Plant Inventory
No. 204, Part I

Plant Materials Introduced
January 1 to June 30, 1995
(Nos. 584523 to 589130)
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R.A. Norris, editor

Plant Inventory No. 204 is a listing of plant materials introduced into the U.S. National Plant Germplasm System during calendar year 1995. The Inventory is divided into two parts that encompass PI numbers 584523 to 589130. This 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, 4th Floor, Beltsville, MD 20705.

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The following were collected by Peter Kulakow, The Land Institute, 2440 E. Water Well Rd., Salina, Kansas 67401, United States. Received 02/02/1994.

**PI 584523. Amaranthus hypochondriacus L.**

The following were collected by Hugh Wilson, Texas A&M University, Department of Biology, College Station, Texas 77843, United States. Received 1979.

**PI 584524. Chenopodium quinoa Willd.**
Cultivated. QQ056; NSL 106403. Collected in Chile. Latitude 36 deg. 36' S. Longitude 72 deg. 7' W. Chillan (Faro Ranch).

The following were developed by Kenneth D. Kephart, University of Missouri-Columbia, Department of Agronomy Extension Program, 214 Waters, Columbia, Missouri 65211, United States; Anne L. McKendry, University of Missouri, Agronomy Department, 106 Curtis Hall, Columbia, Missouri 65211, United States; J.E. Berg, University of Missouri, Dept. of Agronomy, Columbia, Missouri 65211, United States; D.N. Tague, University of Missouri, Dept. of Agronomy, Columbia, Missouri 65211, United States. Received 12/14/1994.

**PI 584525. Triticum aestivum L., nom. cons.**
Cultivar. Pureline. "ERNIE"; MO12256. CV-811. Pedigree - Pike/3/MO9965, Stoddard/Blueboy//Stoddard/D1707. D1707 is a 2 gene semi-dwarf line from India derived from CIMMYT germplasm. High yielding, high test weight, early maturing, short semi-dwarf, soft red winter with good milling and baking quality. Moderately winterhardy, good lodging resistance and excellent threshability. Moderately resistant to Septoria leaf blotch (Septoria tritici) and powdery mildew (Blumeria graminis). Some tolerance to head scab (Fusarium graminearum). Field resistance to barley yellow dwarf virus. Possesses Sr6 and Sr36 resistance genes for stem rust (Puccinia graminis) but is susceptible to leaf rust (Puccinia recondita) and Hessian fly (Mayetolia destructor).

The following were developed by Gilbert Stallknecht, Southern Agric. Res. Ctr., 748 Railroad Highway, Huntley, Montana 59037, United States; G.D. Kushnak, Western Triangle Agric. Research Center, P.O. Box 1474, Conrad, Montana 59425, United States; Phil L. Bruckner, Montana State University, Dept of Plant, Soil & Environmental Sciences, Leon Johnson Hall, Bozeman, Montana 59717-0312, United States; E.A. Hockett, USDA, ARS, Montana State University, Plant and Soil Science Department, Bozeman, Montana 59717, United States; G. A. Taylor, Montana State University, Department of Plant and Soil Science, Bozeman, Montana, United States; G.R. Carlson, Montana Agric. Exp. Station, Northern Agric. Research Center, Havre, Montana 59501, United States; G.D. Jackson, Montana Agric. Exp. Station, Central Agric. Research Center, Moccasin, Montana, United States; J.L. Eckhoff, Montana Agric. Exp. Station, Eastern Agric. Research Center, Sidney, Montana 59270, United States; V.R. Stewart, Montana Agric. Exp. Station, Northwestern Agric. Research Center, Kalispell, Montana, United States; D.W. Wichman, Montana Agric. Exp. Station, Central Agric. Exp. Station, Moccasin, Montana, United States; H.F. Bowman, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; C.F. McGuire, Montana State University, Montana Agr. Exp. Sta., Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; H.F. Bowman, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; C.F. McGuire, Montana State University, Montana Agr. Exp. Sta., Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; H.F. Bowman, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; C.F. McGuire, Montana State University, Montana Agr. Exp. Sta., Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; H.F. Bowman, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; C.F. McGuire, Montana State University, Montana Agr. Exp. Sta., Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States;...
PI 584526. Triticum aestivum L., nom. cons.

The following were developed by J.H. Orf, Minnesota Agr. Exp. Sta., Univ. of Minnesota, Dept. of Agronomy & Plant Genetics, St. Paul, Minnesota 55108, United States; D.H. MacDonald, University of Minnesota, Dept. of Plant Pathology, St. Paul, Minnesota 55108, United States; M.K. Wallace, University of Minnesota, Department of Plant Pathology, St. Paul, Minnesota 55108, United States. Received 12/19/1994.

PI 584527. Glycine max (L.) Merr.
Cultivar. Pureline. "M87-1569". GP-175. Pedigree - M70-187 x L77-808. Group O maturity (relative maturity 0.9). Indeterminate averaging 81cm tall. Flowers purple. Pubescence tawny. Pods tan at maturity. Seeds yellow with black hila and dull seed coat luster. Seeds average 139mg with 40.5% protein and 17.7% oil. Lodging score of 1.5 on scale of 1 to 5. Intermediate iron chlorosis score. Resistant to races 1 and 3 of soybean cyst nematode (Heterodera glycines) and carries the Rps1 gene for resistance to Phytophthora (Phytophthora sojae).

The following were developed by W. A. Russell, Iowa State University, Iowa Agric. and Home Econ. Exp. Station, Department of Agronomy, Ames, Iowa 50011, United States; Arnel Hallauer, Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States; K.R. Lamkey, USDA, ARS, Field Crops Res. Unit, Ames, Iowa 50011, United States; P.R. White, Iowa State University, Dept. of Agronomy, Ames, Iowa 50011, United States. Received 12/19/1994.

PI 584528. Zea mays L. ssp. mays

PI 584529. Zea mays L. ssp. mays
Cultivar. "B100". PL-175. Pedigree - (B85 x H99)H99-361. Flowering time similar to A632. Plant and ear heights 20-30cm less than A632. Ears 14 rows, yellow, semi-flint kernels on white cobs. Good plant health, clean appearance, and easy to maintain.

The following were developed by John R. Gannaway, Texas Agr. Exp. Sta., Route 3, Box 219, Lubbock, Texas 79401, United States; D.F. Owen, Texas Agr. Exp. Sta., HCR 1, Box 117, Plainview, Texas 79072-9362, United States. Received 12/19/1994.

PI 584530. Gossypium hirsutum L.

PI 584531. Gossypium hirsutum L.

PI 584532. Gossypium hirsutum L.
Breeding. TX-8704 gl. GP-609. Pedigree - Gregg XL-35/CA 1786-76B. Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 5.9g seed cotton per boll. Lint percent 34.4%. Micronaire Reading 3.4. Fiber length (UHM) 27.4mm. Fiber strength 294.3 kN m kg-1. Uniformity ratio 81%. Elongation 7.2%. Seed Index 10.36.

PI 584533. Gossypium hirsutum L.
Breeding. TX-8705 gl. GP-610. Pedigree - Gregg XL-35/CA 2150-76B. Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 6.3g seed cotton per boll. Lint percent 31.6%. Micronaire Reading 3.9. Fiber length (UHM) 25.8mm. Fiber strength 262.9 kN m kg-1. Uniformity ratio 80%. Elongation 7.9%. Seed Index 9.69.

PI 584534. Gossypium hirsutum L.
Breeding. TX-8706 gl. GP-611. Pedigree - Paymaster 784/Paymaster 303. Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 6.3g seed cotton per boll. Lint percent 34.5%. Micronaire Reading 3.6. Fiber length (UHM) 27.1mm. Fiber strength 296.3 kN m kg-1. Uniformity ratio 81%. Elongation 7.1%. Seed Index 9.86.

PI 584535. Gossypium hirsutum L.
Breeding. TX-8707 gl. GP-612. Pedigree - Gregg XL-35/CA 1786-76B. Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 6.1g seed cotton per boll. Lint percent 32.9%. Micronaire Reading 3.4. Fiber length (UHM) 27.4mm. Fiber strength 296.3 kN m kg-1. Uniformity ratio 81%. Elongation 7.1%. Seed Index 10.86.

PI 584536. Gossypium hirsutum L.
Breeding. TX-8708 gl. GP-613. Pedigree - Dunn 11 LG/ Paymaster 7922. Gossypol gland absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 5.9g seed cotton per boll. Lint percent 34.6%. Micronaire Reading 4.0. Fiber length (UHM) 25.1mm. Fiber strength 295.3 kN m kg-1. Uniformity ratio 82%. Elongation 8.3%. Seed Index 10.33.

PI 584537. Gossypium hirsutum L.
Breeding. TX-8709 gl. GP-614. Pedigree - Dunn 11/Paymaster 7922. Gossypol glands absent. Leaf size and shape normal, ovate not deeply
lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 5.3g seed cotton per boll. Lint percent 32.8% Micronaire Reading 3.2. Fiber length (UHM) 27.4mm. Fiber strength 293.3 kN m kg-1. Uniformity ratio 80%. Elongation 7.7%. Seed Index 9.73.

PI 584538. *Gossypium hirsutum* L.

PI 584539. *Gossypium hirsutum* L.
Breeding. TX-8711 gl. GP-616. Pedigree - Gregg XL-35/CA 2150-76B//CA 1786-76B/Tx-GN-80. Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 5.7g seed cotton per boll. Lint percent 32.5%. Micronaire Reading 3.3. Fiber length (UHM) 27.2mm. Fiber strength 277.6 kN m kg-1. Uniformity ratio 80%. Elongation 7.9%. Seed Index 10.14.

PI 584540. *Gossypium hirsutum* L.
Breeding. TX-8712 gl. GP-617. Pedigree - NM 1499. (Glandless line from New Mexico State University. Pedigree unknown.). Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 5.8g seed cotton per boll. Lint percent 34.9%. Micronaire Reading 3.7. Fiber length (UHM) 27.9mm. Fiber strength 280.6 kN m kg-1. Uniformity ratio 80%. Elongation 7.7%. Seed Index 10.20.

PI 584541. *Gossypium hirsutum* L.
Breeding. TX-8713 gl. GP-618. Pedigree - Gregg XL-35/CA 2150-76B. Gossypol glands absent. Leaf size and shape normal, ovate not deeply lobed. Pubescence medium to sparse. Maturity medium to late (160-180 days). Plant height 60-76cm. Boll size 6.2g seed cotton per boll. Lint percent 33.0%. Micronaire Reading 3.3. Fiber length (UHM) 27.7mm. Fiber strength 294.3 kN m kg-1. Uniformity ratio 81%. Elongation 7.6%. Seed Index 10.30.

The following were collected by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 02/10/1991.

PI 584542. *Oryza sativa* L.
Cultivar. "WARABEHATOMOCHI"; 14779; F 670. Collected in Japan.

PI 584543. *Oryza sativa* L.
Cultivar. "HAGINOMAE MOCHI"; IRRI 2540; BE 3499; F 997. Collected in Japan.

PI 584544. *Oryza sativa* L.
Cultivar. "KUN-MIN-TSIEH-HUNAN"; IRRI 8195; BE 3499; F 1048. Collected in China.

PI 584545. *Oryza sativa* L.
Cultivar. "PEH-KUH-TSAO-TU"; IRRI 8237; BE 3499; F 1056. Collected in Taiwan.

PI 584546. *Oryza sativa* L.
Cultivar. "PADI KASALLE"; IRRI 8261; BE 3499; F 1067. Collected in Celebes, Indonesia.
PI 584547. *Oryza sativa* L.
Cultivar. "PAGAIYAH"; IRRI 8267; BE 3499; F 1070. Collected in Taiwan.

PI 584548. *Oryza sativa* L.

PI 584549. *Oryza sativa* L.
Cultivar. "HAIFUGOYA"; IRRI 17054; BE 3499; F 1128. Collected in Taiwan.

PI 584550. *Oryza sativa* L.
Cultivar. "KHAO KAP XANG"; IRRI 23423; IRRI 23710; BE 3499; F 1132. Collected in Thailand.

PI 584551. *Oryza sativa* L.
Cultivar. "HAWM OM"; BE 3499; IRRI 23729; F 1134. Collected in Thailand.

PI 584552. *Oryza sativa* L.
Cultivar. "MA HAE"; IRRI 23754; BE 3499; F 1135. Collected in Thailand.

PI 584553. *Oryza sativa* L.
Cultivar. "MIRITI"; IRRI 25901; BE 3499; F 1139. Collected in Bangladesh.

PI 584554. *Oryza sativa* L.
Cultivar. "BINULAWAN"; IRRI 26872; BE 3499; F 1143. Collected in Philippines.

PI 584555. *Oryza sativa* L.
Cultivar. "DARMALI"; IRRI 27630; BE 3499; F 1153. Collected in Nepal.

PI 584556. *Oryza sativa* L.
Cultivar. "BASMATI 1"; IRRI 27798; BE 3499; F 1157. Collected in Pakistan.

PI 584557. *Oryza sativa* L.
Cultivar. "CHAHORA 144"; IRRI 27869; BE 3499; F 1158. Collected in Pakistan.

PI 584558. *Oryza sativa* L.
Cultivar. "JHONA 26"; IRRI 27967; BE 3499; F 1159. Collected in Pakistan.

PI 584559. *Oryza sativa* L.
Cultivar. "IRAT 13"; IRRI 28508; BE 3499; F 1160. Collected in Cote D'Ivoire.

PI 584560. *Oryza sativa* L.
Cultivar. "GERDEH"; IRRI 32300; BE 3499; F 1167. Collected in Iran.

PI 584561. *Oryza sativa* L.
Cultivar. "GERDEH"; IRRI 32301; BE 3499; F 1168. Collected in Iran.

