrou-Midelt, 0.5 km east of P21. Past grazed, now protected. Slope 11-40%, aspect S. 1/4 shade. Soil loams on limestone type rock, pH 9.0. Rainfall 700 mm. Seasonally dry, lower-mid slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest, pasture. Population abundance frequent, distribution patchy. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Mustapha Bounejmate, Institut National de la Recherche Agrono, Programme Fourrages (INRA), B.P. 415, Rabat, Morocco; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Saddik Saidi, Morocco. Received 08/19/1994.

**PI 598877. *Lolium perenne* L.**

Wild. M109.CPG94; W6 15838. Collected 07/20/1994 in Morocco. Latitude 33 deg. 14' 19'' N. Longitude 5 deg. 3' 53'' W. Elevation 1810 m. Near Timahdite, north entrance to Timahdite on P21, Azrou-Midelt. Past grazed, now cultivated. Slope 0-5%, aspect N slope. 1/2 shade. Soil hydromorphic loams on alluvial derived from basalt & calcareous rock, pH 9.5-10.0. Rainfall 500 mm. Moist, seasonally flooded, stream terrace. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598878. *Dactylis glomerata* L.**

Wild. M115.CPG94; W6 15844. Collected 07/20/1994 in Morocco. Latitude 33 deg. 7' 34'' N. Longitude 5 deg. 2' 47'' W. Elevation 1903 m. 20 km south of Timahdite, off P21 3 km east on S322 at lake Aguelmane. Grazed. Slope 11-40%, aspect S. Open. Soil sod meadow loam on calcareous bedrock cut through basalt, pH 9.5-10.0. Rainfall 600 mm. Seasonally dry, cliff. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen forest. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598879. *Lolium perenne* L.**

Wild. M118.CPG94; W6 15847. Collected 07/20/1994 in Morocco. Latitude 33 deg. 57' 16'' N. Longitude 5 deg. 3' 14'' W. Elevation 1880 m. 2 km north of Ait-Oufella on P21, Azrou-Midelt; 52 km northwest of Midelt. Grazed. Slope 6-10%, aspect SE. Area open. Soil loam-clay, hydromorphic on calcareous limestone type bedrock, pH 9.5-10.0. Rainfall 375 mm. Moist, ravine. Vegetation closed, evergreen tall grass. Surrounding veg. degraded evergreen forest. Population abundance frequent, distribution patchy. Growth habit semi-erect.

**PI 598880. *Phalaris aquatica* L.**

Wild. M123.CPG94; W6 15852. Collected 07/20/1994 in Morocco. Latitude 32 deg. 49' 33'' N. Longitude 4 deg. 57' 41'' W. Elevation 1520 m. North of entrance to Zeida on road P21, Azrou-Midelt. Grazed. Slope 0-5%, aspect S. Area open. Soil loam, rocky, pH 9.5-10.0. Rainfall 300 mm. Seasonally

inundated-dry, basin-irrigation ditch. Vegetation open evergreen steppe scrub. Surrounding veg. cereal-orchard-range agriculture. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598881. *Dactylis glomerata* L.**

Wild. M124.CPG94; W6 15853. Collected 07/20/1994 in Morocco. Latitude 32 deg. 49' 33'' N. Longitude 4 deg. 57' 41'' W. Elevation 1520 m. North of entrance to Zeida on road P21, Azrou-Midelt. Grazed. Slope 0-5%, aspect S. Area open. Soil loam, rocky, pH 9.5-10.0. Rainfall 300 mm. Seasonally inundated-dry, basin-irrigation ditch. Vegetation open evergreen steppe scrub. Surrounding veg. cereal-orchard-range agriculture. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598882. *Festuca arundinacea* Schreb.**

Wild. M126.CPG94; W6 15855. Collected 07/20/1994 in Morocco. Latitude 32 deg. 43' 34'' N. Longitude 5 deg. 5' 33'' W. Elevation 1560 m. Along edge of Boumia, 4 km south of P33 on road 3427, off Hw. Zeida-Khenifra, Tadla. Grazed. Slope 0-5%, aspect S. Area open. Soil loam-clay, sod on alluvium from limestone rock, pH 9.5-10.0. Rainfall 300 mm. Moist, basin-irrigation ditch. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen steppe scrub, agri. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598883. *Phalaris aquatica* L.**

Wild. M127.CPG94; W6 15856. Collected 07/20/1994 in Morocco. Latitude 32 deg. 43' 34'' N. Longitude 5 deg. 5' 33'' W. Elevation 1560 m. Edge of Boumia, 4 km south of P33 on road 3427, off Hw. Zeida-Khenifra, Tadla. Grazed. Slope 0-5%, aspect S. Area open. Soil loam-clay, sod on alluvium from limestone rock, pH 9.5-10.0. Rainfall 300 mm. Moist, basin-irrigation ditch. Vegetation closed seasonal tall grass. Surrounding veg. evergreen steppe scrub, agri. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598884. *Dactylis glomerata* L.**

Wild. M134.CPG94; W6 15863. Collected 07/20/1994 in Morocco. Latitude 32 deg. 42' 20'' N. Longitude 4 deg. 46' 47'' W. Elevation 1480 m. 5 km west of Midelt on road P21, Azrou-Midelt. Grazed, hay. Slope 6-10%, aspect S. Area open. Soil sandy loam aluvium from limestone, pH 9.5-10.0. Rainfall 225 mm. seasonally dry, lower slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen steppe scrub, agri. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598885. *Phalaris aquatica* L.**

Wild. M136.CPG94; W6 15865. Collected 07/20/1994 in Morocco. Latitude 32 deg. 39' 7'' N. Longitude 4 deg. 45' 45'' W. Elevation 1580 m. 5 km south of Midelt on road 3424 toward Cirque de Jaffar. Grazed. Slope 6-10%, aspect W. Area open. Soil sandy loam from limestone, pH 9.5-10.0. Rainfall 250 mm. Moist, seasonally flooded, basin-irrigation ditch. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen steppe scrub, agri. Population abundance rare, distribution patchy. Growth habit erect.

**PI 598886. *Dactylis glomerata* L.**

Wild. M137.CPG94; W6 15866. Collected 07/20/1994 in Morocco. Latitude 32

deg. 39' 7'' N. Longitude 4 deg. 45' 45'' W. Elevation 1580 m. 5 km south of Midelt on road 3424 toward Cirque de Jaffar. Grazed. Slope 6-10%, aspect W. Area open. Soil sandy loam from limestone, pH 9.5-10.0. Rainfall 250 mm. Moist, seasonally flooded, basin-irrigation ditch. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen steppe scrub, agri. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598887. *Dactylis glomerata* L.**

Wild. M140.CPG94; W6 15869. Collected 07/21/1994 in Morocco. Latitude 32 deg. 44' 5'' N. Longitude 5 deg. 10' 40'' W. Elevation 1640 m. 10 km west of turn off to Boumia on road P33, Zeida-Arhhbalou-north of Serdane. Grazed. Slope 0-5%, aspect S. Area open. Soil clay, pH 10.0. Rainfall 300 mm. Seasonally dry, plateau. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598888. *Lolium perenne* L.**

Wild. M141.CPG94; W6 15870. Collected 07/21/1994 in Morocco. Latitude 32 deg. 44' 5'' N. Longitude 5 deg. 10' 40'' W. Elevation 1640 m. 10 km west of turn off to Boumia on road P33, Zeida-Arhhbalou-N-Serdane. Grazed. Slope 0-5%, aspect S. Area open. Soil clay on limestone, pH 10.0. Rainfall 300 mm. Moist, basin. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit semi-erect.

**PI 598889. *Festuca arundinacea* Schreb.**

Wild. M142.CPG94; W6 15871. Collected 07/21/1994 in Morocco. Latitude 32 deg. 40' 35'' N. Longitude 5 deg. 17' 32'' W. Elevation 1675 m. Near Arhhbalou-N-Serdane, next to village Arhhbalou on P33, 45 k west of Zeida to K. Tadla. Grazed/hay. Slope 0-5%, aspect N. Open. Soil clay on limestone bedrock, pH 10. Rainfall 350 mm. Moist, seasonally flooded, basin-swale. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundant, distribution uniform. Growth habit erect.

**PI 598890. *Lolium perenne* L.**

Wild. M143.CPG94; W6 15872. Collected 07/21/1994 in Morocco. Latitude 32 deg. 40' 35'' N. Longitude 5 deg. 17' 32'' W. Elevation 1675 m. Near Arhhbalou-N-Serdane, next to village Arhhbalou on P33, 45 k west of Zeida to K. Tadla. Grazed/hay. Slope 0-5%, aspect N. Area open. Soil clay on limestone, pH 10.0. Rainfall 350 mm. Moist, seasonally flooded, basin-swale. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598891. *Festuca arundinacea* Schreb.**

Wild. M146.CPG94; W6 15875. Collected 07/21/1994 in Morocco. Latitude 32 deg. 39' 35'' N. Longitude 5 deg. 24' 29'' W. Elevation 1820 m. 2 km west of Azerzou on P33, Zeida to K. Tadla. Grazed, hay. Slope 0-5%, aspect S. Area open. Soil clay, bog peat on limestone bedrock, pH 9.5-10.0. Rainfall 450 mm. Moist, seasonally flooded, basin, spring fed. Vegetation closed, seasonal tall grass. Population abundant,

distribution uniform. Growth habit erect.

**PI 598892. *Lolium perenne* L.**

Wild. M147.CPG94; W6 15876. Collected 07/21/1994 in Morocco. Latitude 32 deg. 39' 35'' N. Longitude 5 deg. 24' 29'' W. Elevation 1820 m. 2 km west of Azerzou on P33, Zeida to K. Tadla. Grazed, hay. Slope 0-5%, aspect S. Area open. Soil clay, bog peat on limestone bedrock, pH 9.5-10.0. Rainfall 450 mm. Moist, seasonally flooded, basin, spring fed. Vegetation closed, seasonal tall grass. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598893. *Festuca arundinacea* Schreb.**

Wild. M152.CPG94; W6 15881. Collected 07/21/1994 in Morocco. Latitude 32 deg. 41' 4'' N. Longitude 5 deg. 32' 9'' W. Elevation 1680 m. 6 km south of El-Kbab on P33, Zeida-K. Tabla, 48 km south of Khenifra. Grazed, hay. Slope 0-5%, aspect W. Area open. Soil loam clay bog on limestone, pH 10+. Rainfall 550 mm. Moist, seasonally flooded, ravine-basin, spring fed. Vegetation closed, seasonal tall grass. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598894. *Dactylis glomerata* L.**

Wild. M155.CPG94; W6 15884. Collected 07/21/1994 in Morocco. Latitude 32 deg. 41' 4'' N. Longitude 5 deg. 32' 9'' W. Elevation 1680 m. 6 km south of El-Kbab on P33, Zeida-K. Tabla, 48 km south of Khenifra. Grazed. Slope 0-5%, aspect W. Area open. Soil loam clay bog on limestone, pH 10+. Rainfall 550 mm. Seasonally dry, lower slope. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598895. *Phalaris aquatica* L.**

Wild. M163.CPG94; W6 15892. Collected 07/21/1994 in Morocco. Latitude 33 deg. 24' 55'' N. Longitude 5 deg. 3' 6'' W. Elevation 1290 m. 4 km northeast of Tarmilate on road S209B, 8 km northwest of Oulmes. Grazed. Slope 0-5%, aspect E. Area open. Soil loam on granite, pH 6.5. Rainfall 775 mm. Seasonally dry, plateau-roadside. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598896. *Dactylis glomerata* L.**

Wild. M164.CPG94; W6 15893. Collected 07/21/1994 in Morocco. Latitude 33 deg. 24' 55'' N. Longitude 6 deg. 3' 6'' W. Elevation 1290 m. 4 km northeast of Tarmilate on road S209B, 8 km northwest of Oulmes. Grazed. Slope 0-5%, aspect E. Area open. Soil loam on granite, pH 6.5. Rainfall 775 mm. Seasonally dry, plateau-roadside. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Saddik Saidi, Morocco. Received 08/19/1994.