PI 584562. *Oryza sativa* L.
Cultivar. "GHARIB"; BE 3499; IRRI 32303; F 1169. Collected in Iran.

PI 584563. *Oryza sativa* L.
Cultivar. "GHARIB"; IRRI 32306; BE 3499; F 1170. Collected in Iran.

PI 584564. *Oryza sativa* L.
Cultivar. "TCHAMPA"; IRRI 32362; BE 3499; F 1171. Collected in Iran.

PI 584565. *Oryza sativa* L.
Cultivar. "TCHAMPA"; IRRI 32368; BE 3499; F 1172. Collected in Iran.

PI 584566. Oryza sativa L.
Cultivar. "PHUDUGEY"; BE 3499; IRRI 32399; F 1177. Collected in Bhutan.

PI 584567. Oryza sativa L.
Cultivar. "KAUKKYI ANI"; IRRI 33188; BE 3499; F 1189. Collected in Myanmar.

PI 584568. Oryza sativa L.
Cultivar. "NPE844"; IRRI 38698; BE 3499; F 1199. Collected in Pakistan.

PI 584569. Oryza sativa L.
Cultivar. "FIROOZ"; IRRI 39261; BE 3499; F 1201. Collected in Iran.

PI 584570. Oryza sativa L.
Cultivar. "ARIAS"; IRRI 43325; BE 3499; F 1208. Collected in Java, Indonesia.

PI 584571. Oryza sativa L.
Cultivar. "GOGO LEMPUK"; IRRI 43394; BE 3499; F 1211. Collected in Java, Indonesia.

PI 584572. Oryza sativa L.
Cultivar. "GOTAK GATIK"; IRRI 43397; BE 3499; F 1212. Collected in Java, Indonesia.

PI 584573. Oryza sativa L.
Cultivar. "TREMBESE"; IRRI 43675; BE 3499; F 1216. Collected in Java, Indonesia.

PI 584574. Oryza sativa L.
Cultivar. "KALAMKATI"; IRRI 45975; BE 3499; F 1219. Collected in West Bengal, India.

PI 584575. Oryza sativa L.
Cultivar. "CANELLA DE FERRO"; IRRI 50448; BE 3499; F 1224. Collected in Brazil.

PI 584576. Oryza sativa L.
Cultivar. "AI-CHIAO-HONG"; IRRI 51250; BE 3499; F 1229. Collected in China.

PI 584577. Oryza sativa L.
Cultivar. "GUAN-YIN-TSAN"; IRRI 51300; BE 3499; F 1230. Collected in Philippines.

PI 584578. Oryza sativa L.
Cultivar. "PAO-TOU-HUNG"; IRRI 51400; BE 3499; F 1231. Collected in China.

PI 584579. Oryza sativa L.
Cultivar. "BEONJO"; IRRI 55457; BE 3499; F 1234. Collected in Korea, South.

PI 584580. Oryza sativa L.
Cultivar. "CHODONGJI"; IRRI 55471; BE 3499; F 1235. Collected in Korea, South.

PI 584581. Oryza sativa L.
Cultivar. "HEUKGYEONG"; IRRI 55530; BE 3499; F 1237. Collected in Korea, South.

PI 584582. Oryza sativa L.
Cultivar. "BAGHLANI NANGARHAR"; IRRI 58266; BE 3499; F 1240. Collected in Afghanistan.

PI 584583. Oryza sativa L.
Cultivar. "GHATI KAMMA NANGARHAR"; IRRI 58278; BE 3499; F 1241. Collected in Afghanistan.

PI 584584. Oryza sativa L.
Cultivar. "LUK TAKHAR"; IRRI 58286; BE 3499; F 1242. Collected in Afghanistan.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 08/12/1991.

PI 584585. Oryza sativa L.
Cultivar. "H-404"; BE-3565; F 1317.

PI 584586. Oryza sativa L.
Cultivar. "H-270"; BE-3565; F 1318.

The following were developed by Biserka Naumova, Rice Institute-Kocani, NIKOLA KAREV-8, Kocani, Macedonia. Received 10/31/1991.

PI 584587. Oryza sativa L.
Cultivar. "BISER 2"; BE-3687; F 1320. Cold tolerant.

PI 584588. Oryza sativa L.
Cultivar. "M. BLATEC"; BE-3687; F 1322.

PI 584589. Oryza sativa L.
Cultivar. "MACEDONIJA"; BE-3687; F 1323.

The following were collected by Xulan Hu, Yunnan Provincial Department of Agriculture, Yunnan Agricultural Extension Center, Yunnan Gesang Flower Company, Kunming, Yunnan 650032, China. Received 11/01/1991.

PI 584590. Oryza sativa L.
Cultivar. "DIANGLONG 201"; F 1329. Collected in Yunnan, China.

PI 584591. Oryza sativa L.
Cultivar. "YUN AROMATIC GLUTINOUS"; F 1330. Collected in Yunnan, China.

Unknown source. Received 01/16/1990.

PI 584592. Oryza sativa L.
Cultivated. HAPPY HILL NO. 1; F 177; NSGC 1464. Collected in Japan.

The following were collected by International Rice Research Institute, P.O. Box 933, Manila, Luzon 1099, Philippines. Received 01/16/1990.

PI 584593. Oryza sativa L.

PI 584594. Oryza sativa L.
Cultivated. CHE EU HUNG; F 00199; IRRI 4749; NSGC 1477. Collected in China.

PI 584595. Oryza sativa L.
Cultivated. F 00204; IRRI 50366; NSGC 1482. Collected in Luzon, Philippines.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 06/26/1990.

PI 584596. Oryza sativa L.

The following were collected by Hirotaka Tanaka, Natl. Inst. of Agrobiological Resources, Dept of Genetic Resources II, Yatabe, Tsukuba, Ibaraki, 305, Japan. Received 06/13/1991.

PI 584597. Oryza sativa L.
Cultivated. WAITO-C; BE-3483; 020485; 31139005; 00006405; F 918; NSGC 1496. Collected in Japan.

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

PI 584598. Oryza sativa L.
Cultivated. GYEHWA 3; HB3931; BE 3499; F 982; NSGC 1521. Collected in Philippines.

PI 584599. Oryza sativa L.
Cultivated. O LEUN CHEUNG; BE 3499; F 1041; IRRI 8179; NSGC 1546. Collected in Taiwan.

PI 584600. Oryza sativa L.
Cultivated. TA MAO TSAO; BE 3499; F 1047; IRRI 8194; NSGC 1548. Collected in China.

PI 584601. Oryza sativa L.
Cultivated. SHAI KUH; BE 3499; F 1050; IRRI 8197; NSGC 1550. Collected in China.

PI 584602. Oryza sativa L.
Cultivated. PEH-KUH; BE 3499; F 1057; IRRI 8238; NSGC 1554. Collected in Taiwan.

PI 584603. Oryza sativa L.
Cultivar. "SERATOES HARI"; BE 3499; F 1066; IRRI 8260; NSGC 1556. Collected in Celebes, Indonesia.

PI 584604. Oryza sativa L.
Cultivated. PAPPAKU; F 1071; IRRI 8268; BE 3499; NSGC 1558. Collected in Taiwan.

PI 584605. Oryza sativa L.
Cultivated. RATHUWEE; BE 3499; F 1075; IRRI 8952; NSGC 1562. Collected in Sri Lanka.

PI 584606. Oryza sativa L.
Cultivated. MAINTMOLOTSY 1226; BE 3499; F 1104; IRRI 11010; NSGC 1578. Collected in Madagascar.

PI 584607. Oryza sativa L.
Cultivated. DOM SOFID; BE 3499; F 1113; IRRI 12880; NSGC 1582. Collected
in Iran.

PI 584608. Oryza sativa L.
Cultivated. DOM ZARD; BE 3499; F 1114; IRRI 12881; NSGC 1583. Collected in Iran.

PI 584609. Oryza sativa L.
Cultivated. GOMPA 2; BE 3499; F 1115; IRRI 12894; NSGC 1584. Collected in Sikkim, India.

PI 584610. Oryza sativa L.
Cultivated. FOSSA AV; BE 3499; F 1123; IRRI 16069; NSGC 1588. Collected in Burkina Faso.

PI 584611. Oryza sativa L.
Cultivated. YANCAOUSA; BE 3499; F 1124; IRRI 16071; NSGC 1589. Collected in Cote D'Ivoire.

PI 584612. Oryza sativa L.
Cultivated. PATE BLANC MN 1; BE 3499; F 1125; IRRI 16073; NSGC 1590. Collected in Cote D'Ivoire.

PI 584613. Oryza sativa L.
Cultivated. TRES MESES; 00900; BE 3499; F 1290; NSGC 1591. Collected in Brazil.

PI 584614. Oryza sativa L.
Cultivated. PATIK; 04401; BE 3499; F 1296; NSGC 1595. Collected in Sumatra, Indonesia.

The following were collected 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 584615. Oryza sativa L.
BE-3789; WIR 623; Q 29005. Collected in Azerbaijan.

PI 584616. Oryza sativa L.
CHOKKAIDO; BE-3789; WIR 910; Q 29006. Collected in Russian Federation. PRIMORJE.

PI 584617. Oryza sativa L.
CHERNYIJ; BE-3789; WIR 1297; Q 29008. Collected in Russian Federation.

PI 584618. Oryza sativa L.
BE-3789; WIR 1528; Q 29009. Collected in Azerbaijan.

PI 584619. Oryza sativa L.
BE-3789; WIR 1889; Q 29010. Collected in Kazakhstan.

PI 584620. Oryza sativa L.
HI-MUKE; BE-3789; WIR 1892; Q 29011. Collected in Kazakhstan.

PI 584621. Oryza sativa L.
BE-3789; WIR 2471; Q 29014. Collected in Russian Federation.

PI 584622. Oryza sativa L.
BE-3789; WIR 2623; Q 29015. Collected in Russian Federation.

PI 584623. Oryza sativa L.
HAUG-CHONG-FSE; BE-3789; WIR 2702; Q 29016. Collected in China.

PI 584624. Oryza sativa L.
BE-3789; WIR 3039; Q 29017. Collected in Tajikistan.

PI 584625. Oryza sativa L.
BE-3789; WIR 3355; Q 29019. Collected in Azerbaijan.

PI 584626. Oryza sativa L.
SHATO-LUA; BE-3789; WIR 3357; Q 29020. Collected in Azerbaijan.

PI 584627. Oryza sativa L.
BE-3789; WIR 3361; Q 29021. Collected in Azerbaijan.

PI 584628. Oryza sativa L.
BE-3789; WIR 3412; Q 29022. Collected in Azerbaijan.

PI 584629. Oryza sativa L.
CEliaj; BE-3789; WIR 3586; Q 29026. Collected in Azerbaijan.

PI 584630. Oryza sativa L.
SADRI; BE-3789; WIR 3626; Q 29029. Collected in Uzbekistan.

PI 584631. Oryza sativa L.
UZROS 7-13; BE-3789; WIR 3638; Q 29030. Collected in Uzbekistan. Developed in Uzbekistan.

PI 584632. Oryza sativa L.
KRASNODARSKIJ 3352; BE-3789; WIR 3673; Q 29031. Collected in Russian Federation.

PI 584633. Oryza sativa L.
UZ ROS 2759; BE-3789; WIR 3701; Q 29032. Collected in Uzbekistan. Developed in Uzbekistan.

PI 584634. Oryza sativa L.
UZ ROS 237-11; BE-3789; WIR 3764; Q 29033. Collected in Uzbekistan. Developed in Uzbekistan.

PI 584635. Oryza sativa L.
KENDZ; BE-3789; WIR 3782; Q 29034. Collected in Russian Federation.

PI 584636. Oryza sativa L.
N46; BE-3789; WIR 3819; WIR 4050; Q 29037. Collected in China.

PI 584637. Oryza sativa L.
KROS 358; BE-3789; WIR 5008; Q 29038. Collected in Russian Federation.

PI 584638. Oryza sativa L.

PI 584639. Oryza sativa L.
SIRKAT; BE-3789; WIR 5113; Q 29042. Collected in Afghanistan.

PI 584640. Oryza sativa L.
NF-1; BE-3789; WIR 5451; Q 29043. Collected in Russian Federation.

PI 584641. Oryza sativa L.
NF-8; add 5; BE-3789; WIR 5158; Q 29044. Collected in Russian Federation.

PI 584642. Oryza sativa L.
NF-9; BE-3789; WIR 5459; Q 29045. Collected in Russian Federation.

PI 584643. Oryza sativa L.
NF-15; BE-3789; WIR 5465; Q 29046. Collected in Russian Federation.
PI 584644. Oryza sativa L.  
SPALCIK; BE-3789; WIR 5516; Q 29047. Collected in Russian Federation.

PI 584645. Oryza sativa L.  
UZBEKSKIJ 5; BE-3789; WIR 5797; Q 29049. Collected in Uzbekistan.

PI 584646. Oryza sativa L.  
M-667; BE-3789; WIR 5829; Q 29050. Collected in Russian Federation.

PI 584647. Oryza sativa L.  
VNIIR 212; BE-3789; WIR 5923; Q 29051. Collected in Russian Federation.

PI 584648. Oryza sativa L.  
LUC; BE-3789; WIR 6644; Q 29053. Collected in Russian Federation.

PI 584649. Oryza sativa L.  
INTENSIVNYJ; BE-3789; WIR 6780; Q 29055. Collected in Uzbekistan.

PI 584650. Oryza sativa L.  
AVANGARD; BE-3789; WIR 6781; Q 29056. Collected in Uzbekistan.

PI 584651. Oryza sativa L.  
GORIZONT; BE-3789; WIR 7808; Q 29057. Collected in Russian Federation.

PI 584652. Oryza sativa L.  
ZEMCYZNYJ; BE-3789; WIR 7619; Q 29058. Collected in Russian Federation.