**PI 598897. *Phalaris aquatica* L.**

Wild. M170.CPG94; W6 15899. Collected 07/25/1994 in Morocco. Latitude 31 deg. 16' 38'' N. Longitude 7 deg. 48' 33'' W. Elevation 1340 m. 9 k west of Arhbalow on road 6034A, Marrakech-Oukaimeden. Grazed. Slope 0-5%, aspect NE. Open. Soil sandy loam on sandstone/shale/limestone, pH 9.0. Rainfall 800 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. degrad. evergreen open forest with closed lower layer. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598898. *Dactylis glomerata* L.**

Wild. M172.CPG94; W6 15901. Collected 07/25/1994 in Morocco. Latitude 31 deg. 12' 27'' N. Longitude 7 deg. 51' 19'' W. Elevation 2500 m. East edge of village of Oukaimeden, on road 6035A, 72 k south of Marrakech. Grazed. Slope 0-5%, aspect NE. Area open. Soil loam, pH 6.5. Rainfall 1000+ mm. Seasonally dry, lower-mid slope. Vegetation closed, seasonal broad-leafed herb veg. Surrounding veg. evergreen dwarf scrub, alpine, pasture agri. Population abundance frequent, distribution patchy. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Saddik Saidi, Morocco; Mohammed Tazi, Morocco. Received 08/19/1994.

**PI 598899. *Phalaris aquatica* L.**

Wild. M178.CPG94; W6 15907. Collected 07/26/1994 in Morocco. Latitude 31 deg. 10' 54'' N. Longitude 8 deg. 47' 28'' W. Elevation 730 m. Near Imi-N-Tanute (Bou-Laouane), 3 km south of Bou-Laouane off road 6404. Grazed. Slope 0-5%, aspect N. Area open. Soil sandy loam on alluvium from calc. schist/limestone, pH 10.0. Rainfall 300 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen steppe forest and scrub. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598900. *Dactylis glomerata* L.**

Wild. M186.CPG94; W6 15915. Collected 07/26/1994 in Morocco. Latitude 30 deg. 58' 9'' N. Longitude 8 deg. 45' 17'' W. Elevation 2560 m. 55 km south of Bou-Laouane along road 6404 at pass Tizi-N-Tabgourt. Grazed. Slope 11-40%, aspect W. Open. Hydromorphic loam, shale bedrock, pH 9.0. Rainfall 600-800 mm. Seasonally dry, lower slope. Vegetation closed seasonal tall grass. Surrounding veg. degrad. open evergreen dwarf scrub with closed ground cover. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598901. *Phalaris aquatica* L.**

Wild. M196.CPG94; W6 15925. Collected 07/27/1994 in Morocco. Latitude 30 deg. 59' 54'' N. Longitude 8 deg. 10' 12'' W. Elevation 1240 m. South edge of village Ijoukak, on road S501, Taroudannt-Marrekech. Grazed. Slope 0-5%, aspect NE. Area open. Soil sandy loam on alluvium terrace from calcareous schist, pH 9.0. Rainfall 250-400 mm. Seasonally dry, lower slope. Vegetation closed, seasonal broad-leafed herb veg.

Population abundance occasional, distribution patchy. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Saddik Saidi, Morocco; Mohammed Tazi, Morocco; Nezha Saidi, Morocco. Received 08/19/1994.

**PI 598902. *Lolium perenne* L.**

Wild. M210.CPG94; W6 15939. Collected 07/28/1994 in Morocco. Latitude 31 deg. 13' 42'' N. Longitude 7 deg. 25' 31'' W. Elevation 1970 m. South edge of Irherm on P31, Marrakech-Ouarzazate. Grazed, hay. Slope 11-40%, aspect E. Area open. Soil sandy loam on alluvial terrace on calcareous limestone, pH 9.5-10.0. Rainfall 300 mm. Moist, lower-mid slope. Vegetation closed, seasonal tall grass. Population abundant, distribution uniform. Growth habit erect.

**PI 598903. *Festuca arundinacea* Schreb.**

Wild. M211.CPG94; W6 15940. Collected 07/28/1994 in Morocco. Latitude 31 deg. 14' 59'' N. Longitude 7 deg. 24' 40'' W. Elevation 2040 m. 2 km north of Irherm on P31, Marrakech-Ouarzazate Hywy. Grazed, hay. Slope 0-5%, aspect SE. Area open. Soil hydromorphic red sandy loam on calcareous alluvium/limestone, pH 9.5-10.0. Rainfall 400 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Population abundant, distribution uniform. Growth habit erect.

**PI 598904. *Lolium perenne* L.**

Wild. M224.CPG94; W6 15953. Collected 07/28/1994 in Morocco. Latitude 31 deg. 22' 15'' N. Longitude 7 deg. 23' 42'' W. Elevation 1580 m. 7 km north of Taddert on road P31, Marrakech-Ouarzazate. Grazed, hay. Slope 0-5%, aspect N. 1/4 shade. Soil sandy loam on calcareous schist alluvium, pH 9.5-10.0. Rainfall 800 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. degraded evergreen forest, agri. Population abundant, distribution uniform. Growth habit erect.

**PI 598905. *Phalaris aquatica* L.**

Cultivated. M225.CPG94; W6 15954. Collected 07/28/1994 in Morocco. Latitude 31 deg. 33' 4'' N. Longitude 7 deg. 35' 30'' W. Elevation 894 m. Near Taferiate/Ait-Ourir, 9 km east of Ait-Ourir on road P31, Marrakech-Ouarzazate. Past grazed, now cultivated. Slope 0-5%, aspect NE. 1/4 shade. Soil red sandy loam on calcareous schist/limestone, pH 9.5-10.0. Rainfall 350 mm. Seasonally dry, stream terrace. Vegetation closed, seasonal tall grass. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598906. *Phalaris aquatica* L.**

Cultivated. M231.CPG94; W6 15960. Collected 07/29/1994 in Morocco. Latitude 31 deg. 24' 17'' N. Longitude 7 deg. 49' 29'' W. Elevation 785 m. 1-4 km north of Dr. Caid Ourika on road S513, Marrakech-Setti Fatma. Past grazed, now cultivated. Slope 0-5%, aspect NE. Area open. Soil red loam on alluvium, pH 8.0. Rainfall 300-350 mm. Seasonally dry. Vegetation closed, seasonal tall grass. Surrounding veg. irrigated

agriculture-olive, cereal. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598907. *Lolium perenne* L.**

Wild. M236.CPG94; W6 15965. Collected 07/29/1994 in Morocco. Latitude 31 deg. 13' 31'' N. Longitude 7 deg. 40' 52'' W. Elevation 1375 m. 1 km upstream southwest of Setti Fatma off road S513 to Marrakech. Grazed, hay. Slope 0-5%, aspect E. Open. Soil sandy, hydromorphic from granite alluvium, pH 6.5. Rainfall 700 mm. Moist, stream terrace. Veg. closed evergreen broad-leafed herb. Surrounding veg. evergreen open forest with closed lower layer. Population abundant, distribution uniform. Growth habit erect.

**PI 598908. *Phalaris aquatica* L.**

Cultivated. M241.CPG94; W6 15970. Collected 07/29/1994 in Morocco. Latitude 31 deg. 22' 24'' N. Longitude 7 deg. 56' 56'' W. Elevation 845 m. 2 km northwest of Tahanaoute on road S501 toward Marrakech. Past grazed, now cultivated. Slope 0-5%, aspect NW. 1/4 shade. Soil loam aluvium, highly calcareous, pH 9.5-10.0. Rainfall 465 mm. Seasonally dry, floodplain-rsroadside. Vegetation closed, seasonal tall grass. Surrounding veg. irrigated agri. Population abundance frequent, distribution patchy. Growth habit erect.

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 Imp. Laboratory, Rue Hadi Karray, Ariana, Tunisia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States. Received 08/19/1994.

**PI 598909. *Lolium perenne* L.**

Wild. T005.CPG94; W6 15979. Collected 06/21/1994 in Tunisia. Latitude 36 deg. 49' 29'' N. Longitude 10 deg. 58' 47'' E. Elevation 18 m. Near Skalba, 5 km west of Menzer Temine on C45. Grazed. Slope 0-5%, aspect NE. Open. Soil clay, pH 8.5+. Rainfall 425 mm. Moist, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. agri. Dominant herb/grass sp. couch, bermuda. Assoc. sp. strawberry clover, *Agropyron* sp. Population abundance occasional, distribution patchy. Growth habit spreading.

**PI 598910. *Phalaris aquatica* L.**

Wild. T006.CPG94; W6 15980. Collected 06/21/1994 in Tunisia. Latitude 36 deg. 49' 29'' N. Longitude 10 deg. 58' 47'' E. Elevation 18 m. Near Skalba, 5 km west of Menzer Temine on C45. Grazed. Slope 0-5%, aspect NE. Open. Soil clay, pH 8.5+. Rainfall 425 mm. Moist, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. agri. Dominant herb/grass sp. couch, bermuda. Assoc. sp. strawberry clover, *Agropyron* sp. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598911. *Lolium perenne* L.**

Wild. T019.CPG94; W6 15993. Collected 06/22/1994 in Tunisia. Latitude 36 deg. 29' 24'' N. Longitude 9 deg. 9' 50'' E. Elevation 580 m. Near Ain Meuiti, 10 km west of Teboursouk on C75 road to Bou Salem. Grazed. Slope 6-10%, aspect E. Area open. Soil clay, vertisol, pH 8.5-9.0. Rainfall

575 mm. Moist, mid slope. Vegetation closed, seasonal tall grass. Surrounding veg. agri., dryland wheat. Dominant herb/grass sp. couch, bermuda. Population abundance frequent, distribution patchy. Growth habit semi-erect.

**PI 598912. *Phalaris aquatica* L.**

Wild. T026.CPG94; W6 16000. Collected 06/22/1994 in Tunisia. Latitude 36 deg. 46' 58'' N. Longitude 9 deg. 6' 56'' E. Elevation 335 m. 2 km east of Amdoun on C63. Grazed. Slope 11-40%, aspect W. Area open. Soil clay, pH 8.5+. Rainfall 650 mm. Moist, ravine. Vegetation closed, seasonal tall grass. Surrounding veg. agri., dryland wheat. Dominant herb/grass sp. couch, bermuda. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598913. *Lolium perenne* L.**

Wild. T028.CPG94; W6 16002. Collected 06/22/1994 in Tunisia. Latitude 36 deg. 46' 38'' N. Longitude 9 deg. 7' 58'' E. Elevation 197 m. Near Amdoun, 6 km west of Beja on C63. Grazed. Slope 0-5%, aspect E. Open. Soil clay, vertisol, pH 8.5+. Rainfall 625 mm. Seasonally inundated, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. agri, dryland wheat. Dominant herb/grass sp. couch, bermuda. Population abundance frequent, distribution patchy. Growth habit semi-erect.

**PI 598914. *Lolium perenne* L.**

Wild. T048.CPG94; W6 16022. Collected 06/24/1994 in Tunisia. Latitude 36 deg. 57' 51'' N. Longitude 8 deg. 45' 34'' E. Elevation 56 m. 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 *Hyperrenia hirta*. Population abundance occasional, distribution patchy. Growth habit semi-erect.

**PI 598915. *Phalaris aquatica* L.**

Wild. T052.CPG94; W6 16026. Collected 06/24/1994 in Tunisia. Latitude 36 deg. 57' 51'' N. Longitude 8 deg. 45' 34'' E. Elevation 56 m. 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 *Hyperrenia hirta*. Population abundance frequent, distribution patchy. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Abdelmajid Mezni, Tunisia. Received 08/19/1994.

**PI 598916. *Lolium perenne* L.**

Wild. T086.CPG94; W6 16060. Collected 06/28/1994 in Tunisia. Latitude 36 deg. 31' 49'' N. Longitude 8 deg. 19' 7'' E. Elevation 900 m. 14 km northwest of Ghardimaou on El-Feidja National Park, off C61. Past grazed, now logged/cleared. Slope 6-10%, aspect E. Area open. Soil loam, pH 6.5. Rainfall 800 mm. Seasonally dry, mid slope. Vegetation closed, evergreen open forest with closed lower layers. Population abundance



occasional, distribution patchy. Growth habit semi-erect.