PI 584653. Oryza sativa L.  

The following were developed by V. Vallega, Cereal Research Institute, Via Labranca 20, 00123 Rome, Italy. Received 12/20/1994.

PI 584654. Triticum monococcum L.  
Breeding. Population. MONOC BULK 1-VV. Pedigree - WIR 48993/VV 307. Diploid germplasm bulk of equal amounts of seed from 34 F5 lines selected from cross between WIR 48993 (soft-glumed, partially free-threshing, very late) and VV 307 (tenacious-glumed). Bulked population soft-glumed, heads about same time as Italian durum wheat cultivars, and produces markedly larger grains than its parents. Plants about 120cm tall, and greater spike fertility and tillering capacity than WIR 48993. Grain yields analogous to common and durum wheat cultivars in soils of low and medium fertility.

PI 584655. Triticum durum Desf.  

PI 584656. Triticum durum Desf.  
Breeding. Pureline. V. 9104. Pedigree - Valitalico/Trinakria. Glaucous, large-seeded, semi-dwarf, very high-yielding F14 line. Grain protein content high. Heads about same time as Valfiorea, a medium-early cultivar. Grain yielding ability analogous to Valitalico. Cooking quality very good, but somewhat lower than Trinakria, considered excellent.

PI 584657. Triticum durum Desf.  
than either parent. Cooking quality good, but lower than Valfiora and Trinakria, considered excellent.

PI 584658. Triticum durum Desf.
Breeding. Pureline. V. 9132. Pedigree - Valitalico/Trinakria. Non-glaucous, semi-dwarf, very high-yielding F14 line. Grain protein content high. Heads about two days later than Trinakria and yields markedly more than either parent. Cooking quality very good, but somewhat inferior to Trinakria, considered excellent.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584659. Oryza sativa L.
Cultivar. "ALIANCA"; BE-4352; Q 30093. Collected in Valle, Colombia.

PI 584660. Oryza sativa L.
Cultivar. "AMISTAD 82"; 5; BE-4352; Q 30094. Collected in Valle, Colombia.

PI 584661. Oryza sativa L.
Cultivar. "CR1821"; 49; BE-4352; Q 30106. Collected in Valle, Colombia.

PI 584662. Oryza sativa L.
Cultivar. "CR5272"; 51; BE-4352; Q 30107. Collected in Valle, Colombia.

PI 584663. Oryza sativa L.
Cultivar. "EL PASO L-144"; 18; 58; BE-4352; Q 30110. Collected in Valle, Colombia.

PI 584664. Oryza sativa L.
Cultivar. "EMPASC 102"; 64; BE-4352; Q 30114. Collected in Valle, Colombia.

PI 584665. Oryza sativa L.
Cultivar. "EMPASC 105"; 67; BE-4352; Q 30115. Collected in Valle, Colombia.

PI 584666. Oryza sativa L.
Cultivar. "INIAP 11"; 80; BE-4352; Q 30118. Collected in Valle, Colombia.

PI 584667. Oryza sativa L.
Cultivar. "JUMA 61"; 108; BE-4352; Q 30121. Collected in Valle, Colombia.

PI 584668. Oryza sativa L.
Cultivar. "ORYZICA LLANOS 5"; 128; BE-4352; Q 30122. Collected in Valle, Colombia.

PI 584669. Oryza sativa L.
Cultivar. "PANAMA 1048"; 134; BE-4352; Q 30124. Collected in Valle, Colombia.

PI 584670. Oryza sativa L.
Cultivar. "RUSTIC"; 139; BE-4352; Q 30125. Collected in Valle, Colombia.

PI 584671. Oryza sativa L.
Cultivar. "X-10"; 154; BE-4352; Q 30127. Collected in Valle, Colombia.

PI 584672. Oryza sativa L.
Breeding. C 122CU83-SMCU-12CU-1CU-1CU; 212; BE-4352; Q 30129. Collected in Valle, Colombia.
The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584673. Oryza sativa L.
Breeding. LEMONT X DESC/85-6-2-1; 397; BE-4352; Q 30144.

PI 584674. Oryza sativa L.
Breeding. CT9146-12-1-1E-2-1P; 447; BE-4352; Q 30151.

PI 584675. Oryza sativa L.
Breeding. CT10037-56-4-M-4-1P-3-M; 858; BE-4352; Q 30209.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584676. Oryza sativa L.
Cultivar. "IRAT 341"; 876; BE-4352; Q 30210. Collected in Valle, Colombia.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584677. Oryza sativa L.
Breeding. DM16-5-1; 1302; BE-4352; Q 30212.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584678. Oryza sativa L.
Cultivar. "HURl 282"; 1312; BE-4352; Q 30215. Collected in Valle, Colombia.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584679. Oryza sativa L.
Breeding. H 175-13-1-1; 1313; BE-4352; Q 30216.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584680. Oryza sativa L.
Cultivar. "TAICHUN SEN YU 10"; 1345; BE-4352; Q 30220. Collected in Valle, Colombia.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584681. Oryza sativa L.
Breeding. 7818-TR4-1-1; 1350; BE-4352; Q 30222.

PI 584682. Oryza sativa L.
Breeding. 7953-TR53-27-1-1-1; 1352; BE-4352; Q 30224.

PI 584683. Oryza sativa L.
Breeding. C 3CU77-1CU-2CU-2CU-2CU-SMCU2; 1367; BE-4352; Q 30227.
PI 584684. Oryza sativa L.
Breeding. ECIA 167-146-S1-1-5-3-1; 1375; BE-4352; Q 30228.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584685. Oryza sativa L.
Cultivar. "TAI SEN WAXY YU 19"; 1433; BE-4352; Q 30230. Collected in Valle, Colombia.

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584686. Oryza sativa L.
Breeding. CT9901-1-2-M; 1438; BE-4352; Q 30231.

PI 584687. Oryza sativa L.
Breeding. CT9901-1-4-M; 1439; BE-4352; Q 30232.

PI 584688. Oryza sativa L.
Breeding. CT9901-1-7-M; 1440; BE-4352; Q 30233.

PI 584689. Oryza sativa L.
Breeding. CT9901-3-3-M; 1442; BE-4352; Q 30234.

PI 584690. Oryza sativa L.
Breeding. CT9905-5-10-M; 1455; BE-4352; Q 30235.

PI 584691. Oryza sativa L.
Breeding. CT9905-5-18-M; 1459; BE-4352; Q 30236.

PI 584692. Oryza sativa L.
Breeding. CT9908-1-15-M; 1463; BE-4352; Q 30237.

PI 584693. Oryza sativa L.
Breeding. CT9998-21-7-M; 1480; BE-4352; Q 30238.

PI 584694. Oryza sativa L.
Breeding. CT10044-1-1-M; 1496; BE-4352; Q 30239.

PI 584695. Oryza sativa L.
Breeding. CT10179-1-1-M; 1576; BE-4352; Q 30240.

PI 584696. Oryza sativa L.
Breeding. CT10179-13-5-M; 1584; BE-4352; Q 30245.

PI 584697. Oryza sativa L.
Breeding. CT10181-7-9-M; 1605; BE-4352; Q 30246.

PI 584698. Oryza sativa L.
Breeding. CT10184-1-1-M; 1629; BE-4352; Q 30247.

PI 584699. Oryza sativa L.
Breeding. CT10184-4-1-M; 1636; BE-4352; Q 30248.

PI 584700. Oryza sativa L.
Breeding. CT10184-8-5-M; 1641; BE-4352; Q 30249.

PI 584701. Oryza sativa L.
Breeding. CT10184-8-6-M; 1642; BE-4352; Q 30250.
PI 584702. Oryza sativa L.  
Breeding. CTI0190-10-1-M; 1696; BE-4352; Q 30252.

PI 584703. Oryza sativa L.  
Breeding. CTI0195-52-1-M; 1761; BE-4352; Q 30254.

PI 584704. Oryza sativa L.  
Breeding. CTI0204-5-2-M; 1795; BE-4352; Q 30255.

PI 584705. Oryza sativa L.  
Breeding. CTI0204-5-3-M; 1796; BE-4352; Q 30256.

PI 584706. Oryza sativa L.  
Breeding. CTI0227-2-6-M; 1874; BE-4352; Q 30257.

PI 584707. Oryza sativa L.  
Breeding. CTI0227-4-1-M; 1875; BE-4352; Q 30258.

PI 584708. Oryza sativa L.  
Breeding. CTI0227-4-7-M; 1877; BE-4352; Q 30260.

PI 584709. Oryza sativa L.  
Breeding. CTI0230-8-3-M; 1899; BE-4352; Q 30262.

PI 584710. Oryza sativa L.  
Breeding. CTI0279-2-4-M; 1997; BE-4352; Q 30268.

PI 584711. Oryza sativa L.  
Breeding. CTI0284-5-2-M; 2019; BE-4352; Q 30269.

PI 584712. Oryza sativa L.  
Breeding. CTI0306-8-1-M; 2025; BE-4352; Q 30271.

PI 584713. Oryza sativa L.  
Breeding. CTI0308-19-3-M; 2057; BE-4352; Q 30272.

PI 584714. Oryza sativa L.  
Breeding. CTI0308-19-4-M; 2058; BE-4352; Q 30273.

PI 584715. Oryza sativa L.  
Breeding. CTI0308-19-6-M; 2059; BE-4352; Q 30274.

PI 584716. Oryza sativa L.  
Breeding. CTI0310-15-9-M; 2101; BE-4352; Q 30275.

PI 584717. Oryza sativa L.  
Breeding. CTI0321-2-2-M; 2143; BE-4352; Q 30277.

PI 584718. Oryza sativa L.  
Breeding. CTI0323-3-2-M; 2175; BE-4352; Q 30278.

PI 584719. Oryza sativa L.  
Breeding. CTI0323-8-2-M; 2176; BE-4352; Q 30279.

PI 584720. Oryza sativa L.  
Breeding. CTI0323-13-3-M; 2183; BE-4352; Q 30280.

PI 584721. Oryza sativa L.  
Breeding. CTI0323-18-3-M; 2197; BE-4352; Q 30282.

PI 584722. Oryza sativa L.  
Breeding. CTI0323-21-6-M; 2205; BE-4352; Q 30283.

PI 584723. Oryza sativa L.
The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584736. Oryza sativa L.
Cultivar. "IR1529-ECIA"; 103; BE-4352; Q 30391. Collected in Valle, Colombia.

PI 584737. Oryza sativa L.
Cultivar. "J-104"; 104; BE-4352; Q 30392. Collected in Valle, Colombia.

PI 584738. Oryza sativa L.
Cultivar. "IAC 1278"; 179; BE-4352; Q 30398. Collected in Valle, Colombia.

The following were collected by Steven D. Linscombe, LSU Rice Experiment Station, PO Box 1429, Hwy 90 E/Rice Station Rd., Crowley, Louisiana 70526, United States. Developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/22/1991.

PI 584739. Oryza sativa L.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 03/23/1993.

PI 584724. Oryza sativa L.
Breeding. CT10323-28-4-M; 2227; BE-4352; Q 30284.

PI 584725. Oryza sativa L.
Breeding. CT10331-7-1-M; 2256; BE-4352; Q 30285.

PI 584726. Oryza sativa L.
Breeding. CT10335-5-3-M; 2290; BE-4352; Q 30286.

PI 584727. Oryza sativa L.
Breeding. CT10335-5-10-M; 2292; BE-4352; Q 30287.

PI 584728. Oryza sativa L.
Breeding. CT10336-13-3-M; 2317; BE-4352; Q 30288.

PI 584729. Oryza sativa L.
Breeding. CT10343-10-1-M; 2404; BE-4352; Q 30290.

PI 584730. Oryza sativa L.
Breeding. CNAX 5037-1-5-2B; 2467; BE-4352; Q 30291.

PI 584731. Oryza sativa L.
Breeding. CNAX 5067-4-2-4B; 2501; BE-4352; Q 30292.

PI 584732. Oryza sativa L.
Breeding. CNAX 5072-2-1-2B; 2541; BE-4352; Q 30293.

PI 584733. Oryza sativa L.
Breeding. CNAX 5083-1-5-2B; 2556; BE-4352; Q 30294.

PI 584734. Oryza sativa L.
Breeding. CNAX 5093-8-1-1; 2566; BE-4352; Q 30295.

PI 584735. Oryza sativa L.
Breeding. CT11971F2; 931-1; BE-4352; Q 30330.
Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 04/23/1991.

PI 584740. *Oryza sativa* L.  

PI 584741. *Oryza sativa* L.  

PI 584742. *Oryza sativa* L.  

PI 584743. *Oryza sativa* L.  

PI 584744. *Oryza sativa* L.  
Cultivar. "CEA 2"; BE-3390; F 770. Collected in Valle, Colombia. Developed in Paraguay. Pedigree - P 901-22-7-2-3-2-1B/P 918-25-1-4-2-3-1B//P 881-19-22-12-1B-7-1B//P 896-20-1-1-6-8.

PI 584745. *Oryza sativa* L.  

PI 584746. *Oryza sativa* L.  

PI 584747. *Oryza sativa* L.  

PI 584748. *Oryza sativa* L.  

PI 584749. *Oryza sativa* L.  

PI 584750. *Oryza sativa* L.  

PI 584751. *Oryza sativa* L.  

The following were developed by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 04/23/1991.

PI 584752. *Oryza sativa* L.  
Cultivar. "ORYZICA 3"; BE-3390; F 863. Pedigree - CICA 7//CICA 8//PELITA 1-1.

PI 584753. *Oryza sativa* L.  
Cultivar. "ORYZICA LLANOS 4"; BE-3390; F 864. Pedigree - CR1113/IRAT 122//COLOMBIA 1/P 1274-6-8M-1-3M-1.
The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 04/23/1991.