**PI 598917. *Festuca arundinacea* Schreb.**

Wild. T121.CPG94; W6 16095. Collected 06/30/1994 in Tunisia. Latitude 36 deg. 57' 42'' N. Longitude 8 deg. 52' 10'' E. Elevation 29 m. 1 km north of Rass Rajel off P7 on Inrat field station. Grazed. Slope 0-5%, aspect E. Area open. Soil loam, hydromorphic, pH 5.0-5.5. Rainfall 1000 mm. Moist, alluvial fan. Vegetation closed, seasonal tall grass. Surrounding veg. closed evergreen scrub with scattered trees. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598918. *Festuca arundinacea* Schreb.**

Wild. T128.CPG94; W6 16102. Collected 06/30/1994 in Tunisia. Latitude 37 deg. 2' 32'' N. Longitude 9 deg. 19' 57'' E. Elevation 270 m. Near Aouana, 2 km north of road P7 between Matevr and Sedjnane. Past grazed, now protected. Slope 0-5%, aspect NW. Area open. Soil clay, vertisol, pH 9.0. Rainfall 600 mm. Moist, ravine. Vegetation closed, seasonal tall grass. Surrounding veg. agri., dryland wheat. Dominant herb/grass sp. *Phalaris coer.* Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598919. *Festuca arundinacea* Schreb.**

Wild. T129.CPG94; W6 16103. Collected 07/01/1994 in Tunisia. Latitude 37 deg. 2' 32'' N. Longitude 9 deg. 19' 57'' E. Elevation 270 m. Near Aouana, 2 km north of road P7 between Matevr and Sedjnane.

**PI 598920. *Festuca arundinacea* Schreb.**

Wild. T130.CPG94; W6 16104. Collected 07/01/1994 in Tunisia. Latitude 37 deg. 2' 32'' N. Longitude 9 deg. 19' 57'' E. Elevation 270 m. Near Aouana, 2 km north of road P7 between Matevr and Sedjnane.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Claudio Porqueddu, Sassari, Sardinia, Italy. Received 08/19/1994.

**PI 598921. *Phalaris aquatica* L.**

Wild. S002.CPG94; W6 16107. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 43' 39'' N. Longitude 8 deg. 38' 19'' E. Elevation 320 m. Near Osilo, 8 km east of Sassari on road SS127. Grazed. Slope 11-40%, aspect E. Area open. Soil clay, pH 6.5. Rainfall 540 mm. Moist, basin. Vegetation closed, evergreen broad-leafed herb veg. Surrounding veg. dryland wheat/forage agri. Dominant herb/grass sp. *Trifolium repens.* Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598922. *Phalaris aquatica* L.**

Wild. S010.CPG94; W6 16115. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 46' 34'' N. Longitude 8 deg. 46' 24'' E. Elevation 350 m. Near Martis, 6 km east of Nulvi on road SS127, Nulvi-Martis. Grazed. Slope 11-40%, aspect N. Area open. Soil heavy limestone clay, vertisol, pH 8.5-9.0. Rainfall 670 mm. Moist, lower slope. Vegetation closed, seasonal tall grass. Surrounding veg. dryland cereal/forage agri.

Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598923. *Festuca arundinacea* Schreb.**

Wild. S011.CPG94; W6 16116. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 46' 34'' N. Longitude 8 deg. 46' 24'' E. Elevation 350 m. Near Martis, 6 km east of Nulvi on road SS127, Nulvi-Martis. Grazed. Slope 11-40%, aspect N. Area open. Soil heavy limestone clay, vertisol, pH 8.5-9.0. Rainfall 670 mm. Moist, lower slope. Vegetation closed, seasonal tall grass. Surrounding veg. dryland cereal/forage agri. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598924. *Festuca arundinacea* Schreb.**

Wild. S013.CPG94; W6 16118. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 43' 15'' N. Longitude 8 deg. 49' 51'' E. Elevation 400 m. 3 km southeast of Chiaramonti on road SS132, Chiaramonte-Ozieri. Grazed. Slope 6-10%, aspect N. Open. Soil clay, pH 5.0-5.5. Rainfall 650 mm. Moist, basin. Vegetation closed, seasonal tall grass. Surrounding veg. dryland cereal/forage agri. Dominant tree *Quercus* s. Dom. shrub *Cistus* sp. Dom. ann. grasses. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598925. *Festuca arundinacea* Schreb.**

Wild. S015.CPG94; W6 16120. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 41' 34'' N. Longitude 8 deg. 55' 23'' E. Elevation 220 m. 16 km southeast of Chiaramonti on road SS132, Chiaramonti-Ozieri. Grazed. Slope 0-5%, aspect W. Area open. Soil loam, pH 7.0. Rainfall 650 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. dryland cereal/forage agri. Dominant herb/grass sp. perennial grasses. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598926. *Phalaris aquatica* L.**

Wild. S016.CPG94; W6 16121. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 41' 34'' N. Longitude 8 deg. 55' 23'' E. Elevation 220 m. 16 km southeast of Chiaramonti on road SS132, Chiaramonti-Ozieri. Grazed. Slope 0-5%, aspect W. Area open. Soil loam, pH 7.0. Rainfall 650 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. dryland cereal/forage agri. Dominant herb/grass sp. perennial grasses. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598927. *Festuca arundinacea* Schreb.**

Wild. S021.CPG94; W6 16126. Collected 07/04/1994 in Sardinia, Italy. Latitude 40 deg. 34' 37'' N. Longitude 9 deg. 12' 18'' E. Elevation 680 m. 5 km west of Budduso on road 389 dir/a; Budduso-Pattada. Grazed. Slope 6-10%, aspect W. Area open. Soil loam, granitic, pH 6.0. Rainfall 980 mm. Moist, basin. Vegetation closed, evergreen broad-leafed herb veg. Surrounding veg. dryland cereal/forage agri. Population abundance occasional, distribution patchy. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Simonetta Bullitta, Sardinia, Italy. Received

08/19/1994.

**PI 598928. *Lolium perenne* L.**

Wild. S026.CPG94; W6 16131. Collected 07/05/1994 in Sardinia, Italy. Latitude 40 deg. 57' 31'' N. Longitude 9 deg. 1' 38'' E. Elevation 358 m. 18 km east from Trinity on SP74 to Aggius, 1/2 km northeast on dirt road. Grazed. Slope 0-5%, aspect N. Open. Soil loam, alluvial, pH 5.5. Rainfall 850 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. pasture/forage. Dom. tree *Quercus* s. Dom. shrub Oleander. Dom. ann. grasses. Population abundance frequent, distribution patchy. Growth habit semi-erect.

**PI 598929. *Festuca arundinacea* Schreb.**

Wild. S027.CPG94; W6 16132. Collected 07/05/1994 in Sardinia, Italy. Latitude 40 deg. 57' 31'' N. Longitude 9 deg. 1' 38'' E. Elevation 358 m. 18 km east from Trinity on SP74 to Aggius, 1/2 km northeast on dirt road. Grazed. Slope 0-5%, aspect N. Open. Soil loam, alluvial, pH 5.5. Rainfall 850 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. pasture/forage. Dom. tree *Quercus* s. Dom. shrub Oleander. Dom. ann. grasses. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598930. *Festuca arundinacea* Schreb.**

Wild. S034.CPG94; W6 16139. Collected 07/05/1994 in Sardinia, Italy. Latitude 41 deg. 4' 36'' N. Longitude 9 deg. 12' 55'' E. Elevation 35 m. Near Bassacutena, 26 km northeast of Tempio on road S133 to Bassacutena. Grazed. Slope 0-5%, aspect NE. Open. Soil heavy loam, pH 7.0. Rainfall 900 mm. Seasonally inundated, alluvial fan/spring bog. Vegetation closed, evergreen broad-leaved herb. Surrounding veg. evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598931. *Lolium perenne* L.**

Wild. S038.CPG94; W6 16143. Collected 07/05/1994 in Sardinia, Italy. Latitude 41 deg. 5' 9'' N. Longitude 9 deg. 21' 31'' E. Elevation 20 m. 2 km west of Arzachena on road Bassacutena-Arzachena. Grazed. Slope 0-5%, aspect NE. Area open. Soil clay, pH 6.0-6.5. Rainfall 770 mm. Seasonally inundated, stream terrace. Vegetation closed, evergreen broad-leaved herb veg. Surrounding veg. evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit semi-erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Leonardo Sulas, Sardinia, Italy. Received 08/19/1994.

**PI 598932. *Festuca arundinacea* Schreb.**

Wild. S045.CPG94; W6 16150. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 28' 59'' N. Longitude 8 deg. 46' 58'' E. Elevation 360 m. Near Torralba, 37 km south of Sassari off Hwy. 131, 3 km east of Torralba at railroad station. Grazed. Slope 0-5%, aspect E. Open. Soil clay, pH 6.0. Rainfall 780 mm. Seasonally dry, plateau. Vegetation

closed, seasonal tall grass. Dominant herb/grass annual grasses. Assoc. sp. *Phalaris c.*, *Cardus sp.*, Medics, clovers, *Vicia*. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598933. *Phalaris aquatica* L.**

Wild. S047.CPG94; W6 16152. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 28' 59'' N. Longitude 8 deg. 46' 58'' E. Elevation 360 m. Near Torralba, 37 km south of Sassari off Hwy. 131, 3 km east of Torralba at railroad station. Grazed. Slope 0-5%, aspect E. Area open. Soil clay, pH 6.0. Rainfall 780 mm. Seasonally dry, plateau. Vegetation closed, seasonal tall grass. Dominant herb/grass sp. annual grasses. Assoc. sp. *Phalaris s.*, *Cardus sp.*, Medics, clovers, *Vicia*. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598934. *Festuca arundinacea* Schreb.**

Wild. S048.CPG94; W6 16153. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 21' 18'' N. Longitude 8 deg. 47' 45'' E. Elevation 650 m. Near Padru Mannu, 45 km south of Sassari and 2 km east of Hwy. 131, 1/2 km south of road to Bolotana. Grazed. Slope 0-5%, aspect E. Area open. Soil loam, pH 6.0. Rainfall 960 mm. Seasonally dry, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598935. *Lolium perenne* L.**

Wild. S052.CPG94; W6 16157. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 21' 30'' N. Longitude 8 deg. 55' 25'' E. Elevation 960 m. Near Villa Pierce, 12 km east of Padru Mannu on road to Bolotana, east of S131 Hw. Grazed. Slope 6-10%, aspect NE. Area open. Soil loam, pH 5.5. Rainfall 1000 mm. Seasonally dry, lower slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest. Population abundance frequent, distribution patchy. Growth habit semi-erect.

**PI 598936. *Festuca arundinacea* Schreb.**

Wild. S053.CPG94; W6 16158. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 21' 30'' N. Longitude 8 deg. 55' 25'' E. Elevation 960 m. Near Villa Pierce, 12 km east of Padru Mannu on road to Bolotana, east of S131 Hwy. Grazed. Slope 6-10%, aspect NE. Area open. Soil loam, pH 5.5. Rainfall 1000 mm. Seasonally dry, lower slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598937. *Lolium perenne* L.**

Wild. S057.CPG94; W6 16162. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 17' 17'' N. Longitude 8 deg. 42' 27'' E. Elevation 610 m. 7 km west of Macomer to Bosa on road S121 bis. Grazed. Slope 0-5%, aspect E. Area open. Soil loam, pH 4.0-4.5. Rainfall 1014 mm. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit semi-erect.

**PI 598938. *Phalaris aquatica* L.**

Wild. S058.CPG94; W6 16163. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 17' 17'' N. Longitude 8 deg. 42' 27'' E. Elevation 610 m. 7 km west of Macomer to Bosa on road S121 bis. Grazed. Slope 0-5%, aspect E. Area open. Soil loam, pH 4.0-4.5. Rainfall 1014 mm. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598939. *Lolium multiflorum* Lam.**

Wild. S059.CPG94; W6 16164. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 17' 17'' N. Longitude 8 deg. 42' 27'' E. Elevation 610 m. 7 km west of Macomer to Bosa on road S121 bis. Grazed. Slope 0-5%, aspect E. Area open. Soil loam, pH 4.0-4.5. Rainfall 1014 mm. Seasonally inundated, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598940. *Phalaris aquatica* L.**

Wild. S061.CPG94; W6 16166. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 10' 27'' N. Longitude 8 deg. 39' 46'' E. Elevation 700 m. Near Siette Fuentes, 17 km southwest of Macomer on road to Santu Lussurgiu. Past grazed, now roadway. Slope 0-5%, aspect E. Area open. Soil loam, pH 5.0-5.5. Rainfall 1174 mm. Seasonally dry, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen forest. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598941. *Festuca arundinacea* Schreb.**

Wild. S067.CPG94; W6 16172. Collected 07/06/1994 in Sardinia, Italy. Latitude 40 deg. 19' 5'' N. Longitude 9 deg. 0' 33'' E. Elevation 202 m. Near Bolotana, 20 km east of Macomer on SS129 to Nuoro, southeast of Bolotana. Grazed. Slope 0-5%, aspect S. Area open. Soil loam, pH 6.5-7.0. Rainfall 700 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance frequent, distribution uniform. Growth habit erect.

The following were collected by Peter Cunningham, Dept. of Agriculture & Rural Affairs, Pastoral Research Institute, P.O. Box 180, Hamilton, Victoria 3300, Australia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States; Claudio Porqueddu, Sassari, Sardinia, Italy. Received 08/19/1994.

**PI 598942. *Festuca arundinacea* Schreb.**

Wild. S075.CPG94; W6 16180. Collected 07/07/1994 in Sardinia, Italy. Latitude 40 deg. 4' 13'' N. Longitude 9 deg. 16' 24'' E. Elevation 1360 m. 5 km south of Fonni off SP7 up toward Mt. Spada 1.5 km east. Grazed. Slope 6-10%, aspect N. Area open. Soil loam, pH 5.0. Rainfall 900-1000 mm. Moist, basin. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance rare, distribution patchy. Growth habit erect.

- PI 598943. *Festuca arundinacea* Schreb.**  
Wild. S076.CPG94; W6 16181. Collected 07/07/1994 in Sardinia, Italy. Latitude 40 deg. 6' 13'' N. Longitude 9 deg. 18' 59'' E. Elevation 1040 m. 11 km southeast of Fonni on road S38, Fonni-Lanusei. Grazed. Slope 0-5%, aspect W. Area open. Soil loam, pH 6.0. Rainfall 1000 mm. Moist, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit erect.
- PI 598944. *Festuca arundinacea* Schreb.**  
Wild. S082.CPG94; W6 16187. Collected 07/07/1994 in Sardinia, Italy. Latitude 39 deg. 55' 26'' N. Longitude 9 deg. 27' 53'' E. Elevation 830 m. 5 km south of Villanova, 1 km west of road S389 on Lake Alto del Flumendosa road. Grazed. Slope 0-5%, aspect S. 1/4 shade. Soil clay, schist/shale rock, pH 6.0. Rainfall 1000 mm. Seasonally inundated, stream terrace. Vegetation closed, open evergreen scrub with closed ground cover. Surrounding veg. seasonal short grass. Population abundance occasional, distribution patchy. Growth habit erect.
- PI 598945. *Festuca arundinacea* Schreb.**  
Wild. S083.CPG94; W6 16188. Collected 07/07/1994 in Sardinia, Italy. Latitude 39 deg. 45' 44'' N. Longitude 9 deg. 29' 48'' E. Elevation 690 m. 11 km south of Olassa on SSN 198, Olassa-Perdasdefogu. Grazed. Slope 11-40%, aspect SE. Area open. Soil loam, limestone rock, pH 8.5. Rainfall 840 mm. Moist, lower slope. Vegetation closed, open evergreen scrub with closed ground cover. Surrounding veg. seasonal short grass. Population abundance occasional, distribution patchy. Growth habit erect.
- PI 598946. *Phalaris aquatica* L.**  
Wild. S087.CPG94; W6 16192. Collected 07/07/1994 in Sardinia, Italy. Latitude 39 deg. 41' 31'' N. Longitude 9 deg. 27' 30'' E. Elevation 511 m. 2 km north of Perdasdefogu, road SSN 198, Ulassai-Perdasdefogu. Past grazed, now roadway. Slope 6-10%, aspect E. Area open. Soil loam, limestone, pH 9.0. Rainfall 800 mm. Seasonally dry, lower slope. Vegetation closed, open evergreen scrub with closed ground cover. Surrounding veg. seasonal tall grass. Population abundance frequent, distribution patchy. Growth habit erect.
- PI 598947. *Phalaris aquatica* L.**  
Wild. S089.CPG94; W6 16194. Collected 07/08/1994 in Sardinia, Italy. Latitude 39 deg. 21' 28'' N. Longitude 9 deg. 31' 11'' E. Elevation 8 m. 2 km west of San Priamo, road SSN 125, San Priamo-Cagliari. Past grazed, now roadway. Slope 0-5%, aspect E. Area open. Soil loam, sandy, pH 7.0. Rainfall 660 mm. Seasonally inundated, ravine. Vegetation closed, seasonal short grass. Surrounding veg. open evergreen scrub with closed ground cover. Population abundance occasional, distribution patchy. Growth habit erect.
- PI 598948. *Festuca arundinacea* Schreb.**  
Cultivated. S091.CPG94; W6 16196. Collected 07/08/1994 in Sardinia, Italy. Latitude 39 deg. 18' 32'' N. Longitude 9 deg. 23' 56'' E. Elevation 345 m. 22 km west of San Priamo, road SSN 125, San Priamo-Cagliari. Past cultivated, now grazed. Slope 0-5%, aspect E. 1/2 shade. Soil loam, alluvial-granitic, pH 7.0. Rainfall 860 mm. Seasonally

inundated, stream terrace. Vegetation closed, evergreen open forest with closed lower layers. Population abundance occasional, distribution patchy. Growth habit erect.

**PI 598949. *Festuca arundinacea* Schreb.**

Wild. S094.CPG94; W6 16199. Collected 07/08/1994 in Sardinia, Italy. Latitude 39 deg. 18' 50'' N. Longitude 8 deg. 37' 31'' E. Elevation 133 m. 3.5 km east of Iglesias, road SSN 131, Cagliari-Iglesias. Grazed. Slope 0-5%, aspect E. Open. Soil clay, pH 9.0. Rainfall 790 mm. Seasonally inundated, basin. Vegetation closed, seasonal tall grass. Surrounding veg. cereal/forage. Dominant herb/grass sp. tall annual grass, *Avena* sp., *Triticum* sp. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598950. *Phalaris aquatica* L.**

Cultivated. S096.CPG94; W6 16201. Collected 07/08/1994 in Sardinia, Italy. Latitude 39 deg. 29' 35'' N. Longitude 8 deg. 31' 5'' E. Elevation 450 m. 10.5 km north of Fluminimaggiore, road SSN 126, Iglesias-Fluminimaggiore. Past grazed, now cultivated. Slope 0-5%, aspect E. Open. Soil loam, schist/granitic tran. zone, pH 6.0. Rainfall 710 mm. Seasonally dry, plateau. Veg. closed, seasonal tall grass. Surrounding veg. closed evergreen scrub with scattered trees. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598951. *Phalaris aquatica* L.**

Wild. S099.CPG94; W6 16204. Collected 07/08/1994 in Sardinia, Italy. Latitude 39 deg. 32' 17'' N. Longitude 8 deg. 39' 56'' E. Elevation 115 m. 3 km east of Guspini on road SSN 197, Guspini-Sanluri. Grazed. Slope 0-5%, aspect S. 1/4 shade. Soil loam, pH 6.0-6.5. Rainfall 560 mm. Seasonally inundated, moist, basin. Vegetation closed, seasonal tall grass. Surrounding veg. closed evergreen scrub with scattered trees. Population abundance frequent, distribution patchy. Growth habit erect.

**PI 598952. *Phalaris aquatica* L.**

Wild. S103.CPG94; W6 16208. Collected in Italy. Latitude 39 deg. 44' 22'' N. Longitude 9 deg. 0' 23'' E. Elevation 538 m. 3 km west of Gesturi toward "Giara di Gesturi.". Grazed. Slope 11-40%, aspect SE. Oen. Soil loam, dolomite-marne-calcareous zone, pH 10.0. Rainfall 700 mm. Seasonally dry, upper slope. Vegetation closed, seasonal tall grass. Surrounding veg. evergreen open forest with closed lower layers. Population abundance frequent, distribution patchy. Growth habit erect.

The following were collected by Thomas A. Jones, USDA-ARS, Forage and Range Research, Utah State University, Logan, Utah 84322-6300, United States; Richard C. Johnson, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 09/30/1994.

**PI 598953. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1048; W6 16276. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 2' 26'' N. Longitude 118 deg. 58' 7'' W. 6.4 miles north Coulee Dam on highway 155 at mile marker 35 Okanogan County.

**PI 598954. *Leymus cinereus* (Scribn. & Merr.) A. Love**

- Wild. T-1050; W6 16277. Collected 09/30/1994 in British Columbia, Canada . Latitude 49 deg. 10' 14'' N. Longitude 119 deg. 44' 53'' W. 24.1 miles northwest junction highway 3 X 97 on highway 3.
- PI 598955. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1052; W6 16278. Collected 09/30/1994 in British Columbia, Canada . Latitude 50 deg. 42' 45'' N. Longitude 120 deg. 18' 9'' W. 1.2 miles east junction Paul Lake Road X highway 5 on Paul Lake Road near Kamloops.
- PI 598956. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1057; W6 16279. Collected 09/30/1994 in British Columbia, Canada . Latitude 50 deg. 42' 45'' N. Longitude 120 deg. 18' 9'' W. Railroad tracks by the Agriculture Canada Research Station entrance, north Kamloops.
- PI 598957. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1058; W6 16280. Collected 09/30/1994 in British Columbia, Canada . Latitude 50 deg. 42' 16'' N. Longitude 120 deg. 36' 14'' W. 10.3 miles west Kamloops on highway 1 at Cherry Creek Ranch 1 mile before highway meets Kamloops Lake.
- PI 598958. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1061; W6 16281. Collected 09/30/1994 in British Columbia, Canada . Latitude 50 deg. 47' 8'' N. Longitude 121 deg. 11' 36'' W. 16 miles west junction highway 1 X Thompson River between Savona and Cache Creek.
- PI 598959. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1067; W6 16282. Collected 09/30/1994 in British Columbia, Canada . Latitude 50 deg. 19' 22'' N. Longitude 119 deg. 14' 42'' W. Along side railroad tracks at junction of highway 97A X Lochdale Road 1.7 miles north Vernon.
- PI 598960. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1069; W6 16283. Collected 09/30/1994 in British Columbia, Canada . Latitude 49 deg. 34' 35'' N. Longitude 119 deg. 38' 27'' W. Junction Arkell X Gartrell Roads Summerland.
- PI 598961. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1071; W6 16284. Collected 09/30/1994 in British Columbia, Canada . Latitude 49 deg. 0' 54'' N. Longitude 119 deg. 13' 19'' W. Junction highway 3 X Sidley Mountain Road 3 miles west Bridesville.
- PI 598962. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1075; W6 16285. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 37' 8'' N. Longitude 119 deg. 22' 31'' W. On Chewilikan Valley Road 11 miles southeast Tonasket, Okanogan county.
- PI 598963. *Leymus cinereus*** (Scribn. & Merr.) A. Love  
Wild. T-1077; W6 16286. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 35' 9'' N. Longitude 119 deg. 29' 15'' W. 6.3 miles north Riverside, Okanogan County, on road following west shore of the Okanogan River.
- PI 598964. *Leymus cinereus*** (Scribn. & Merr.) A. Love



Wild. T-1081; W6 16287. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 32' 20'' N. Longitude 119 deg. 43' 7'' W. 2.3 miles southeast Conconully, Okanogan County, on road to Omak before turnoff to highway 20.