PI 584754. Oryza sativa L.  

The following were donated by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 04/23/1991.

PI 584755. Oryza sativa L.  
Cultivar. "PERLA"; BE-3390; F 873. Developed in Cuba.

The following were collected by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 04/23/1991.

PI 584756. Oryza sativa L.  

PI 584757. Oryza sativa L.  
Cultivar. "SAN PEDRO"; BE-3390; F 879. Collected in Valle, Colombia. Developed in Bolivia. Pedigree - P 901-22-7-2-3-2-1B/P 918-19-9-3-1-3-1B/P 917-57-35-1-2-1-1B/P 881-19-22-12-1B-.


PI 584758. Pennisetum glaucum (L.) R. Br.  
Cultivar. "KAT/PM-2". CV-11. Pedigree - Developed from 12 superior F4 lines made between S6A and 3 local male parents, with large grains. Subjected to several cycles of mass selection. Open-pollinated, 165-170cm tall. Flowers in 52 d. Matures 80-90 d and 10% of earheads are bristled. Ears cylindrical, 15cm in length, and bristles 0-2cm in length. Seed gray. 1000 seed weight 109. Grain yield potential 2500kg/ha and mean yield 1825kg/ha. Crude protein, ash, and fiber 14.5%, 2.24%, and 4.47%, respectively. May be grown between 50-1050m altitude.

The following were developed by David S. Marshall, Texas A&M Univ. Agric. Res. & Ext. Ctr., 17360 Coit Road, Dallas, Texas 75252-6599, United States. Received 01/04/1995.

PI 584759. Triticum aestivum L., nom. cons.  

The following were developed by Yue Jin, North Dakota State University, Department of Plant Pathology, SU Station, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States; Brian J. Steffenson, North Dakota State University, Department of Plant Pathology, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States. Received 01/05/1995.

PI 584760. Hordeum vulgare L. ssp. vulgare  
Breeding. NDBLR01; PI531901-1; NSGC 5539. Pedigree - selection from PI
531901. Resistance to Puccinia hordei isolate ND89-3 that exhibits a wide virulence. Studies indicated that this line possesses an incompletely dominant gene that confers resistance to leaf rust, and that this gene is different from the previously described resistance genes (Rph1-Rph12) in barley. Resistance gene in this line segregated independently from the genes in NDBLR02 and NDBLR03.

PI 584761. Hordeum vulgare L. ssp. vulgare
Breeding. NDBLR02; PI531901-2; NSGC 5540. Pedigree - selection from PI 531901. Resistance to Puccinia hordei isolate ND89-3 that exhibits a wide virulence spectrum. Resistance gene allelic to NDBLR03, but relation to other Rph genes is not known. Segregates independently of the resistance gene in NDBLR01.

PI 584762. Hordeum vulgare L. ssp. vulgare
Breeding. NDBLR03; PI531901-3; NSGC 5541. Pedigree - selection from PI 531901. Resistance to Puccinia hordei isolate ND89-3 that exhibits a wide virulence spectrum. Resistance gene allelic to NDBLR02. Relation to other Rph genes not known. Segregates independently from gene in NDBLR01.

The following were developed by Hugo E. Vivar, International Maize and Wheat Improvement Center, Lisboa 27, Apdo. Postal 6-641, Mexico, Federal District 06600, Mexico. Donated by Yue Jin, North Dakota State University, Department of Plant Pathology, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States; Brian J. Steffenson, North Dakota State University, Department of Plant Pathology, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States. Donated 01/05/1995.

PI 584763. Hordeum vulgare L. ssp. vulgare
Breeding. PC 11; NSGC 5542. Pedigree - San Carlos//Gloria/Come 'S'/3/CI2325//Boy*2/3*Surb. Resistance to pathotype QCC of Puccinia graminis f.sp. tritici. Also resistant to leaf rust, powdery mildew, and several leaf spotting diseases in 1993 and 1994 field nurseries.

PI 584764. Hordeum vulgare L. ssp. vulgare

PI 584765. Hordeum vulgare L. ssp. vulgare

The following were developed by Hugo E. Vivar, International Maize and Wheat Improvement Center, Lisboa 27, Apdo. Postal 6-641, Mexico, Federal District 06600, Mexico; W.J.R. Boyd, Univ. of Western Australia, Crop & Pasture Sciences, Nedlands, Western Australia 6009, Australia. Donated by Yue Jin, North Dakota State University, Department of Plant Pathology, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States; Brian J. Steffenson, North Dakota State University, Department of Plant Pathology, P.O. Box 5012, Fargo, North Dakota 58105-5012, United States. Received 01/05/1995.

PI 584766. Hordeum vulgare L. ssp. vulgare
Breeding. Q21861; NSGC 5545. Pedigree - single head selection from a plant with unknown pedigree in CIMMYT nursery. Resistance to pathotypes
QCC and MCC of Puccinia graminis f.sp. tritici at the seedling and adult plant stages. Genetic studies revealed a recessive gene, designated rpg4, that confers resistance to pathotypes QCC and MCC at low incubation temperatures (18-23°C). Also possess genes for resistance to leaf rust and powdery mildew.

The following were developed by J.V. Krans, Mississippi Agricultural & Forestry Exp. Sta., MSU, Box 9555, Mississippi State, Mississippi 39762, United States; Victor Maddox, Mississippi State University, Dept. of Plant and Soil Sciences, 117 Dorman Hall, Mississippi State, Mississippi 39762, United States; Wayne Philley, Mississippi State University, Dept Plant & Soil Sciences, Box 9555, Mississippi State, Mississippi 39762, United States; M. Tomaso-Peterson, Mississippi State University, Dept. of Plant and Soil Sciences, Mississippi State, Mississippi 39762, United States; J.M. Goatley, Jr., Mississippi State University, Dept. of Plant and Soil Sciences, Mississippi State, Mississippi 39762, United States. Received 01/06/1995.

PI 584767. Cynodon x magennisii Hurc. Cultivar. "MS-EXPRESS". CV-24. Pedigree - Vegetative increase of single clone ecotype selection collected at Shady Oaks Country Club, Jackson, MS. Triploid (2n=3x=27). Good turf quality, high shoot density, fine leaf texture, early spring green-up, and rapid vegetative establishment. Good resistance to leafspot (Bipolaris cynodontis) and dollarspot (Lanzia spp. and Moellerodiscus spp.). Recommended for putting, tennis, and bowling greens.

PI 584768. Cynodon x magennisii Hurc. Cultivar. "MS-PRIDE". CV-25. Pedigree - Vegetative increase of single clone ecotype selection collected at Vicksburg Country Club, Vicksburg, MS. Triploid (2n=3x=27). Good turf quality, high shoot density, fine leaf texture, dark green color, good fall and winter color retention, and excellent sod strength. Good resistance to leafspot (Bipolaris cynodontis) and dollarspot (Lanzia spp. and Moellerodiscus spp.). Recommended for lawns, golf tees, fairways, and sports fields.


The following were developed by Terry A. Coffelt, USDA, ARS, U.S. Water Conservation Lab., 4331 E. Broadway Rd., Phoenix, Arizona 85040-8832, United States. Received 01/06/1995.

PI 584770. Arachis hypogaea L. Genetic. VGS 1. GS-4. Pedigree - Single plant selection from a natural crossing study of Florigiant, a large-seeded Virginia-type (female parent) / krinkle leaf mutant (male parent). Krinkle-leaf mutant. Increased seed size over the original small-seeded krinkle mutant. Plants similar to krinkle leaf mutant with erect growth habit, dark green, krinkled leaves, and flowers on main stem. Pods similar to Florigiant with Viriginia-type shape, slight constriction and reticulation, and mostly two-seeded. Seed light pink with 100 seed weight 64g compared to 76g for Florigiant and 27g for krinkle. Percentage of fancy pods 83% and extra large kernels 14%. Source of dominant mutant krinkle leaf for use in genetic studies.

PI 584771. Arachis hypogaea L.
Genetic. VGS 2. GS-5. Pedigree - Single plant selection from a natural crossing study of Florigiant, a large-seed Virginia-type (female parent) / krinkle leaf mutant (male parent). Krinkle-leaf mutant. Increased seed size over the original small-seeded krinkle mutant. Plants similar to the krinkle leaf mutant with erect growth habit, dark green, krinkled leaves, and flowers on the main stem. Pods similar to Florigiant with Virginia-type shape, slight constriction and reticulation, and mostly two-seeded. Seed light pink with 100 seed weight of 63g compared to 76g for Florigiant and 27g for krinkle. Percentage of fancy pods 77% and extra large kernels 12%. Source of dominant mutant krinkle leaf for use in genetic studies.

PI 584772. Arachis hypogaea L.
Breeding. VGP 10; VP 8129. Excellent fatty acid content (highest 0/2 ration of released VA-types) and higher E2K content than other VA-types. Seed color tan and intermediate growth habit.

PI 584773. Arachis hypogaea L.
Breeding. VGP 11; VA 861101. Moderate resistance to southern corn rootworm. Higher yields than current cultivars on "heavier" soils where rootworm is a problem and equal yields on lighter soils. Better blanching traits than NC 6, the only resistant cultivar currently available. Seedcoat pink and spreading growth habit.

PI 584774. Arachis hypogaea L.
Breeding. VGP 12; VA 931093. Combination of non-nodulating trait and large seed size.

PI 584775. Arachis hypogaea L.
Breeding. VGP 13; VA 931094. Combination of non-nodulating trait and large seed size.

PI 584776. Arachis hypogaea L.
Breeding. VGP 14; VA 931095. Combination of non-nodulating trait and large seed size.

PI 584777. Arachis hypogaea L.
Breeding. VGP 15; VA 931097. Combination of non-nodulating trait and large seed size.

PI 584778. Arachis hypogaea L.
Breeding. VGP 16; VA 930835. Combination of non-nodulating trait and large seed size.

PI 584779. Arachis hypogaea L.
Breeding. VGP 17; VA 930836. Combination of non-nodulating trait and large seed size.

PI 584780. Arachis hypogaea L.
Breeding. VGP 18; VA 930837. Combination of non-nodulating trait and large seed size.

The following were donated by P. Hanelt, Zentralinstitut fur Genetik u. Kultur., Correnstrasse 3, D-O-4325, Gatersleben, Germany. Received 12/24/1991.

PI 584781. Secale cereale L.

PI 584782. Secale cereale L.
Landrace. SN-2205; HR 1015/88; NSGC 452. Collected 08/20/1987 in Georgia.
Elevation 2100 m. Kvavlo, above Dartlo, northwest of Osalo, Rayon Achaeta, historical province Tuschetien.

The following were collected by Australian Winter Cereals Collection, RMB 944, Tamworth, New South Wales 2340, Australia. Developed by A. Barr, South Australia Research and Development Institute, Norfield Research Laboratories, GPO 1671, Adelaide, South Australia, Australia. Received 03/10/1992.

PI 584783. Avena sativa L.  
Cultivar. "POTOROO"; AUS 701416; OX84; CC/21/34; NSGC 499. Collected in New South Wales, Australia. Pedigree - Ox79; 119-20*/Ox80; 266-2H**//Echidna.

The following were collected by G.S. Mahdi, King's College London, University of London, Dept. of Nutrition and Dietetics, London, England, United Kingdom. Received 03/06/1992.

PI 584784. Hordeum vulgare L. ssp. vulgare  
Landrace. GSM-7; NSGC 533. Collected 01/1990 in Iraq.

PI 584785. Hordeum vulgare L. ssp. vulgare  
Landrace. GSM-10; NSGC 534. Collected 01/1990 in Iraq.

PI 584786. Hordeum vulgare L. ssp. vulgare  

PI 584787. Hordeum vulgare L. ssp. vulgare  
Landrace. GSM-14; NSGC 536. Collected 01/1990 in Iraq.

PI 584788. Hordeum vulgare L. ssp. vulgare  
Landrace. GSM-18; NSGC 537. Collected 01/1990 in Iraq.

The following were collected by Zdenek Stehno, Research Inst. for Crop Production, Wheat Gene Bank, Drnovska 507, Praha, Central Bohemia 161 06, Czech Republic. Received 02/23/1993.

PI 584789. Triticum aestivum L., nom. cons.  

PI 584790. Triticum aestivum L., nom. cons.  

PI 584791. Triticum aestivum L., nom. cons.  

PI 584792. Triticum aestivum L., nom. cons.  

PI 584793. Triticum aestivum L., nom. cons.  

PI 584794. Triticum aestivum L., nom. cons.  

PI 584795. Triticum aestivum L., nom. cons.  
PI 584796. Triticum aestivum L., nom. cons.

The following were collected by Zdenek Stehno, Research Inst. for Crop Production, Wheat Gene Bank, Drnovska 507, Praha, Central Bohemia 161 06, Czech Republic. Developed by Inst. of Cereal Crops, Kromeriz, Czechoslovakia. Received 02/23/1993.

PI 584797. Triticum aestivum L., nom. cons.

The following were collected by Zdenek Stehno, Research Inst. for Crop Production, Wheat Gene Bank, Drnovska 507, Praha, Central Bohemia 161 06, Czech Republic. Received 02/23/1993.

PI 584798. Triticum aestivum L., nom. cons.

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Swedish Seed Association, Svalof, Sweden. Received 02/05/1993.

PI 584799. Hordeum vulgare L. ssp. vulgare

PI 584800. Hordeum vulgare L. ssp. vulgare

PI 584801. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by W Weibull AB, Landskrona, Sweden. Received 02/05/1993.

PI 584802. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Swedish Seed Association, Svalof, Sweden. Received 02/05/1993.

PI 584803. Hordeum vulgare L. ssp. vulgare

PI 584804. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Received 02/05/1993.