**PI 598965. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1085; W6 16288. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 7' 5'' N. Longitude 119 deg. 35' 21'' W. 5.6 miles east Monse, Okanogan County.

**PI 598966. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1086; W6 16289. Collected 09/30/1994 in Washington, United States. Latitude 47 deg. 50' 44'' N. Longitude 119 deg. 58' 23'' W. Junction highway 97A X Willnorth Drive, Chelan Falls, Chelan County, 3.5 miles west junction highway 97 X 97A.

**PI 598967. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1090; W6 16290. Collected 09/30/1994 in Washington, United States. Latitude 47 deg. 7' 54'' N. Longitude 120 deg. 41' 8'' W. 3.5 miles south junction highway 97 X 970 on highway 97 between mile markers 146 and 147, Kittitas County.

**PI 598968. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1092; W6 16291. Collected 09/30/1994 in Washington, United States. Latitude 47 deg. 7' 54'' N. Longitude 119 deg. 1' 53'' W. I-90 between mile markers 189 and 190, Grant County.

**PI 598969. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1094; W6 16292. Collected 09/30/1994 in Washington, United States. Latitude 47 deg. 2' 5'' N. Longitude 118 deg. 11' 38'' W. 0.5 mile north Marengo, Adams County.

**PI 598970. *Leymus cinereus* (Scribn. & Merr.) A. Love**

Wild. T-1096; W6 16293. Collected 09/30/1994 in Washington, United States. Latitude 46 deg. 55' 15'' N. Longitude 117 deg. 39' 59'' W. 1 miles east Endicott, Whitman County.

**PI 598971. *Aristida purpurea* var. *longiseta* (Steud.) Vasey**

Wild. ArLo-1; W6 16294. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 13' 13'' N. Longitude 119 deg. 15' 4'' W. 9.7 miles west of highway 155 on road to Omak Lake, Okanogan County.

**PI 598972. *Aristida purpurea* var. *longiseta* (Steud.) Vasey**

Wild. ArLo-2; W6 16295. Collected 09/30/1994 in Washington, United States. Latitude 48 deg. 58' 32'' N. Longitude 119 deg. 38' 31'' W. 0.5 mile northeast Nighthawk, Okanogan County.

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 05/1995.

**PI 598973. *Stipa sibirica* (L.) Lam.**

Wild. E94007; W6 17987. Collected 09/1994 in Mongolia. Latitude 47 deg.

12' 0'' N. Longitude 108 deg. 40' 39'' E. Elevation 1448 m. On and surrounding Tariat Research Station near Herlen River, Hentii Aimag. Grass steppe uplands above river floodplain. Previously large areas have been plowed in attempt to grow cereals. Most of plowed land abandoned to weeds. Soils shallow, gravelly, and obvious low fertility.

**PI 598974. *Stipa sibirica* (L.) Lam.**

Wild. E94206; W6 18124. Collected 09/1994 in Mongolia. Latitude 47 deg. 53' 58'' N. Longitude 113 deg. 44' 25'' E. Elevation 680 m. Range of low mountains along Herlen River 100 km west of Choibalson. Mountain-grass steppe. Soils thin, many rock cobbles present. Aspect southwest, slope 5%.

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 Imp. Laboratory, Rue Hadi Karray, Ariana, Tunisia; Walter Graves, 7665 Volclay Drive, San Diego, California 92119-1219, United States. Received 08/19/1994.

**PI 598975. *Phalaris aquatica* L.**

Wild. T015.CPG94; W6 15989. Collected 06/22/1994 in Tunisia. Latitude 36 deg. 28' 40'' N. Longitude 9 deg. 10' 48'' E. Elevation 476 m. 6 km west of Teboursouk on C75. Grazed. Slope 0-5%, aspect E. Area open. Soil clay, vertisol, pH 8.5-9.0. Rainfall 550 mm. Moist, ravine. Vegetation closed, evergreen tall grass. Surrounding veg. agri. Dominant shrub Oleander. Dom. herb/grass sp. couch, bermuda. Population abundance frequent, distribution patchy. Growth habit erect.

The following were collected by Carl S. Hoveland, University of Georgia, College of Agric. & Environmental Sci., Department of Crop and Soil Sciences, Athens, Georgia 30602-7272, United States; G. Ray Smith, Texas A&M University, Research & Extension Center, P.O. Box E, Overton, Texas 75684, United States. Received 10/1996.

**PI 598976. *Trifolium ambiguum* M. Bieb.**

Wild. G93-4; W6 19874. Collected 1993 in Georgia. Elevation 915 m. Town of Khulo. Near Viviavjar village. Steep slopes.

**PI 598977. *Trifolium ambiguum* M. Bieb.**

Wild. G93-5; W6 19875. Collected 1993 in Georgia. Elevation 915 m. Town of Khulo. Near Viviavjar village. Steep slopes. Collected 90 m south of collection site of W6 19874 (G93-4).

**PI 598978. *Trifolium ambiguum* M. Bieb.**

Wild. G93-6; W6 19876. Collected 1993 in Georgia. Elevation 700 m. Town of Tago near cable car. Mountain meadows, mixed clovers and ryegrass.

**PI 598979. *Trifolium ambiguum* M. Bieb.**

Wild. G93-12; W6 19877. Collected 1993 in Georgia. Elevation 700 m. Town of Tago in hay meadow, 50 m west of collection site for W6 19876 (G93-6).

**PI 598980. *Trifolium ambiguum* M. Bieb.**

- Wild. G93-25; W6 19878. Collected 1993 in Georgia. Elevation 915 m. Town of Khulo, near Viviavjar village. Steep slopes. Same population as W6 19874 (G93-4).
- PI 598981. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-64; W6 19879. Collected 1993 in Georgia. Elevation 1200 m. 16 km west of town of Telavi. In small hay meadow, red and kura.
- PI 598982. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-66; W6 19880. Collected 1993 in Georgia. Elevation 1500 m. 53 km west of town of Telavi. In a fence row of a hay meadow.
- PI 598983. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-69; W6 19881. Collected 1993 in Georgia. Elevation 1500 m. 55 km west of town of Telavi. Mixed mountain side, red, kura, alfalfa, sanfoin, cicer.
- PI 598984. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-71; W6 19882. Collected 1993 in Georgia. Elevation 1500 m. 60 km west of town of Telavi. Mixed mountain side, 2 km from collection site of W6 19881 (G93-69).
- PI 598985. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-74; W6 19883. Collected 1993 in Georgia. Elevation 1300 m. 80 km west of town of Telavi. Mixed mountainside, 5 km from collection site of W6 19882 (G93-71).
- PI 598986. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-80; W6 19884. Collected 1993 in Georgia. Elevation 1850 m. Near town of Maleta. On mountainside, lotus, kura, red, *T. canescens*.
- PI 598987. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-88; W6 19885. Collected 1993 in Georgia. Elevation 1800 m. Near town of Kasbegi near old botanical station. 200 m north of collection site of G93-87.
- PI 598988. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-93; W6 19886. Collected 1993 in Georgia. Elevation 1800 m. Near town of Kasbegi near old botanical station. 70 m south of collection site of G93-87.
- PI 598989. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-97; W6 19887. Collected 1993 in Georgia. Elevation 1800 m. Near town of Kasbegi near old botanical station. 220 m south of collection site of G93-87. Pink to red flowers.
- PI 598990. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-98; W6 19888. Collected 1993 in Georgia. Elevation 2000 m. Near town of Gilgate west of Kasbegi. Mountainside.
- PI 598991. *Trifolium ambiguum* M. Bieb.**  
Wild. G93-100; W6 19889. Collected 1993 in Georgia. Elevation 1700 m. 4 km north of town of Kasbegi. Mountainside, kura and vetch.
- PI 598992. *Trifolium ambiguum* M. Bieb.**

Wild. G93-102; W6 19890. Collected 1993 in Georgia. Elevation 2400 m. 2 km south of town of Kasbegi. Mountain crossing.

The following were donated by Matt Silbernagel, USDA, ARS, Vegetable Crop Production, IAREC, P.O. Box 30, Prosser, Washington 99350, United States. Received 1996.

- PI 598993. Phaseolus vulgaris L.**  
Cultivar. "Black Turtle II"; W6 17879. Bean Common Mosaic virus differential.
- PI 598994. Phaseolus vulgaris L.**  
Cultivar. "Dubbele Witte"; W6 17880. Bean Common Mosaic virus differential.
- PI 598995. Phaseolus vulgaris L.**  
Cultivar. "Long Tom"; W6 17881. Bean Common Mosaic virus differential.
- PI 598996. Phaseolus vulgaris L.**  
Cultivar. "Sierra"; W6 17882. Bean Common Mosaic virus differential.
- PI 598997. Phaseolus vulgaris L.**  
Cultivar. "Sutter Pink"; W6 17883. Bean Common Mosaic virus differential.
- PI 598998. Phaseolus vulgaris L.**  
Cultivar. "Bountiful"; W6 17884. Bean Common Mosaic virus differential.
- PI 598999. Phaseolus vulgaris L.**  
Cultivar. "Stringless Green Refugee"; W6 17885. Bean Common Mosaic virus differential.
- PI 599000. Phaseolus vulgaris L.**  
Cultivar. "Redlands Greenleaf C"; W6 17886. Bean Common Mosaic virus differential.
- PI 599001. Phaseolus vulgaris L.**  
Cultivar. "UI-36 Red Mex"; W6 17887. Bean Common Mosaic virus differential.
- PI 599002. Phaseolus vulgaris L.**  
Cultivar. "Puregold"; W6 17888. Bean Common Mosaic virus differential.
- PI 599003. Phaseolus vulgaris L.**  
Cultivar. "Imuna"; W6 17889. Bean Common Mosaic virus differential.
- PI 599004. Phaseolus vulgaris L.**  
Cultivar. "Redlands Greenleaf B"; W6 17890. Bean Common Mosaic virus differential.
- PI 599005. Phaseolus vulgaris L.**  
Cultivar. "UI-59 GN"; W6 17891. Bean Common Mosaic virus differential.
- PI 599006. Phaseolus vulgaris L.**  
Cultivar. "UI-123 GN"; W6 17892. Bean Common Mosaic virus differential.

- PI 599007. *Phaseolus vulgaris* L.  
Cultivar. "Columbia Pinto"; W6 17893. Bean Common Mosaic virus differential.
- PI 599008. *Phaseolus vulgaris* L.  
Cultivar. "Sanilac"; W6 17894. Bean Common Mosaic virus differential.
- PI 599009. *Phaseolus vulgaris* L.  
Cultivar. "Michelite 62"; W6 17895. Bean Common Mosaic virus differential.
- PI 599010. *Phaseolus vulgaris* L.  
Cultivar. "UI-34 Red Mex"; W6 17896. Bean Common Mosaic virus differential.
- PI 599011. *Phaseolus vulgaris* L.  
Cultivar. "UI-111"; W6 17897. Bean Common Mosaic virus differential.
- PI 599012. *Phaseolus vulgaris* L.  
Cultivar. "UI-111"; W6 17898. Bean Common Mosaic virus differential.
- PI 599013. *Phaseolus vulgaris* L.  
Cultivar. "UI-111"; W6 17899. Bean Common Mosaic virus differential.
- PI 599014. *Phaseolus vulgaris* L.  
Cultivar. "Pinto 114-8"; W6 17900. Bean Common Mosaic virus differential.
- PI 599015. *Phaseolus vulgaris* L.  
Cultivar. "UI-31 GN"; W6 17901. Bean Common Mosaic virus differential.
- PI 599016. *Phaseolus vulgaris* L.  
Cultivar. "Monroe"; W6 17902. Bean Common Mosaic virus differential.
- PI 599017. *Phaseolus vulgaris* L.  
Cultivar. "Othello"; W6 17903. Bean Common Mosaic virus differential.
- PI 599018. *Phaseolus vulgaris* L.  
Cultivar. "UI-35 Red Mex"; W6 17904. Bean Common Mosaic virus differential.
- PI 599019. *Phaseolus vulgaris* L.  
Cultivar. "CIAT MCR 2210"; W6 17905. Bean Common Mosaic virus differential.
- PI 599020. *Phaseolus vulgaris* L.  
Cultivar. "G94574"; W6 17906. Bean Common Mosaic virus differential.
- PI 599021. *Phaseolus vulgaris* L.  
Cultivar. "Black Turtle Soup I"; W6 17907. Bean Common Mosaic virus differential.
- PI 599022. *Phaseolus vulgaris* L.  
Cultivar. "Widusa"; W6 17908. Bean Common Mosaic virus differential.

- PI 599023. Phaseolus vulgaris L.**  
Cultivar. "Jubila"; W6 17909. Bean Common Mosaic virus differential.
- PI 599024. Phaseolus vulgaris L.**  
Cultivar. "Improved Tendergreen 40031"; W6 17910. Bean Common Mosaic virus differential.
- PI 599025. Phaseolus vulgaris L.**  
Cultivar. "Topcrop"; W6 17911. Bean Common Mosaic virus differential.
- PI 599026. Phaseolus vulgaris L.**  
Cultivar. "Amanda"; W6 17912. Bean Common Mosaic virus differential.
- PI 599027. Phaseolus vulgaris L.**  
Cultivar. "Isabella"; W6 17913. Bean Common Mosaic virus differential.
- PI 599028. Phaseolus vulgaris L.**  
Cultivar. "Redkloud"; W6 17914. Bean Common Mosaic virus differential.
- PI 599029. Phaseolus vulgaris L.**  
Cultivar. "IVT-7233"; W6 17915. Bean Common Mosaic virus differential.
- PI 599030. Phaseolus vulgaris L.**  
Cultivar. "92-1006"; W6 17916. Bean Common Mosaic virus differential.
- PI 599031. Phaseolus vulgaris L.**  
Cultivar. "UI 129"; W6 18302. Bean Common Mosaic virus differential.

The following were developed by M. C. Engelke, Texas A&M University, Research and Extension Center, 17360 Coit Road, Dallas, Texas 75252, United States; Virginia Lehman, Lofts Seed, 315 Edgewater Drive, Lebanon, Oregon 97355, United States; J.A. Reinert, Texas A & M University, Dept. of Soil and Crop Sciences, College Station, Texas 77843-6599, United States; B.A. Ruummele, University of Rhode Island, Turfgrass Research and Extension, Kingston, Rhode Island 02881, United States; P.F. Colbaugh, Texas Agric. Exp. Sta., 17360 Coit Road, Dallas, Texas 75252, United States; K. B. Marcum, University of Arizona, Turfgrass Physiology, Tucson, Arizona, United States; R. H. White, Texas A&M University, Turfgrass Physiology, College Station, Texas, United States. Received 07/08/1919.

- PI 599032. Agrostis stolonifera var. palustris (Huds.) Farw.**  
Cultivar. Population. "MARINER"; Syn 1-88. CV-8; PVP 9700294. Pedigree - Nine maternal clones selected from Seaside. Nine clone synthetic cultivar selected from within the cultivar Seaside, a decades old land race variety. Selected for turf quality texture, color, and uniformity within Seaside, while maintaining salinity tolerance, improving root growth characters, and heat tolerance of the population. Flag leaf and panicle length shorter than Seaside. Selection for similar types resulted in few variants with acceptable uniformity and quality from one generation to the next.

The following were developed by John M. Clarke, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Res. Centre, Box 1030, Swift Current,

Saskatchewan S9H 3X2, Canada. Received 07/10/1997.

**PI 599033. *Triticum durum* Desf.**

Cultivar. Pureline. "AC AVONLEA"; DT 661. Pedigree - DT379/DT367//DT367/Medora. Intermediate height, strong strawed durum wheat. In pre-registration field trials yielded slightly more than existing cultivars, and protein concentration 0.6-0.8 percentage units higher. Resistant to prevalent races of common bunt (*Tilletia laevis* and *T. caries*), leaf rust (*Puccinia recondita*), and stem rust (*P. graminis*). Highly susceptible to loose smut (*Ustilago tritici*) races prevalent in western Canada. End-use quality met the standard for the Canada West.

The following were developed by J. Paul Murphy, North Carolina State University, Dept of Crop Science, Box 7620, Raleigh, North Carolina 27695-7620, United States; Steven Leath, USDA, ARS, North Carolina State University, Dept. of Plant Pathology, Raleigh, North Carolina 27695, United States; R.A. Navarro, North Carolina State University, North Carolina Agric. Exp. Station, Raleigh, North Carolina, United States; Ainong Shi, North Carolina State University, Department of Plant Pathology, Box 7616, Raleigh, North Carolina 27695, United States; D. Huynh, USDA-ARS, North Carolina State University, Dept. of Crop Science, Raleigh, North Carolina 27695-7629, United States. Received 07/11/1997.

**PI 599034. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. NC96BGTA4. GP-548. Pedigree - SALUDA\*3/PI 221414. Soft red winter wheat adapted to Southeastern United States. BC2-F5 derived line. Resistant to prevalent powdery mildew (*Blumeria graminis*) isolates found in cultivation in North Carolina during 1994, 1995, and 1996 seasons. Source of resistance was *Triticum monococcum* sp. monococcum accession, PI 221414, collected in Yugoslavia. Plant height and maturity similar to recurrent parent Saluda.

**PI 599035. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. NC96BGTA5. GP-549. Pedigree - Saluda\*3/PI 427662. Soft red winter wheat adapted to Southeastern United States. BC2-F5 derived line. Resistant to prevalent powdery mildew (*Blumeria graminis*) isolates found in cultivation in North Carolina during 1994, 1995, and 1996 seasons. Source of resistance was *Triticum monococcum* sp. aegilopoides accession, PI 427662, collected in Iraq. Plant height and maturity similar to recurrent parent Saluda.

**PI 599036. *Triticum aestivum* L., nom. cons.**

Breeding. Pureline. NC96BGTA6. GP-550. Pedigree - SALUDA\*3/PI 427772. Soft red winter wheat adapted to Southeastern United States. BC2-F5 derived line. Resistant to prevalent powdery mildew (*Blumeria graminis*) isolates found in cultivation in North Carolina during 1994, 1995, and 1996 seasons. Source of resistance was *Triticum monococcum* sp. aegilopoides accession, PI 427772, collected in Iraq. Plant height and maturity similar to recurrent parent Saluda.

The following were collected by Gideon Ladizinsky, Hebrew University, Faculty of Agriculture, P.O. Box 12, Rehovot, Israel. Received 01/01/1988.

**PI 599037. *Cicer bijugum* Rech. f.**  
Wild. 201; W6 8. Collected in Turkey.

**PI 599038. *Cicer reticulatum* Ladiz.**  
Wild. 231; W6 9. Collected in Turkey.

**PI 599039. *Cicer bijugum* Rech. f.**  
Wild. ILWC 32; ICCW 71; W6 10. Collected 08/17/1988 in Turkey. 5 km south of Cherga, Altai Mountains, Siberia. Meadow in bottom of valley. Mixed grass/forbs.

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; Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 09/15/1989.

**PI 599040. *Cicer echinospermum* P. H. Davis**  
Wild. 020689-0101; W6 1979. Collected 06/02/1989 in Turkey. Latitude 37 deg. 43' N. Longitude 38 deg. 35' E. Elevation 1110 m. 6 km SW of Karacadag on road Diyarbakir to Siverek. Siverek Province. Occasional at rocky fence rows on edges of heavily grazed fields, some recently tilled. Rocky fields on basalt plateau. Plants spreading. Flowers rose violet.

**PI 599041. *Cicer echinospermum* P. H. Davis**  
Wild. 020689-0302; W6 1984. Collected 06/02/1989 in Diyarbakir, Turkey. Latitude 37 deg. 51' N. Longitude 39 deg. 49' E. Elevation 1320 m. 1 km S of road, protected, ungrazed, recently forested. 20 km E of Karacadag, road to Siverek to Diyarbakir. Occasional, low growing among annual grasses. Soil shallow. Rocky basalt outcrops dominated by *Secale montanum*, *Hordeum bulbosum*.

**PI 599042. *Cicer reticulatum* Ladiz.**  
Wild. 030689-0302; W6 1992. Collected 06/03/1989 in Diyarbakir, Turkey. Latitude 37 deg. 36' N. Longitude 40 deg. 30' E. Elevation 850 m. 19 km S of Cinar or 3 km before Yukari-Konak. Infrequent, scattered. Pockets of rocky rubble, shade of oak trees. Hard limestone outcrops. Coppiced. Heavily grazed. Associated sp. *H. spontaneum* and diploid wheat. Slope steep, N facing. Erect.

**PI 599043. *Cicer pinnatifidum* Jaub. & Spach**  
Wild. 040689-0602; W6 2007. Collected 06/04/1989 in Mardin, Turkey. Latitude 37 deg. 33' N. Longitude 40 deg. 56' E. Elevation 900 m. 3.5 km E of Savur on Savur-Midyat road. Infrequent. Oak scrub scattered. Limestone outcrops and rubble. Slope steep, N facing. Some plants in flower, some shattered.

**PI 599044. *Cicer reticulatum* Ladiz.**  
Wild. 040689-0702; W6 2009. Collected 06/04/1989 in Mardin, Turkey. Latitude 37 deg. 33' N. Longitude 40 deg. 58' E. Elevation 980 m. 1 km E of Dereici. 8 km E of Savur. Slope N facing, edge of vineyard. Rocky



terrace, limestone rubble. Infrequent. Flowers rose-violet. Pods tardily dehiscent.

**PI 599045. *Cicer pinnatifidum* Jaub. & Spach**

Wild. 040689-0703; W6 2010. Collected 06/04/1989 in Mardin, Turkey. Latitude 37 deg. 33' N. Longitude 40 deg. 56' E. Elevation 980 m. 1 km E of Dereici. 8 km E of Savur. Infrequent. Slope N facing, edge of vineyard. Rocky terrace, limestone rubble. Associated with *C. reticulatum*. Shattered. Population sampled, 10 plants.

**PI 599046. *Cicer bijugum* Rech. f.**

Wild. 050689-0203; W6 2014. Collected 06/05/1989 in Mardin, Turkey. Latitude 37 deg. 33' N. Longitude 41 deg. 0' E. Elevation 1000 m. 4.1 km after Dereici on road to Midyat from Savur. Growing as weed, scattered at edge of cultivated lentil field. Rocky limestone slopes, terraces. Slope W facing, mouth of ravine. Some plants to 50 pods, most with 4-5. Spreading. Some mature pods. Flowers lavender.

**PI 599047. *Cicer bijugum* Rech. f.**

Wild. 050689-0301; W6 2016. Collected 06/05/1989 in Mardin, Turkey. Latitude 37 deg. 33' N. Longitude 41 deg. 1' E. Elevation 1050 m. 5.8 km E of Dereici on road from Savur to Midyat. Edge of wild wheat field. Scattered oak scrub. Soil thin, rocky, limestone. Slope W and N facing. Maturing about same time or slightly later than *C. reticulatum*.

**PI 599048. *Cicer bijugum* Rech. f.**

Wild. 060689-0101; W6 2021. Collected 06/06/1989 in Mardin, Turkey. Latitude 37 deg. 33' N. Longitude 41 deg. 3' E. Elevation 1060 m. About 1 km S of road. 21 km NW of Senkoy on road to Savur, approx. 6 km W of Icoren. Side of road next to ditch. Soil bare, disturbed. Slopes rocky limestone. Wild Pistaccio and Quercus. Some plants small, immature, some still in flower. Population sampled. Population of about 30-40 plants dispersed.