PI 584805. Hordeum vulgare L. ssp. vulgare
The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Swedish Seed Association, Svalof, Sweden. Received 02/05/1993.

PI 584806. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Pajbjergfonden, Odder, Denmark. Received 02/05/1993.

PI 584807. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Agricultural Research Centre, Department of Plant Breeding, Jokioinen, Finland. Received 02/05/1993.

PI 584808. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Swedish Seed Association, Svalof, Sweden. Received 02/05/1993.

PI 584809. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Swedish Seed Association, Svalof, Sweden. Received 02/05/1993.

PI 584810. Hordeum vulgare L. ssp. vulgare

PI 584811. Hordeum vulgare L. ssp. vulgare

PI 584812. Hordeum vulgare L. ssp. vulgare

PI 584813. Hordeum vulgare L. ssp. vulgare

PI 584814. Hordeum vulgare L. ssp. vulgare

PI 584815. Hordeum vulgare L. ssp. vulgare

PI 584816. Hordeum vulgare L. ssp. vulgare
PI 584817. Hordeum vulgare L. ssp. vulgare

PI 584818. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Received 02/05/1993.

PI 584819. Hordeum vulgare L. ssp. vulgare
Cultivar. "SAMMY"; NGB 1497; Sv 66905; NSGC 1887. Collected in Sweden.

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by Swedish Seed Association, Svalof, Sweden. Received 02/05/1993.

PI 584820. Hordeum vulgare L. ssp. vulgare

The following were collected by Nordic Gene Bank, Alnarp, Malmohus, Sweden. Developed by W Weibull AB, Landskrona, Sweden. Received 02/05/1993.

PI 584821. Hordeum vulgare L. ssp. vulgare

PI 584822. Hordeum vulgare L. ssp. vulgare

PI 584823. Hordeum vulgare L. ssp. vulgare
Cultivar. "ROLAND"; NGB 2669; WW 6702; NSGC 1891. Collected in Sweden. Pedigree - Lud/Tellus M1 D.

The following were donated by D. Jones, Welsh Plant Breeding Station, AFRC Inst. of Grassland & Env. Research, Plas Gogerddan, Aberystwyth Dyfed, Wales SY23 3EB, United Kingdom. Received 03/16/1993.

PI 584824. Avena nuda L.

PI 584825. Avena sativa L.
Cultivar. "MELYS"; NSGC 1893. Pedigree - 07524CnVI-6n/Caron.

PI 584826. Avena nuda L.

PI 584827. Avena sativa L.

PI 584828. Avena sativa L.

PI 584829. Avena sativa L.
Cultivar. "ABERGLEN"; NSGC 1897. Pedigree - 08539Cn3n/Morlan.

The following were collected by Australian Winter Cereals Collection, RMB
944, Tamworth, New South Wales 2340, Australia. Developed by Milton E. McDaniel, Texas A&M University, Dept. of Soil & Crops Sciences, College Station, Texas 77843, United States. Received 07/06/1993.

PI 584830. *Avena sativa* L.  

The following were collected by Australian Winter Cereals Collection, RMB 944, Tamworth, New South Wales 2340, Australia. Received 07/06/1993.

PI 584831. *Hordeum vulgare* L. *ssp. vulgare*  
Cultivar. "GILBERT"; AUS 406923; NSGC 1907. Collected in New South Wales, Australia. Pedigree - reselection of Mx2 (Q21517).

The following were developed by D. Knott, University of Saskatchewan, Dept. of Crop Science & Plant Ecology, Saskatoon, Saskatchewan S7N 0W0, Canada. Received 01/25/1993.

Cultivar. "PLENTY"; NSGC 1908.

Cultivar. "SCEPTRE"; NSGC 1909.

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584834. *Triticum durum* Desf.  

Cultivar. "FAIA"; MPTD 30; NSGC 1911. Collected in France.

Cultivar. "HELVIO"; MPTD 31; NSGC 1912. Collected in France.


Cultivar. "CLAIRDOC"; MPTD 867; NSGC 1917. Collected in France. Pedigree - 132.4/42.2.6//623.

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Ferme Experimentale de Grignon, Grignon, France.
Received 01/07/1993.

PI 584842. Hordeum vulgare L. ssp. vulgare
Cultivar. "HATIF DE GRIGNON"; MPH 1279; NSGC 1918. Collected in France. Pedigree - selection from landrace originating in Isle de Re, France.

PI 584843. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Fernand Lepeuple, Bersee, Nord, France. Received 01/07/1993.

PI 584844. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584845. Hordeum vulgare L. ssp. vulgare
Cultivar. "CARRE D'HIVER"; MPH 1262; NSGC 1921. Collected in France.

PI 584846. Hordeum vulgare L. ssp. vulgare
Cultivar. "MELUSINE"; MPH 1124; NSGC 1922. Collected in France.

PI 584847. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by SERASEM, 10 rue Roger Lecerf, Premesques, Perenchies, France. Received 01/07/1993.

PI 584848. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by UCOPAC, Verneuil L'Etang, France. Received 01/07/1993.

PI 584849. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Belloy Obtention, 182 Av. de Flandre, Estrees St. Denis, France. Received 01/07/1993.

PI 584850. Hordeum vulgare L. ssp. vulgare
The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584851. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Societe pour l'Encouragement de l'Orge de Brasserie, SECOBRA, Maule, France. Received 01/07/1993.

PI 584852. Hordeum vulgare L. ssp. vulgare

The following were developed by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584853. Hordeum vulgare L. ssp. vulgare

PI 584854. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584855. Hordeum vulgare L. ssp. vulgare
Cultivar. "PRIVER"; MPH 83; NSGC 1931. Collected in France.

PI 584856. Hordeum vulgare L. ssp. vulgare
Cultivar. "PANI"; MPH 81; NSGC 1932. Collected in France.

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by UCOPAC, Verneuil L'Etang, France. Received 01/07/1993.

PI 584857. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by UCOPAC, Verneuil L'Etang, France. Received 01/07/1993.

PI 584858. Hordeum vulgare L. ssp. vulgare
France. Developed by Societe pour l'Encouragement de l'Orge de Brasserie, SECOBRA, Maule, France. Received 01/07/1993.

PI 584859. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584860. Hordeum vulgare L. ssp. vulgare

PI 584861. Hordeum vulgare L. ssp. vulgare
Cultivar. "ELAN"; MPH 14; NSGC 1937. Collected in France.

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Andre Blondeau Seeds, Bersee, France. Received 01/07/1993.

PI 584862. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Florimond Desprez, Cappelle par Templeuve (Nord), France. Received 01/07/1993.

PI 584863. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Saatzuchtwirtschaft Firlbeck, Atting-Rinkam, Germany. Received 01/07/1993.

PI 584864. Hordeum vulgare L. ssp. vulgare

The following were developed by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584865. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584866. Hordeum vulgare L. ssp. vulgare
Developed in France. Pedigree - selection from French landrace.

PI 584867. Hordeum vulgare L. ssp. vulgare

PI 584868. Hordeum vulgare L. ssp. vulgare

PI 584869. Hordeum vulgare L. ssp. vulgare

PI 584870. Hordeum vulgare L. ssp. vulgare
Cultivar. "PRIVOLE"; MPH 1100; NSGC 1946. Collected in France.

PI 584871. Hordeum vulgare L. ssp. vulgare

PI 584872. Hordeum vulgare L. ssp. vulgare
Cultivar. "CINDY"; MPH 1070; NSGC 1948. Collected in France.

PI 584873. Hordeum vulgare L. ssp. vulgare

PI 584874. Hordeum vulgare L. ssp. vulgare

PI 584875. Hordeum vulgare L. ssp. vulgare

PI 584876. Hordeum vulgare L. ssp. vulgare

PI 584877. Hordeum vulgare L. ssp. vulgare

PI 584878. Hordeum vulgare L. ssp. vulgare

PI 584879. Hordeum vulgare L. ssp. vulgare

PI 584880. Hordeum vulgare L. ssp. vulgare

PI 584881. Hordeum vulgare L. ssp. vulgare

PI 584882. Hordeum vulgare L. ssp. vulgare

PI 584883. Hordeum vulgare L. ssp. vulgare

PI 584884. Hordeum vulgare L. ssp. vulgare

PI 584885. Hordeum vulgare L. ssp. vulgare

The following were developed by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.
PI 584886. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584887. Hordeum vulgare L. ssp. vulgare

The following were developed by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584888. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Societe pour l'Encouragement de l'Orge de Brasserie, SECOBRA, Maule, France. Received 01/07/1993.

PI 584889. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Received 01/07/1993.

PI 584890. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by ENSAT, Toulouse, France. Received 01/07/1993.

PI 584891. Hordeum vulgare L. ssp. vulgare
Cultivar. "ALBIAS"; MPH 2; NSGC 1967. Collected in France. Pedigree - Iran 3a/Ager.

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Societe pour l'Encouragement de l'Orge de Brasserie, SECOBRA, Maule, France. Received 01/07/1993.

PI 584892. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault, France. Developed by Clayes Luck, 9 rue de Touraine, Annoeulin, France.
PI 584893. Hordeum vulgare L. ssp. vulgare
Cultivar. "PREFIX"; MPH 35; NSGC 1969. Collected in France. Pedigree -
Madru/Leon.

The following were collected by Institut National de la Recherche
Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault,
France. Developed by Groupement Agricole Essonnois, MAIsse, France. Received
01/07/1993.

PI 584894. Hordeum vulgare L. ssp. vulgare
Cultivar. "PLAISANT"; MPH 33; NSGC 1970. Collected in France. Pedigree -
Ager/Nympe.

The following were collected by Institut National de la Recherche
Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault,
France. Developed by Ringot, La Chapelle, France. Received 01/07/1993.

PI 584895. Hordeum vulgare L. ssp. vulgare
Cultivar. "PIRATE"; MPH 32; NSGC 1971. Collected in France. Pedigree -
259-711/Ares//176/Pella.

The following were collected by Institut National de la Recherche
Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault,
France. Received 01/07/1993.

PI 584896. Hordeum vulgare L. ssp. vulgare

PI 584897. Hordeum vulgare L. ssp. vulgare

PI 584898. Hordeum vulgare L. ssp. vulgare

PI 584899. Hordeum vulgare L. ssp. vulgare

PI 584900. Hordeum vulgare L. ssp. vulgare

PI 584901. Hordeum vulgare L. ssp. vulgare

PI 584902. Hordeum vulgare L. ssp. vulgare

The following were collected by Institut National de la Recherche
Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault,
France. Developed by Florimond Desprez, Cappelle par Templeuve (Nord), France
. Received 01/07/1993.

PI 584903. Hordeum vulgare L. ssp. vulgare
Cultivar. "GERTY"; MPH 63; NSGC 1979. Collected in France. Pedigree -
FDE 257/Gerbel.

The following were collected by Institut National de la Recherche
Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault,
France. Received 01/07/1993.

PI 584904. Hordeum vulgare L. ssp. vulgare

PI 584905. Hordeum vulgare L. ssp. vulgare

PI 584906. Hordeum vulgare L. ssp. vulgare

PI 584907. Hordeum vulgare L. ssp. vulgare

PI 584908. Hordeum vulgare L. ssp. vulgare

PI 584909. Hordeum vulgare L. ssp. vulgare

PI 584910. Hordeum vulgare L. ssp. vulgare

The following were collected by EMBRAPA, Passo Fundo, Rio Grande do Sul, Brazil. Received 01/07/1993.

PI 584911. Triticum aestivum L., nom. cons.


PI 584913. Triticum aestivum L., nom. cons.

PI 584914. Triticum aestivum L., nom. cons.

PI 584915. Triticum aestivum L., nom. cons.

PI 584916. Triticum aestivum L., nom. cons.

PI 584917. Triticum aestivum L., nom. cons.

PI 584918. Triticum aestivum L., nom. cons.

PI 584919. Triticum aestivum L., nom. cons.
55*4/Agent//IAS 55*4/CI 14123.

PI 584920. Triticum aestivum L., nom. cons.


The following were developed by EMBRAPA, Passo Fundo, Rio Grande do Sul, Brazil. Received 01/07/1993.

PI 584922. Triticum aestivum L., nom. cons.

PI 584923. Triticum aestivum L., nom. cons.

The following were collected by EMBRAPA, Passo Fundo, Rio Grande do Sul, Brazil. Received 01/07/1993.


PI 584925. Triticum aestivum L., nom. cons.

PI 584926. Triticum aestivum L., nom. cons.

PI 584927. Triticum aestivum L., nom. cons.


PI 584929. Triticum aestivum L., nom. cons.

PI 584930. Triticum aestivum L., nom. cons.

PI 584931. Triticum aestivum L., nom. cons.


PI 584933. Triticum aestivum L., nom. cons.


The following were developed by Hans G. Nass, Agriculture Canada, Research Station, P.O. Box 1210, Charlottetown, Prince Edward Island C1A 7M8, Canada; H.W. Johnston, Agriculture Canada, Research Station, Charlottetown, Prince Edward Island, Canada. Received 01/07/1993.


The following were donated by S. Kweon, Yeongnam Crop Experiment Station, Milyang, Korea, South. Received 01/07/1993.

PI 584936. Hordeum vulgare L. ssp. vulgare

PI 584937. Hordeum vulgare L. ssp. vulgare

PI 584938. Hordeum vulgare L. ssp. vulgare

The following were collected by Chinese Academy of Agricultural Sciences, Beijing, China. Received 01/25/1993.

PI 584939. Hordeum vulgare L. ssp. vulgare
Cultivar. "AI GAN QI"; Exchange No. 4; NSGC 2022. Collected in Beijing, China.

PI 584940. Hordeum vulgare L. ssp. vulgare
Landrace. Exchange No. 8; BO AI CHANG MANG DA MAI; NSGC 2024. Collected in Henan, China.