**PI 599049. *Cicer bijugum* Rech. f.**

Wild. 090689-0301; W6 2072. Collected 06/09/1989 in Siirt, Turkey. Latitude 37 deg. 56' N. Longitude 42 deg. 20' E. Elevation 1450 m. 63.1 km E of Siirt on rd. to Pervari or 7.6 km E of rd. to Doganca. Sun/partial shade in grasses. Disturbed roadside. Partially grazed. Soil deep red. Dominated by *Aegilops* sp. & *Triticum* sp. Associated with *C. reticulatum*. Common.

**PI 599050. *Cicer reticulatum* Ladiz.**

Wild. 090689-0303; W6 2074. Collected 06/09/1989 in Siirt, Turkey. Latitude 37 deg. 56' N. Longitude 42 deg. 20' E. Elevation 1450 m. 63.1 km E of Siirt on road to Pervari or 7.6 km E of road to Doganca. Infrequent. Oak scrub. Partially grazed, sunny openings. Soil deep red. Dominated by *Aegilops* sp. & *Triticum* sp. Associated with *C. bijugum*. Maturing slightly earlier than *C. bijugum*. Leaflets deciduous and becoming deciduous before legumes dehisce.

**PI 599051. *Cicer bijugum* Rech. f.**

Wild. 100689-0401; W6 2085. Collected 06/10/1989 in Siirt, Turkey. Latitude 37 deg. 33' N. Longitude 42 deg. 26' E. Elevation 1580 m. 5-9 km W of Sirkak on the Sirkak-Eruh road. Soil deep red, recently

disturbed. Along road. Coppiced and cut over oak park forest. Rare. Only one plant found and collected.

**PI 599052. *Cicer reticulatum* Ladiz.**

Wild. 100689-0501; W6 2093. Collected 06/10/1989 in Siirt, Turkey. Latitude 37 deg. 34' N. Longitude 42 deg. 23' E. Elevation 1260 m. 11 km W of Sirnak on the Sirnak-Eruh road. Cut over, grazed. Soil deep red. Dominated by *Aegilops* sp. *C. bijugum* occurs, almost no chickpea cultivation. Coppiced and oak scrub. Plants to 15 cm. Four plants found. Seeds heavily reticulated.

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. Received 07/13/1990.

**PI 599053. *Cicer songaricum* Stephan ex DC.**

Wild. 7005; SR-19-01; W6 4574. Collected 09/1989 in Uzbekistan.

The following were collected by Nigel Maxted, Univ. of Southampton - Dept. of Biology, Med. & Biological Science Building, Bassett Crescent East, Southampton, England S09 3TU, United Kingdom; W. Mughlaby. Donated by Laszlo Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria. Received 10/17/1990.

**PI 599054. *Cicer judaicum* Boiss.**

Wild. 2933; ILWC 43; W6 6151. Collected 05/1986 in Syria. Makhraj Tahtani, Tartous Province.

**PI 599055. *Cicer judaicum* Boiss.**

Wild. 1870; ILWC 44; W6 6152. Collected 05/1986 in Syria. 5 km N of Tartous, Tartous Province.

**PI 599056. *Cicer judaicum* Boiss.**

Wild. 1877; ILWC 45; W6 6153. Collected 05/1986 in Syria. 12 km N of Tartous, Tartous Province.

**PI 599057. *Cicer judaicum* Boiss.**

Wild. 2963; ILWC 46; W6 6154. Collected 05/1986 in Syria. Haniue, Tartous Province.

The following were collected by Laszlo Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria. Received 10/17/1990.

**PI 599058. *Cicer judaicum* Boiss.**

Wild. LH-242; ILWC 50; W6 6157. Collected 05/1986 in Syria. Elevation 800 m. Near El Sauda village, Tartous Province.

The following were collected by Nigel Maxted, Univ. of Southampton - Dept. of Biology, Med. & Biological Science Building, Bassett Crescent East, Southampton, England S09 3TU, United Kingdom; W. Mughlaby. Donated by Laszlo

Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria. Received 10/17/1990.

**PI 599059. *Cicer pinnatifidum* Jaub. & Spach**  
Wild. 2686; ILWC 49; W6 6158. Collected 05/1986 in Syria. Sarghaya, Damascus Province.

The following were donated by Laszlo Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria. Received 10/17/1990.

**PI 599060. *Cicer pinnatifidum* Jaub. & Spach**  
Wild. ILWC 51; W6 6159. Collected 1987 in Unknown.

The following were donated by Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 12/01/1991.

**PI 599061. *Cicer microphyllum* Benth.**  
Wild. ICCW 56; NC. 61035; W6 9395.

The following were donated by Laszlo Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria. Received 04/03/1992.

**PI 599062. *Cicer bijugum* Rech. f.**  
Wild. 5230; ILWC 240; W6 10145.

**PI 599063. *Cicer bijugum* Rech. f.**  
Wild. 5251; ILWC 241; W6 10146.

**PI 599064. *Cicer bijugum* Rech. f.**  
Wild. 5781; ILWC 243; W6 10147.

**PI 599065. *Cicer bijugum* Rech. f.**  
Wild. LR-051; ILWC 209; W6 10148.

The following were donated by A.I. Abbas, Ministry of Agriculture and Irrigation, State Board for Agricultural Research, and Water Resources, Abu-Ghraib, Iraq. Received 04/03/1992.

**PI 599066. *Cicer bijugum* Rech. f.**  
Wild. W6 10149. Collected 07/04/1989 in Iraq. Elevation 1100 m. Salah-al-Dean.

The following were donated by Laszlo Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria. Received 04/03/1992.

**PI 599067. *Cicer echinospermum* P. H. Davis**  
Wild. 4843; ILWC 235; W6 10151.

- PI 599068. *Cicer echinospermum* P. H. Davis  
Wild. 5043; ILWC 238; W6 10152.
- PI 599069. *Cicer echinospermum* P. H. Davis  
Wild. 5152; ILWC 239; W6 10153.
- PI 599070. *Cicer pinnatifidum* Jaub. & Spach  
Wild. LR-193; ILWC 212; W6 10160.
- PI 599071. *Cicer pinnatifidum* Jaub. & Spach  
Wild. LR-198; ILWC 213; W6 10161.

The following were donated by University of Southampton, Southampton, England, United Kingdom. Received 04/03/1992.

- PI 599072. *Cicer reticulatum* Ladiz.  
Wild. W6 10162. Collected 1988 in Turkey. Southeastern Turkey.

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; Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 04/03/1992.

- PI 599073. *Cicer reticulatum* Ladiz.  
Wild. W6 10163. Collected 1988 in Diyarbakir, Turkey. Field at Agricultural Research Station.

The following were collected by Nigel Maxted, Univ. of Southampton - Dept. of Biology, Med. & Biological Science Building, Bassett Crescent East, Southampton, England S09 3TU, United Kingdom; Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 10/04/1991.

- PI 599074. *Cicer songaricum* Stephan ex DC.  
Wild. 8201; 918201; W6 10446. Collected 06/10/1991 in Tajikistan. Latitude 39 deg. 32' N. Longitude 67 deg. 53' E. Elevation 1540 m. Northern edge of town near Urmitan. Aspect W. In loose scree of canyon. Associated with mixed scrub and herbs. Additional voucher locations: MO, G, ERE.

The following were collected by Laszlo Holly, Int. Center for Agricultural Research in the Dry Areas, Germplasm Resources Unit, P.O. Box 5466, Aleppo, Syria; A. Ismail. Donated by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 07/15/1992.

- PI 599075. *Cicer bijugum* Rech. f.  
Wild. ICCW 72; ILWC 42; LH-240; W6 10523. Collected in Syria.

The following were collected by G.C. Hartin; Van der Maesen. Donated by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 07/15/1992.

**PI 599076. *Cicer chorassanicum* (Bunge) Popov**  
Wild. ICCW 25; ILWC 15; JM 2226; W6 10524. Collected in Afghanistan.

The following were donated by Larry D. Robertson, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 12/01/1992.

**PI 599077. *Cicer judaicum* Boiss.**  
Wild. ILWC 255; W6 11056. Collected 1990 in Jordan. Irbid Province.

**PI 599078. *Cicer judaicum* Boiss.**  
Wild. ILWC 256; W6 11057. Collected 1990 in Jordan. Irbid Province.

The following were donated by R.P.S. Pundir, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Resources Program, Patancheru, Andhra Pradesh 502 324, India. Received 01/19/1993.

**PI 599079. *Cicer macracanthum* Popov**  
Wild. ICCW 102; 3027(1); W6 11177. Collected in Pakistan. Thokor Banal, Swat dt.

**PI 599080. *Cicer macracanthum* Popov**  
Wild. ICCW 104; 3029(1); W6 11179. Collected in Pakistan. Bann Bulbad, Swat dt.

**PI 599081. *Cicer macracanthum* Popov**  
Wild. ICCW 105; 3030(1); W6 11180. Collected in Pakistan. Maho Dand, Swat dt.

**PI 599082. *Cicer microphyllum* Benth.**  
Wild. ICCW 31; W6 11181. Collected in India. Keylong, H.P.

**PI 599083. *Cicer microphyllum* Benth.**  
Wild. ICCW 128; 3020(1); W6 11186. Collected in Pakistan. Shargowa Khaplu, Gangche dt.

**PI 599084. *Cicer microphyllum* Benth.**  
Wild. ICCW 132; 3024(1); W6 11188. Collected in Pakistan. Askole, Chagra, Gangche dt.

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. Donated by R.P.S. Pundir, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Resources Program, Patancheru, Andhra Pradesh 502 324, India. Received 01/19/1993.

**PI 599085. *Cicer multijugum* Maesen**

Wild. ICCW 98; 8281; W6 11189. Collected in Uzbekistan. Latitude 39 deg. 24' N. Longitude 68 deg. 32' E. Elevation 1450 m. Flat aspect, level 0-3%, groundcover 100%, soil depth 20- 40cm, free draining, pasture & wasteland, light grazing, no rocks, med. sized trees. Town petrol station surroundings, near settlement Ayni. Associated with mixed deciduous scrubs and herbs.

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. Donated by L.J.G. van der Maesen, Landwirtschaftliche Universitat, Gen. Foukesweg 37, P.O.B. 8010, Wageningen, Netherlands. Received 04/06/1993.

**PI 599086. *Cicer acanthophyllum* Boriss.**

Wild. 8285; 918295; W6 11513. Collected in Tajikistan. Latitude 38 deg. 19' N. Longitude 72 deg. 20' E. Elevation 3300 m. Pamirs Divon-dara in the Bartang river valley, Roshorv. Slope NE, steep, >30%, scree. Acandholimon and Logochyllus. Groundcover 4%. Soil depth 0-10 cm, no rocks, free draining. Rough pasture, grazing moderate.

The following were donated by R.P.S. Pundir, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Resources Program, Patancheru, Andhra Pradesh 502 324, India. Received 12/31/1991.

**PI 599087. *Cicer anatolicum* Alef.**

Wild. ICCW 13; JM 2143; W6 14183. Collected in Turkey. Tatvan.

**PI 599088. *Cicer microphyllum* Benth.**

Wild. ICCW 50; NC 60734; W6 14185. Collected in India. Kashmir.

**PI 599089. *Cicer microphyllum* Benth.**

Wild. ICCW 70; W6 14187. Collected in India. Kashmir.

**PI 599090. *Cicer montbretii* Jaub. & Spach**

Wild. ICCW 4; JM 2032; W6 14188. Collected in Turkey.

**PI 599091. *Cicer montbretii* Jaub. & Spach**

Wild. ICCW 5; JM 2040; W6 14189. Collected in Turkey.

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; Calvin R. Sperling, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 402, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 06/09/1989.

**PI 599092. *Cicer reticulatum* Ladiz.**

Wild. 010689-03cr; W6 14668. Collected 06/01/1989 in Diyarbakir, Turkey. Latitude 38 deg. 20' N. Longitude 39 deg. 44' E. Elevation 910 m. On road from Elazig to Diyarbakir 3 km south of Elazig Diyarbakir border,

Degirmendere Kopru village, 12 km to Ergani. Slope NE, steep. Outcrops hard limestone. Scattered *Crateagus* and *Quercus*. One *Cicer* seed found in 1989 collection.