PI 584941. Hordeum vulgare L. ssp. vulgare
Landrace. Exchange No. 9; CHA ZHONG DANG DI MAI; NSGC 2025. Collected in Nei Monggol, China.

PI 584942. Hordeum vulgare L. ssp. vulgare
Cultivar. "CHA ZHONG YANG CAO MAI"; Exchange No. 10; NSGC 2026. Collected in Beijing, China.

PI 584943. Hordeum vulgare L. ssp. vulgare
Landrace. Exchange No. 12; CHANG SHU AI JIAO ZAO; NSGC 2028. Collected in Jiangsu, China.

PI 584944. Hordeum vulgare L. ssp. vulgare

PI 584945. Hordeum vulgare L. ssp. vulgare
Landrace. Exchange No. 14; DONG YANG SAN YUE HUANG; NSGC 2030. Collected in Zhejiang, China.

PI 584946. Hordeum vulgare L. ssp. vulgare
Landrace. Exchange No. 18; FEI DONG MANG DA MAI; NSGC 2031. Collected in
PI 584947. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 19; FENG YANG LIU LENG; NSGC 2032. Collected in Anhui, China.

PI 584948. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 20; FU NING SHI DA MAI; NSGC 2033. Collected in Jiangsu, China.

PI 584949. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 21; FU PING LAO DA MAI; NSGC 2034. Collected in Shanxi, China.

PI 584950. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 24; HA ER BIN NONG ZHONG; NSGC 2035. Collected in Heilongjiang, China.

PI 584951. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 25; HA ZAI LAI; NSGC 2036. Collected in Heilongjiang, China.

PI 584952. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 26; HAN DAN SAN YUE HUANG; NSGC 2037. Collected in Hebei, China.

PI 584953. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 29; HEI LIU ZHU YUAN MAI; NSGC 2039. Collected in Shanghai, China.

PI 584954. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "HU MAI 4 HAO"; Exchange No. 31; NSGC 2040. Collected in Beijing, China.

PI 584955. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 34; JIANG YIN LAO TUO XU; NSGC 2042. Collected in Jiangsu, China.

PI 584956. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 38; LI CHENG DA MAI; NSGC 2043. Collected in Shandong, China.

PI 584957. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "LI XIN 1 HAO"; Exchange No. 39; NSGC 2044. Collected in Beijing, China.

PI 584958. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "LIANG CHENG YANG CAO MAI"; Exchange No. 40; NSGC 2045. Collected in Beijing, China.

PI 584959. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 41; LIU LENG BAI DU DA MAI; NSGC 2046. Collected in Fujian, China.

PI 584960. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 42; LUO CI HONG MANG DA MAI; NSGC 2047. Collected in Yunnan, China.

PI 584961. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 43; LUO NING LUO DA MAI; NSGC 2048. Collected in Henan, China.

PI 584962. *Hordeum vulgare* L. ssp. *vulgare*
Landrace. Exchange No. 45; MI MAI 114; NSGC 2049. Collected in Zhejiang,
<table>
<thead>
<tr>
<th>Accession</th>
<th>Description</th>
<th>Location</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI 584967</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 50; RU DONG WAN DA MAI; NSGC 2054. Collected in Jiangsu, China.</td>
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<tr>
<td>PI 584968</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 51; SAN YUE HUANG; NSGC 2055. Collected in Shandong, China.</td>
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<tr>
<td>PI 584969</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 52; SAN YUE HUANG DA MAI HU; NSGC 2056. Collected in Shanghai, China.</td>
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<tr>
<td>PI 584970</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 53; SHENG XIAN WU MANG LIU LENG; NSGC 2057. Collected in Zhejiang, China.</td>
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</tr>
<tr>
<td>PI 584972</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 56; SI XIAN SAN YUE HUANG; NSGC 2059. Collected in Anhui, China.</td>
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<tr>
<td>PI 584973</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 57; TA CHENG ER LENG; NSGC 2060. Collected in Xinjiang, China.</td>
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</tr>
<tr>
<td>PI 584974</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 58; TA CHENG XIAN DA MAI; NSGC 2061. Collected in Xinjiang, China.</td>
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<tr>
<td>PI 584976</td>
<td>Hordeum vulgare L. ssp. vulgare Landrace. Exchange No. 60; TAI PING MAO HUO ZI; NSGC 2063. Collected in Anhui, China.</td>
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<tr>
<td>PI 584978</td>
<td>Hordeum vulgare L. ssp. vulgare Cultivar. &quot;TIAN JIN 1 HAO&quot;; Exchange No. 62; NSGC 2065. Collected in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Beijing, China.

**PI 584979. Hordeum vulgare L. ssp. vulgare**
Cultivar. "TONG BEI PI 1 HAO"; Exchange No. 63; NSGC 2066. Collected in Beijing, China.

**PI 584980. Hordeum vulgare L. ssp. vulgare**
Cultivar. "TONG HUA DA MAI"; Exchange No. 64; NSGC 2067. Collected in Beijing, China.

**PI 584981. Hordeum vulgare L. ssp. vulgare**
Landrace. Exchange No. 68; Xiang Yang Mang Zi Da Mai; NSGC 2068. Collected in Hubei, China.

**PI 584982. Hordeum vulgare L. ssp. vulgare**
Landrace. Exchange No. 69; Xiao Shan Zi Jiao Er Leng; NSGC 2069. Collected in Zhejiang, China.

**PI 584983. Hordeum vulgare L. ssp. vulgare**
Landrace. Exchange No. 70; Xiao Shan Li Xia Huang; NSGC 2070. Collected in Zhejiang, China.

The following were developed by Slobodan Tomasovic, University of Zagreb, Faculty of Agricultural Sciences, Marulicev TRG 5/1, Zagreb, Croatia; P. Javor, Institute for Breeding and Production of Field Crops, Marulicev trg 5/1, Zagreb, Croatia; M. Matijasevic; R. Mlinar; B. Koric. Received 05/01/1993.

**PI 584984. Triticum aestivum L., nom. cons.**
Cultivar. "ALENA"; ZG 241/84; NSGC 2080.

The following were developed by P. Javor, Institute for Breeding and Production of Field Crops, Marulicev trg 5/1, Zagreb, Croatia; R. Mlinar. Received 05/01/1993.

**PI 584985. Triticum aestivum L., nom. cons.**

The following were developed by Slobodan Tomasovic, University of Zagreb, Faculty of Agricultural Sciences, Marulicev TRG 5/1, Zagreb, Croatia; P. Javor, Institute for Breeding and Production of Field Crops, Marulicev trg 5/1, Zagreb, Croatia; M. Matijasevic; R. Mlinar. Received 05/01/1993.

**PI 584986. Triticum aestivum L., nom. cons.**
Cultivar. "MARINA"; ZG 3021/84; NSGC 2082. Pedigree - ZG 2468-74/P 3030.

The following were developed by Lee Panella, USDA, ARS, Colorado State University, Sugarbeet Research, Crops Research Lab., Fort Collins, Colorado 80536-2083, United States; Richard Hecker, USDA, ARS, Crops Research Lab., Colorado State University, Fort Collins, Colorado 80521, United States. Received 01/04/1995.

**PI 584987. Beta vulgaris L.**
Breeding. Population. FC 404; 891048HO. GP-164. Pedigree - SLC 03(rr) / FC606(R-), followed by four generations of random mating of mass selected monogerm annual segregants. O-type maintainer of FC404CMS. Monogerm, easy bolting annual with 100% green hypocotyls. Common Owen cytoplasmic factor of male sterility and normal cytoplasm. Not assessed for disease reactions, but original pollinator moderately resistant to
Cercospora leaf spot (Cercospora beticola) and curly top virus. Bolts and flowers readily in the field and greenhouse. Supplemental incandescent light suggested during the short days of fall and winter.

**PI 584988. Beta vulgaris L.**
Breeding. Population. FC 404CMS; 891048H01. GP-165. Pedigree - SLC 03CMS / FC606, followed by four generations of mass selection of CMS monogerm annual segregants. Each subsequent generation pollinated by the O-type equivalent (pollen fertile) maintainer plants. Monogerm, easy bolting annual with 100% green hypocotyls. Not assessed for disease reactions, but original pollinator moderately resistant to Cercospora leaf spot (Cercospora beticola) and curly top virus. Bolts and flowers readily in the field and greenhouse. Supplemental incandescent light is suggested during the short days of fall and winter.

The following were donated by Texas Agric. Exp. Station, Texas, United States. Received 1960.

**PI 584989. Sorghum bicolour (L.) Moench**

The following were developed by Don R. Viands, Cornell University, Department of Plant Breeding, 523 Bradfield Hall, Ithaca, New York 14853, United States; C.C. Lowe, Cornell University, Dept. of Plant Breeding and Biometry, Ithaca, New York 14853, United States; J.L. Hansen, Cornell University, Dept. of Plant Breeding and Biometry, Ithaca, New York 14853-1902, United States. Received 01/30/1995.

**PI 584990. Medicago sativa L. ssp. sativa**
Cultivar. Population. "VICTORY"; NY 8412. CV-188. Pedigree - 106-clone synthetic from Mohawk for resistance to anthracnose (Race 1) / Oneida VR. Progenies selected for resistance to anthracnose (Race 1) and verticillium wilt. Similar to Ranger in fall dormancy. Highly resistant to anthracnose (Race 1) (Colletotrichum trifolii), fusarium wilt (Fusarium oxysporum), and bacterial wilt (Clavibacter michiganense subsp. insidiosum). Resistant to verticillium wilt (Verticillium albo-atrum). Moderately resistant to phytophthora root rot (Phytophthora medicaginis). Susceptible to spotted alfalfa aphid (Therioaphis maculata). Flower color 75% purple, 25% variegated, with trace of yellow, white, and cream.

**PI 584991. Medicago sativa L. ssp. sativa**
Cultivar. Population. "MAJESTIC"; NY 86108. CV-189. Pedigree - Synthetic developed by sequentially selecting 92 Oneida VR plants for resistance to anthracnose (Race 1) and phytophthora root rot. Similar to Ranger in fall dormancy. Highly resistant to verticillium wilt (Verticillium albo-atrum), fusarium wilt (Fusarium oxysporum) and anthracnose (Race 1) (Colletotrichum trifolii). Resistant to bacterial wilt (Clavibacter michiganense subsp. insidiosum), phytophthora root rot (Phytophthora medicaginis), and alfalfa stem nematode (Ditylenchus dipsaci). Susceptible to spotted alfalfa aphid (Therioaphis maculata). Flower color 72% purple, 28% variegated, with a trace of yellow, white, and cream.

**PI 584992. Medicago sativa L. ssp. sativa**
Cultivar. Population. "SABRE"; NY 86111. CV-190. Pedigree - Oneida VR / Flemish population. Parents resulted from recurrent phenotypic selection for resistance to anthracnose (Race 1), verticillium wilt, fusarium wilt, phytophthora root rot, and seed set. Similar to Saranac in fall dormancy. Highly resistant to anthracnose (Race 1), (Colletotrichum trifolii), verticillium wilt (Verticillium albo-atrum), fusarium wilt (Fusarium oxysporum), bacterial wilt (Clavibacter michiganense subsp. insidiosum), and pea aphid (Acyrthosiphon pisum). Resistant to phytophthora root rot (Phytophthora medicaginis). Moderately resistant to alfalfa stem nematode (Cylindrenchus dipsaci). Flower color 70% purple, 30% variegated, with trace of yellow, white, and cream.

The following were donated by J.G. Hermsen, Institute for Plant Breeding (IVP), P.O. Box 386, Wageningen, Netherlands. Received 12/18/1989.

PI 584993. Solanum phureja Juz. & Buk.
Breeding. IVP 48; BE 2680; Q 27844.

PI 584994. Solanum phureja Juz. & Buk.
Breeding. IVP 101; BE 2680; Q 27845. Vigorous, rich in flowering. Highly pollen fertile. Diploid plants known as 'haploid inducers'. Improved form of IVP 35.

PI 584995. Solanum phureja Juz. & Buk.
Breeding. IVP 35; BE 2680; Q 27846. Diploid plants known as 'haploid inducers'.

The following were developed by P. Stephen Baenziger, University of Nebraska Lincoln, Department of Agronomy, 330 Keim Hall, Lincoln, Nebraska 68583-0915, United States; J.W. Schmidt, University of Nebraska, Nebraska Agricultural Experiment Station, Lincoln, Nebraska, United States; C. E. Peterson, USDA, ARS, Department of Horticulture, University of Wisconsin, Madison, Wisconsin 53706, United States; David D. Baltensperger, University of Nebraska, Panhandle Res. & Ext. Center, 4502 Avenue I, Scottsbluff, Nebraska 69361-4939, United States; B. Moreno-Sevilla, 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. Received 01/11/1995.

PI 584996. Triticum aestivum L., nom. cons.
Cultivar. Pureline. "NIOBRARA"; NE89522. CV-822; PVP 9500318. Pedigree - TAM105*/4/Amigo//Brule. Awned, white-glumed, hard red winter variety. Foliage gray-green to green, with waxy bloom at anthesis. Spike middense and tapering. Glume midlong and narrow to midwide. Kernels red colored, hard textured, and ovate to elliptical. Kernel has no collar, rounded cheeks, midsize germ, large brush of short length, and a narrow and shallow crease. High yield potential, average grain yield 3890 kg ha-1. Maturity medium. Heterogeneous for secalins encoded by the Sec-1 locus which is indicative of the Amigo translocation (1A/1R). Has Sr6 and is heterogeneous for the Amigo gene. Moderate resistance to stem rust (Puccinia graminis). Moderately susceptible to leaf rust (Puccinia recondita) and is susceptible to the Great Plains biotype of Hessian fly (Mayetiola destructor) and soilborne wheat mosaic virus. Milling and baking quality characteristics acceptable.

The following were developed by J. H. Hatchett, USDA-ARS, Kansas State University, Waters Hall - Dep. of Entomology, Manhattan, Kansas 66506-4004, United States; Robert A. Graybosch, USDA-ARS, University of Nebraska, Dept. of Agronomy, 322 Keim Hall, Lincoln, Nebraska 68583, United States; P. Stephen Baenziger, University of Nebraska Lincoln, Department of Agronomy, 330 Keim Hall, Lincoln, Nebraska 68583-0915, United States; L. A. Nelson,
PI 584997. Triticum aestivum L., nom. cons.  
Cultivar. "NEKOTA"; NE88427. CV-826. Pedigree - Bennett/TAM107. Hard red winter, white chaffed, awned, winterhardy, moderately early semidwarf (similar in anthesis date to Alliance, later than TAM107, earlier than Arapahoe). Plant height 6cm taller than Vista and 2cm shorter than Alliance. Intermediately long coleoptile (79mm). Moderately susceptible to leaf rust. Susceptible to soilborne and wheat streak mosaic viruses, and Hessian fly. Heterogeneous for secalins encoded by the Sec-1 locus which is indicative of the Amigo translocation (1A/1R) derived from TAM107. Moderately resistant to stem rust (contains genes Sr6 and is heterogeneous for the Amigo gene). Good test characteristics and winterhardiness. Straw strength adequate (superior to Arapahoe, but less than Redland). Early (3 days later than TAM107 and 1 day earlier than Alliance) semidwarf (2.5 cm taller than TAM107 and Vista and 2.5cm shorter than Alliance). Milling and baking quality characteristics acceptable.

The following were donated by P. Esele, Serere Research Station, Naro P.O. Box 295, Entebbe, Uganda. Received 01/11/1995.

PI 584998. Sorghum bicolor (L.) Moench  
Cultivated. 94USE10419.

PI 584999. Sorghum bicolor (L.) Moench  
Cultivated. 94USE10501.

The following were developed by G. L. Hildebrand, Int. Crops Res. Inst. for the Semi-Arid Tropics, Ground Nuts, P. O. Box 1096, Lilongwe, Malawi; S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India; K.R. Bock, Int. Crops Res. Inst. for the Semi-Arid Tropics, Chitedze Agricultural Research Station, Groundnut Project, Lilongwe, Malawi. Received 01/10/1995.

PI 585000. Arachis hypogaea L.  
Breeding. Pureline. ICGV-SM 83708; CG 7; MGV 4; ICGMS 42. GP-68. Pedigree - (USA 20/TMV 10) F2-P3-B1-B1-B1-B1-B1-B1-B1. Alternately branched suitable for red skin and confectionary trades because of red testa color, uniform seed size, and ease in blanching. Growth habit erect to decumbent 3 with elliptical dark green, medium sized leaves. Matures in about 135 days. Mostly two-seeded pods characterized by slight beak, moderate to deep constriction, moderate reticulation. Average meat content varies from 68 to 74%. Average 100-seed mass from 61 to 64g. Seeds uniform in size and shape and contain 47% oil. O/L fatty acid ratio 1.88.

The following were developed by S.L. Dwivedi, Int. Crops Res. Inst. for the
PI 585001. Arachis hypogaea L.

PI 585002. Arachis hypogaea L.

PI 585003. Arachis hypogaea L.

PI 585004. Arachis hypogaea L.


PI 585005. Arachis hypogaea L.
slightly reticulated. 69% meat content. Seeds tan with 100-seed mass of 48g. Oil and protein concentrations 480g kg-1 and 240g kg-1, respectively.


PI 585006. Arachis hypogaea L.
Breeding. Pureline. ICGV 88145. GP-74. Pedigree - PI 337409/FESR 12-P6-B1-B1-B1-B1, F2-P14-B1-B1-B1-B1-B1. Spanish type resistant to natural seed infection by the aflatoxin-producing Aspergillus flavus. Growth habit erect, sequential branching, and elliptical light green leaves. Mature in 110-120 days. Pods mainly two-seeded, medium to large in size with slight to moderate constriction and prominent beak. Seeds tan with 100-seed mass of 35g. Oil and protein concentrations 490g kg-1 and 199g kg-1, respectively.

PI 585007. Arachis hypogaea L.
Breeding. Pureline. ICGV 89104. GP-75. Pedigree - J11/U4-7-5, F2-B1-B1-B1-B1-B1. Spanish type resistant to natural seed infection by the aflatoxin-producing Aspergillus flavus. Growth habit erect, sequential branching, and elliptical light green leaves. Mature in 110-120 days. Pods mainly two-seeded, medium in size with slight constriction and without beaks. Seeds tan with 100-seed mass of 32g. Oil and protein concentrations 534g kg-1 and 182g kg-1, respectively.

The following were collected by N.I. Vavilov All-Russian Scientific Res., Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Russian Federation. Received 01/14/1992.

PI 585008. Triticum spelta L.
Landrace. WIR 52464; NSGC 322. Collected in Tajikistan.

PI 585009. Triticum durum Desf.
Landrace. WIR 44516; NSGC 323. Collected in Ethiopia.

PI 585010. Triticum durum Desf.
Landrace. WIR 19531; NSGC 324. Collected in Ethiopia.

PI 585011. Triticum durum Desf.
Landrace. WIR 46154; NSGC 325. Collected in Ethiopia.

PI 585012. Triticum durum Desf.
Landrace. WIR 19566; NSGC 326. Collected in Ethiopia.

PI 585013. Triticum durum Desf.
Landrace. WIR 43764; NSGC 327. Collected in Ethiopia.

PI 585014. Triticum jakubzineri (Udachin & Shakhm.) Udachin & Shakhm.
Landrace. WIR 50943; NSGC 331. Collected in Uzbekistan.

PI 585015. Triticum petropavlovskyi Udachin & Migush.
Landrace. WIR 43376; NSGC 332. Collected in China.

The following were collected by P. Hanelt, Zentralinstitut fur Genetik u. Kultur., Correnstrasse 3, D-O-4325, Gatersleben, Germany; J. Kruse, Botanical Institute, Tbilisi, Georgia. Received 12/24/1991.

PI 585016. Triticum aestivum L., nom. cons.

PI 585017. Triticum carthlicum Nevski
Landrace. AW 6629/85; SN-Z8; NSGC 375. Collected 08/09/1984 in Georgia. Botanical Institute, Latali, southwest of Mestia, Rayon Mestia, Ober-Svanetien; originally from Chuari, Rayon Mestia.

PI 585018. Triticum carthlicum Nevski
Landrace. SN-Z9; AW 6630/85; NSGC 376. Collected 08/09/1984 in Georgia. Botanical Institute, Latali, southwest of Mestia, Rayon Mestia, Ober-Svanetien; originally from Latali.

The following were collected by L. Guarino, International Plant Genetic Resources Institute, Rome, Italy. Received 09/18/1992.

PI 585019. Triticum aestivum L., nom. cons.
Cultivated. 15007; NSGC 1358. Collected in Saudi Arabia.

PI 585020. Triticum durum Desf.
Cultivated. 15031; NSGC 1363. Collected in Saudi Arabia.

PI 585021. Triticum durum Desf.
Cultivated. 15035; NSGC 1364. Collected in Saudi Arabia.

PI 585022. Triticum aestivum L., nom. cons.
Cultivated. 15043; NSGC 1366. Collected in Saudi Arabia.

PI 585023. Triticum durum Desf.
Cultivated. 15045; NSGC 1367. Collected in Saudi Arabia.

PI 585024. Triticum aestivum L., nom. cons.
Cultivated. 15063; NSGC 1370. Collected in Saudi Arabia.

PI 585025. Triticum durum Desf.
Cultivated. 15017; NSGC 1372. Collected in Saudi Arabia.

PI 585026. Triticum aestivum L., nom. cons.
Cultivated. 15085; NSGC 1381. Collected in Saudi Arabia.

The following were collected by U.S. Operations Mission, Ankara, Turkey. Received 02/07/1958.

PI 585027. Triticum aestivum L., nom. cons.
Landrace. 92ABWHSP-347; NSGC 1624. Collected in Urfa, Turkey. Pedigree - separation of species from PI 245755.

The following were collected by University of Reading, Reading, England, United Kingdom. Received 05/16/1968.

PI 585028. Triticum sp.
Cultivated. 92ABWHSP-369; NSGC 1625. Collected in England, United
Kingdom. Pedigree – separation of species from PI 330548.

The following were collected by E. Bennett, Crop Ecology & Genetic Resources Unit, Plant Production and Protection Division, FAO, Rome, Italy. Received 04/13/1972.

**PI 585029. Triticum durum Desf.**


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; C. Tuten, Aegean Agric. Res. Inst., Menemen, Izmir, Turkey; M. Kanbertay, Aegean Agric. Res. Inst., Menemen, Izmir, Turkey. Received 10/01/1989.

**PI 585030. Triticum aestivum L., nom. cons.**

Cultivated. 84TK210-001.1; 92ABWHSP-961; NSGC 1795. Collected 07/1984 in Canakkale, Turkey. Elevation 310 m. 16 km southeast of Ayvacik.

**PI 585031. Triticum durum Desf.**

Cultivated. 84TK210-001.2; 92ABWHSP-961; NSGC 1796. Collected 07/1984 in Canakkale, Turkey. Elevation 310 m. 16 km southeast of Ayvacik.

**PI 585032. Triticum aestivum L., nom. cons.**

Cultivated. 84TK245-004.1; 92ABWHSP-963; NSGC 1797. Collected 07/1984 in Bursa, Turkey. Elevation 370 m. 11 km north of Yenisehir.

**PI 585033. Triticum aestivum L., nom. cons.**

Cultivated. 84TK271-002.1; 92ABWHSP-965; NSGC 1798. Collected 07/1984 in Kocaeli, Turkey. Elevation 270 m. 25 km southwest of Kandira.

**PI 585034. Triticum durum Desf.**

Cultivated. 84TK271-002.2; 92ABWHSP-965; NSGC 1799. Collected 07/1984 in Kocaeli, Turkey. Elevation 270 m. 25 km southwest of Kandira.

**PI 585035. Triticum aestivum L., nom. cons.**

Cultivated. 84TK278-002.1; 92ABWHSP-971; NSGC 1802. Collected 07/1984 in Zonguldak, Turkey. Elevation 60 m. 6 km east of junction or 17 km east of Eregli, enroute to Devrek.

The following were donated by Funk Seeds International, United States. Received 1983.

**PI 585036. Hordeum vulgare L. ssp. vulgare**

Cultivar. "RODEO"; NSGC 2084. PVP 8300178.

The following were developed by J. Buck, Buck S.A., La Dulce, Buenos Aires, Argentina. Donated by Cargill Wheat Research Farm, 2450 Drake Rd., Fort Collins, Colorado, United States. Received 1983.

**PI 585037. Triticum aestivum L., nom. cons.**


The following were donated by Cargill Wheat Research Farm, 2450 Drake Rd., Fort Collins, Colorado, United States. Received 1983.
PI 585038. Triticum aestivum L., nom. cons.
Cultivar. "MAGNIF GUARANI MAG"; NSGC 2087. Developed in Argentina.
Pedigree - Lin Calel/38 M.A./Klein Cometa.

PI 585039. Triticum aestivum L., nom. cons.
Cultivar. "VILELA MAR"; NSGC 2088. Developed in Argentina. Pedigree -
Klein Aniversario/Standard/Thatcher.

The following were donated by Steven D. Linscombe, LSU Rice Experiment
Station, PO Box 1429, Hwy 90 E/Rice Station Rd., Crowley, Louisiana 70526,
United States. Received 03/22/1991.

PI 585040. Oryza sativa L.
Cultivar. "EMBRAPA 1191"; F 725. Collected in Brazil.

PI 585041. Oryza sativa L.
Cultivar. "EMBRAPA 1076"; F 731. Collected in Brazil.

PI 585042. Oryza sativa L.
Cultivar. "EMBRAPA 1200"; F 737. Collected in Brazil.

PI 585043. Oryza sativa L.
Cultivar. "CIAT CHINAN 8"; F 739. Collected in Colombia.

The following were developed by W.D. Graham, Clemson University, Dept. of
Agronomy & Soils, Poole Agric. Center, Clemson, South Carolina 29634-0359,
United States. Received 01/17/1995.

PI 585044. Triticum aestivum L., nom. cons.
Cultivar. SC850559; "CLEMSON 201"; NSGC 5546. CV-818. Pedigree -
moderately resistant to prevalent biotypes of powdery mildew where FL302
is susceptible. Resistant to moderately resistant to leaf rust biotypes
in southeastern U.S. Contains Lr9 leaf rust resistance and other unknown
resistance genes. Septoria reaction moderately susceptible compared to
FL302. Susceptible to E, L, B, and GP Hessian fly biotypes. Adapted to
North Carolina, South Carolina, Georgia, and Mississippi. Medium
maturity similar to Coker 9766. Straw strength good. Tested for three
years (1990-92) in the Uniform Southern Soft Red Winter Wheat Nursery.

The following were donated by T.M. Koyama, New York Botanical Garden, P.O.
Box 366, Tuckahoe, New York 10707-0366, United States. Received 02/25/1991.

PI 585045. Oryza sativa L.
Cultivated. K-17039; (1)87036; F 679. Collected in Thailand. Chow Thong,
Hot Doi Tai, Lame Phang, Chiang Mai Province. Sticky, colored paddy
type.

PI 585046. Oryza sativa L.
Cultivated. K-17071; (1)87057; F 700. Collected in Thailand.
Thai-Burmese border, Chiang Rai-Doi Tung, Chiang Rai Province.