The following were donated by K.P.S. Chandel, Nat. Bureau of Plant Genetic Resources, PUSA Campus, New Delhi, Delhi 110012, India. Received 02/17/1994.

**PI 599093. *Cicer microphyllum* Benth.**

Wild. C-556; NC 60736; W6 15003. Collected in Himachal Pradesh, India. Latitude 31 deg. 42' N. Longitude 77 deg. 15' E. Elevation 3750 m. Tangti hills of Pin Valley, Himachal Pradesh, a high altitude alpine region.

The following were donated by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 2344, Cairo, Egypt. Received 03/17/1995.

**PI 599094. *Cicer judaicum* Boiss.**

Wild. ILWC 276; W6 16752. Collected in Lebanon.

The following were collected by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 2344, Cairo, Egypt. Received 03/17/1995.

**PI 599095. *Cicer judaicum* Boiss.**

Wild. ILWC 279; W6 16753. Collected in Syria.

**PI 599096. *Cicer judaicum* Boiss.**

Wild. ILWC 280; W6 16754. Collected in Syria.

**PI 599097. *Cicer judaicum* Boiss.**

Wild. ILWC 281; W6 16755. Collected in Syria.

**PI 599098. *Cicer judaicum* Boiss.**

Wild. ILWC 282; W6 16756. Collected in Syria.

The following were collected by K.S. Obari, Genetic Resources Unit, Agriculture Research Directorate, P.O. Box 113, Douma, Syria; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; A. Ismail; G. Mir Ali, ARCD, Syria; M. Mardinly. Donated by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 2344, Cairo, Egypt. Received 07/1994.

**PI 599099. *Cicer pinnatifidum* Jaub. & Spach**

Wild. YAM 21; ILWC 261; W6 17168. Collected 06/15/1991 in Syria. Latitude 33 deg. 27' N. Longitude 35 deg. 58' E. Elevation 1270 m. 200 m before Qal'at Jandal between the two rows. Aspect E. Collected 04/12/1994 in Washington, United States. Latitude 33 deg. 27' N. Longitude 35 deg. 58' E. Elevation 1270 m. 200 m before Qal'at Jandal between the two rows. Aspect E.

**PI 599100. *Cicer pinnatifidum* Jaub. & Spach**

Wild. YAM 28; ILWC 262; W6 17169. Collected 06/15/1991 in Syria.

Latitude 33 deg. 42' N. Longitude 36 deg. 24' E. Elevation 1410 m. 3 km SE of Rankos, W side of the road to Damascus, between fig trees. Aspect W. Collected 04/12/1994 in Washington, United States. Latitude 33 deg. 42' N. Longitude 36 deg. 24' E. Elevation 1410 m. 3 km SE of Rankos, W side of the road to Damascus, between fig trees. Aspect W.

**PI 599101. *Cicer pinnatifidum* Jaub. & Spach**

Wild. YAM 29; ILWC 263; W6 17170. Collected 06/16/1991 in Syria. Latitude 33 deg. 46' N. Longitude 36 deg. 31' E. Elevation 1400 m. 1 km E of Jubadine, left side of the road to Ma'aloola. Aspect S. Collected 04/12/1994 in Washington, United States. Latitude 33 deg. 46' N. Longitude 36 deg. 31' E. Elevation 1400 m. 1 km E of Jubadine, left side of the road to Ma'aloola. Aspect S.

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; Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Donated by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 2344, Cairo, Egypt. Received 07/1994.

**PI 599102. *Cicer flexuosum* Lipsky**

Wild. 8048; ILWC 266; W6 17173. Collected 06/28/1990 in Former Soviet Union. Collected 04/12/1994 in Washington, United States.

**PI 599103. *Cicer flexuosum* Lipsky**

Wild. 8062; ILWC 267; W6 17174. Collected 06/29/1990 in Former Soviet Union. Collected 04/12/1994 in Washington, United States.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; A. Ismail. Donated by Int. Center for Agricultural Research in the Dry Areas, P.O. Box 2344, Cairo, Egypt. Received 07/1994.

**PI 599104. *Cicer judaicum* Boiss.**

Wild. LBN92-5; ILWC 272; W6 17175. Collected 05/16/1992 in Lebanon. Latitude 33 deg. 48' N. Longitude 35 deg. 32' E. Elevation 60 m. 500 m SW Shuweifat. Aspect W. Collected 04/12/1994 in Washington, United States. Latitude 33 deg. 48' N. Longitude 35 deg. 32' E. Elevation 60 m. 500 m SW Shuweifat. Aspect W.

**PI 599105. *Cicer judaicum* Boiss.**

Wild. LBN92-10; ILWC 273; W6 17176. Collected 05/16/1992 in Lebanon. Latitude 33 deg. 41' N. Longitude 35 deg. 34' E. Elevation 150 m. Beside the mosque of Kamal Junblat. Aspect E. Collected 04/12/1994 in Washington, United States. Latitude 33 deg. 41' N. Longitude 35 deg. 34' E. Elevation 150 m. Beside the mosque of Kamal Junblat. Aspect E.

**PI 599106. *Cicer judaicum* Boiss.**

Wild. LBN92-13; ILWC 274; W6 17177. Collected 05/18/1992 in Lebanon. Latitude 34 deg. 15' N. Longitude 35 deg. 40' E. Elevation 20 m. 2 km before Betron on the road coming from Jbeil. Aspect W. Collected 04/12/1994 in Washington, United States. Latitude 34 deg. 15' N.



Longitude 35 deg. 40' E. Elevation 20 m. 2 km before Betron on the road coming from Jbeil. Aspect W.

**PI 599107. *Cicer judaicum* Boiss.**

Wild. LBN92-16; ILWC 275; W6 17178. Collected 05/18/1992 in Lebanon. Latitude 34 deg. 20' N. Longitude 35 deg. 55' E. Elevation 380 m. 150 m before Kuspa, on the road to Zegharta. Aspect N. Collected 04/12/1994 in Washington, United States. Latitude 34 deg. 20' N. Longitude 35 deg. 55' E. Elevation 380 m. 150 m before Kuspa, on the road to Zegharta. Aspect N.

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 1994.

**PI 599108. *Cicer pinnatifidum* Jaub. & Spach**

Wild. WJK94-T58; W6 16268. Collected 06/03/1994 in Turkey. Elevation 680 m. Collected at the Southeastern Anatolian Research Institute in Diyarbakir. Site 2 in grass on west side of hill.

**PI 599109. *Cicer pinnatifidum* Jaub. & Spach**

Wild. WJK94-T35; W6 16244. Collected 06/02/1994 in Turkey. Elevation 690 m. Collected at the Southeastern Anatolian Research Institute in Diyarbakir, Diyarbakir Province. In grass on east side of hill.

The following were collected by Ismail Kusmenoglu, Central Research Inst. of Field Crops, Ministry of Agriculture, P.O. Box 226, Uius, Ankara 06042, Turkey. Received 10/30/1995.

**PI 599110. *Cicer anatolicum* Alef.**

Wild. W6 17512. Collected 07/1995 in Kirsehir, Turkey. Elevation 1100 m. 30 km west of Kirsehir near the town of Yagmurlu Buyukoba and village of Kirmizi Bayir. Soil red. On the slope of the valley. Oak, Russian olive, and walnut trees.

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*Solanum tarijense* (597770-597775)  
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*Solanum ugentii* (597777)  
*Sorbaria sorbifolia* (597614-597619)  
*Sorbaria tomentosa* (597620)  
*Sorghum bicolor* (596332, 596542, 596567, 597943-597982, 598069-598070, 598084-598123, 598139-598140)  
*Spergula arvensis* (597621)  
*Spergula pentandra* (597622)  
*Spiraea alba* var. *latifolia* (597623)  
*Spiraea chamaedryfolia* (596393)  
*Spiraea stevenii* (597624)  
*Stipa capillata* (598598-598603)  
*Stipa sibirica* (598473, 598973-598974)  
*Stipa tirsia* (598597)  
*Syringa hybrid* (596517)  
*Taeniatherum caput-medusae* (598389)  
*Tagetes patula* (596577-596578)  
*Tanacetum corymbosum* (597625)  
*Tanacetum macrophyllum* (597626)  
*Tanacetum parthenium* (596394-596395, 597627)  
*Tanacetum vulgare* (596396-596400)  
*Tetragonia tetragonoides* (597641)  
*Thalictrum dasycarpum* (596401-596402)  
*Thlaspi nevadense* (597865)  
*Thlaspi perfoliatum* ssp. *tineoi* (597866)  
*Trifolium alpestre* (597548, 597563, 597565-597566)  
*Trifolium ambiguum* (598976-598992)  
*Trifolium andersonii* (597867)  
*Trifolium beckwithii* (597868-597869, 597872)  
*Trifolium canescens* (597495)  
*Trifolium caucasicum* (597496)  
*Trifolium fragiferum* (597501, 597542, 597567)  
*Trifolium heldreichianum* (597555)  
*Trifolium hybrid* (597645)  
*Trifolium hybridum* (597545-597546, 597549-597550, 597552-597554, 597558, 597568-597569)  
*Trifolium kingii* ssp. *productum* (597876)  
*Trifolium lemmonii* (597870)  
*Trifolium longipes* (597871, 597874-597875, 597877)  
*Trifolium lupinaster* (597505, 597537)  
*Trifolium medium* (597502)  
*Trifolium montanum* (597570-597571)  
*Trifolium ochroleucum* (597556, 597559)  
*Trifolium pannonicum* (597497-597498, 597503)  
*Trifolium pratense* (597514-597515, 597518-597527, 597536, 597538-597540, 597547, 597551, 597557, 597564, 597572-597573)  
*Trifolium repens* (596568, 597492-597494, 597499-597500, 597504, 597509-597513)



, 597516-597517, 597528-597535, 597541, 597543-597544, 597560-597562,  
597574-597575)  
*Trifolium semipilosum* (597576)  
*Trifolium* sp. (597506-597508)  
*Trifolium wormskioldii* (597873)  
*Triticum aestivum* (596296-596297, 596308-596309, 596335, 596345,  
596348-596352, 596365-596367, 596533, 596544, 596560, 596624, 596770,  
597348-597350, 597379, 597665, 597786, 597881-597882, 598209-598214,  
598224, 598313-598324, 599034-599036)  
*Triticum compactum* (597666)  
*Triticum durum* (596597-596622, 599033)  
*Triticum turgidum* (596557)  
Unident-Cucurbitaceae sp. (596660)  
Unident-Poaceae sp. (598596)  
*Vaccaria hispanica* ssp. *grandiflora* (597628)  
*Vaccaria hispanica* ssp. *hispanica* (597629)  
*Verbena officinalis* (597630)  
*Vicia villosa* ssp. *villosa* (596531)  
*Vigna unguiculata* (596353, 597804)  
*Vigna unguiculata* ssp. *unguiculata* (596576, 598325-598355)  
*Viola tricolor* (597631-597632)  
*Vitis cinerea* (597232)  
*Vitis cinerea* var. *helleri* (597134, 597273)  
*Vitis hybrid* (597094-597111, 597113-597114, 597116-597133, 597135-597231,  
597233-597256, 597258-597272, 597274-597291, 597299, 597301-597306)  
*Vitis piasezkii* var. *piasezkii* (597257)  
*Vitis riparia* (597300)  
*Vitis* sp. (597112, 597292-597298)  
*Vitis vulpina* (597115)  
*Zea mays* ssp. *mays* (596302-596304, 596306, 596311, 596322-596324,  
596330-596331, 596354-596357, 596499-596506, 596511-596513, 596543,  
596551-596553, 596555-596556, 596558, 596569, 596626-596629,  
596772-596788, 596799, 597309-597342, 597578, 597785, 597925-597927)  
*Zehneria marlothii* (596645, 596649, 596664)  
*Zinnia angustifolia* (596403)  
*Zinnia haageana* (596404-596405, 597633)  
*Zinnia violacea* (597634-597640)