PI 585047. Oryza sativa L.
Cultivated. K-17082; (1)87066; F 709. Collected in Thailand. Pasang
District, Amphur Mae Chan, Chiang Rai Province. Indica upland type.
Pericarp white.

PI 585048. Oryza sativa L.
Cultivated. K-17987; (1)87068; F 711. Collected in Thailand. Pasang
District, Amphur Mae Chan, Chiang Rai Province. Upland type. Grain
short. Glumes stained from red-purple pericarp.
PI 585049. *Oryza sativa* L.

The following were developed by Bryan Kindiger, USDA, ARS, Southern Plains Range Res. Sta., 2000 18th St., Woodward, Oklahoma 73801, United States; Chester L. Dewald, USDA, ARS, 2000 18th Street, Woodward, Oklahoma 73801, United States. Received 01/10/1995.

PI 585050. *Tripsacum dactyloides* (L.) L.
Breeding. FGT-1. GP-70. Pedigree - WW-2045 diploid gsf1/gsf1 x WW-2031, Bm tetraploid gsf1/gsf1/GSF1/GSF1=FGT-1 gsf1/gsf1/gsf1. First fertile eastern gamagrass triploid (2n=3x=54) with sexual reversal in male flowers of the terminal (tassel) portion of the inflorescence. Differs from normal monoecious sex forms by having two functional female florets in the basal spikelets instead of one. Female fertility estimated by percentage seed set ranges from 35 to 55%, but having 10 to 12 times more female spikelets per inflorescences. Produces 4 to 5 times more seed than fully fertile monoecous inflorescences. Foliage characteristics very similar to female parent, WW-2045.

The following were donated by S.Y.C. Ng, International Institute of Tropical Agriculture, Oyo Road, PMB 5320, Ibadan, Nigeria. Received 08/06/1990.

PI 585051. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. TIS 2532; BE-3049; Q 28280.

The following were donated by Peter Beetham, ACIAR Sweet Potato Project, Burnley Gardens, Swan Street, Burnley, Australia. Received 10/07/1991.

PI 585052. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. "83003-13"; BE-3654; U12; Q 28723; IPS 012. Collected in Tonga.

PI 585053. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. "ACC 268"; BE-3654; U36; Q 28741; IPS 036. Collected in Solomon Islands.

The following were donated by Australian Department of Agriculture, Institute of Plant Sciences, Burnley Gardens, Swan Street, Burnley, Australia. Received 02/09/1993.

PI 585054. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. IPS 003; BE-4494; Q 29592; "HALASIA". Collected in Tonga.

PI 585055. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. IPS 017; BE-4494; Q 29596; "85019-17". Collected in Tonga.

PI 585056. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. IPS 038; BE-4494; Q 29607; "ACC 172". Collected in Solomon Islands.

PI 585057. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. IPS 053; BE-4494; Q 29613; "L44". Collected in Papua New Guinea.

PI 585058. *Ipomoea batatas* (L.) Lam. var. batatas
Cultivar. IPS 57; BE-4494; Q 29615; "L49". Collected in Papua New Guinea.

PI 585059. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 120; BE-4494; Q 29638; "HUNG LOC 4". Collected in Vietnam.

PI 585060. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 124; BE-4494; Q 29639; "LO 323".

PI 585061. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 137; BE-4494; Q 29644; "KALMEGH S-30". Collected in India.

PI 585062. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 140; BE-4494; Q 29645; "SUWON 122". Collected in Korea.

PI 585063. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 144; BE-4494; Q 29647; "BIS. 99". Collected in Indonesia.

PI 585064. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 147; BE-4494; Q 29648; "BIS. 192". Collected in Indonesia.

PI 585065. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 151; BE-4494; Q 29650; "KAMALA SUNDARI". Collected in Bangladesh.

PI 585066. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 164; BE-4494; Q 29654; "CARI-273". Collected in Sri Lanka.

PI 585067. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 173; BE-4494; Q 29658; "OKINAWA 100". Collected in Korea.

PI 585068. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 174; BE-4494; Q 29659; "SUWON 147". Collected in Korea.

PI 585069. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 176; BE-4494; Q 29660; "EUN-MI". Collected in Korea.

PI 585070. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 177; BE-4494; Q 29661; "SEON-MI". Collected in Korea.

PI 585071. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 178; BE-4494; Q 29662; "WON-MI". Collected in Korea.

PI 585072. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 179; BE-4494; Q 29663; "SAING-MI". Collected in Korea.

PI 585073. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 182; BE-4494; Q 29664; "PUNG-MI". Collected in Korea.

PI 585074. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 187; BE-4494; Q 29667; "87042-231". Collected in Tonga.

PI 585075. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 188; BE-4494; Q 29668; "85022-12". Collected in Tonga.

PI 585076. Ipomoea batatas (L.) Lam. var. batatas
Cultivar. IPS 189; BE-4494; Q 29669; "87036-102". Collected in Tonga.

The following were donated by Universidad De San Carlos De Guatemala, Cindad Universitaria, Guatemala. Received 03/27/1984.

PI 585077. Ipomoea sp.
CAMOTE AMARILLO; C 13739; 503; Q 24524.
PI 585078. Ipomoea sp.
   CAMOTE AMARILLO; C 13739; 506; Q 24526.

PI 585079. Ipomoea sp.
   CAMOTE BLANCO; C 13739; 623; Q 24530.

PI 585080. Ipomoea sp.
   CAMOTE BLANCO; C 13739; Franja C; Q 24535.

Unknown source. Received 01/07/1985.

PI 585081. Ipomoea batatas (L.) Lam. var. batatas
   573; Q 25354.

Unknown source. Received 01/07/1985.

PI 585082. Ipomoea batatas (L.) Lam. var. batatas
   578; Q 25355.

Unknown source. Received 01/07/1985.

PI 585083. Ipomoea batatas (L.) Lam. var. batatas
   625; Q 25363.

The following were donated by F. Martin, USDA-ARS, Tropical Research Station,
   P.O. Box 70, Mayaguez, Puerto Rico. Received 04/27/1987.

PI 585084. Ipomoea batatas (L.) Lam. var. batatas
   Cultivar. "MARGARITA"; BE-1227; SPV-70; Q 26768. Exceptional clone,
   white fleshe, usually not sweet, very good table qualities, but poor
   form, does not flower.

The following were donated by Dan Austin, Florida Atlantic University,
   Department of Biological Services, Boca Raton, Florida 33431, United States.
   Received 10/26/1987.

PI 585085. Ipomoea batatas (L.) Lam. var. batatas
   Cultivar. "BARACUTEY"; BE-1532; Q 26988. Collected in Mexico.

PI 585086. Ipomoea batatas (L.) Lam. var. batatas
   Cultivar. "REGIONAL DE TEHUANTEPEC"; BE-1532; Q 26994. Collected in
   Mexico. Caecot.

The following were donated by Hisashi Kukimura, Uplant Crop Div., Kyushu Nat.
   Agr. Expt. Station, 6644 Yokoichi, Miyakonojo Miyazaki, Japan. Received
   04/10/1989.

PI 585087. Ipomoea batatas (L.) Lam. var. batatas
   Cultivar. "KYUKEI 97"; BE-2260; Q 27755. Pedigree - Kyushu 80/Kyukei
   7620-6. Plants compact, non-twining. Storage root red. Flesh yellow. Dry
   matter of root 34%. Carotene content very low. Keeping quality good.
   Beta-amylase activity very low. Moderate tolerance to stem root and soil
   rot. High tolerance to Black rot, Scurf, and Southern root-knot and root
   lesion nematodes.

The following were donated by D. Tay, Genetic Resources Unit, AVRDC, P.O. Box
42, Tainan, Taiwan. Received 05/10/1989.

PI 585088. Ipomoea batatas (L.) Lam. var. batatas

PI 585089. Ipomoea batatas (L.) Lam. var. batatas
Cultivated. BE-2335; CN 1448-59; Q 27793. Plants semi-erect. Roots pink, 30% dry matter. Flesh pale yellow. Texture moderately dry after cooking. Suitable for cool-dry (20 t/ha) or hot-wet (17 t/ha) season.

Unknown source. Received 08/31/1979.

PI 585090. Ipomoea batatas (L.) Lam. var. batatas
9 Blanca Americana; 9; C 02997; Q 21760.

The following were collected by C. R. Broome, Plant Variety Protection Office, USDA-AMS, Beltsville, Maryland, United States. Received 04/03/1981.

PI 585091. Ipomoea batatas (L.) Lam. var. batatas
2788; C 06951; Q 22462. Collected 05/01/1981 in Venezuela.

Unknown source. Received 01/07/1985.

PI 585092. Ipomoea batatas (L.) Lam. var. batatas
393; Q 25344.

Unknown source. Received 01/07/1985.

PI 585093. Ipomoea batatas (L.) Lam. var. batatas
609; Q 25360.

The following were donated by Guillermo Delgado, Universidad Nacional Pedro Ruiz Gallo, 8 De Octubra No. 637, Lambayeque, Peru. Received 09/05/1985.

PI 585094. Ipomoea batatas (L.) Lam. var. batatas
C 16679; 99; Q 25732.

PI 585095. Ipomoea batatas (L.) Lam. var. batatas
C 16679; 115; Q 25739.

The following were donated by G.E. Delgado, Universidad Nacional Pedro Ruiz Gallo, 8 De Octubra No. 637, Lambayeque, Peru. Received 09/05/1985.

PI 585096. Ipomoea batatas (L.) Lam. var. batatas
0123; Q 25744.

The following were donated by Guillermo Delgado, Universidad Nacional Pedro Ruiz Gallo, 8 De Octubra No. 637, Lambayeque, Peru. Received 09/05/1985.

PI 585097. Ipomoea batatas (L.) Lam. var. batatas
C 16679; 127; Q 25746.

PI 585098. Ipomoea batatas (L.) Lam. var. batatas
C 16679; 131; Q 25749.
PI 585099. *Ipomoea batatas* (L.) Lam. *var. batatas*
C 16679; 133; Q 25751.

The following were donated by Dan Austin, Florida Atlantic University, Department of Biological Services, Boca Raton, Florida 33431, United States. Received 10/26/1987.

PI 585100. *Ipomoea batatas* (L.) Lam. *var. batatas*

The following were donated by H. H. Bryan, University of Florida, Tropical Research and Educational Center, 18905 S.W., 280th Street, Homestead, Florida 33031, United States. Received 02/11/1988.

PI 585101. *Ipomoea batatas* (L.) Lam. *var. batatas*
C 20169; BE-1674; Q 27175. Collected in Mexico.

The following were donated by D. Tay, Genetic Resources Unit, AVRDC, P.O. Box 42, Tainan, Taiwan. Received 05/10/1989.

PI 585102. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivated. BE-2335; CN 1517-139; Q 27797. Maturity early. Plants semi-prostrate. Roots pale red, 32% dry matter. Flesh yellow with pale orange. Texture moderately dry after cooking. Suitable for cool-dry (25 t/ha) or hot-wet season (25 t/ha).

The following were donated by Peter Beetham, ACIAR Sweet Potato Project, Burnley Gardens, Swan Street, Burnley, Australia. Received 10/07/1991.

PI 585103. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "ACC 307"; BE-3654; U31; Q 28743. Collected in Solomon Islands.

PI 585104. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "TIS 3017"; BE-3654; U8; Q 28720. Collected in Tonga.

PI 585105. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "L131"; BE-3654; U58; Q 28698. Collected in Papua New Guinea.

PI 585106. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "ACC 78"; BE-3654; U34; Q 28738. Collected in Solomon Islands.

PI 585107. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "L390"; BE-3654; U70; Q 28705. Collected in Papua New Guinea.

PI 585108. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "TAINUNG 68"; BE-3654; U136; Q 28752. Collected in Philippines.

PI 585109. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "TAPOTA"; BE-3654; U98; Q 28736. Collected in Puerto Rico.

PI 585110. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "PAPOTA"; BE-3654; U97; Q 28735. Collected in Puerto Rico.

PI 585111. *Ipomoea batatas* (L.) Lam. *var. batatas*
Cultivar. "MERIKAN"; BE-3654; U88; Q 28713. Collected in Papua New Guinea.
The following were collected by John Bamberg, USDA, ARS, Potato Introduction Station, Peninsula Experiment Station, Sturgeon Bay, Wisconsin 54235, United States. Received 1995.

PI 585112. Solanum fendleri A. Gray

PI 585113. Solanum fendleri A. Gray

PI 585114. Solanum fendleri A. Gray

PI 585115. Solanum fendleri A. Gray

PI 585116. Solanum jamesii Torrey

PI 585117. Solanum jamesii Torrey

PI 585118. Solanum jamesii Torrey

PI 585119. Solanum jamesii Torrey

The following were donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.


PI 585127. Hibiscus fryxellii var. mollis Craven & F. D. Wilson Wild. A84-1348; JMS 159. Collected in Western Australia, Australia. Latitude 14 deg. 5' S. Longitude 126 deg. 57' E. Kimberley.

PI 585128. Hibiscus fryxellii var. mollis Craven & F. D. Wilson Wild. A86-1394; CPS-41. Collected in Western Australia, Australia. 5km WNW of Kimbolton Station (Yampi Peninsula), Trent River Tract.


Latitude 14 deg. 41' S. Longitude 125 deg. 19' E. Northern Kimberleys, ca. 20km SE of Bigge Island and S of Montague Sound.

PI 585132. Hibiscus fryxellii Mabb. var. fryxellii
Wild. A86-1398; CFS-63. Collected in Western Australia, Australia. Latitude 15 deg. 1' S. Longitude 125 deg. 12' E. Peninsula NE of Frederick Harbor at mouth of Hunter River.

The following were collected by Margaret Y. Menzel, Florida State University, Gainesville, Florida 32611, United States. Donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.

PI 585133. Hibiscus diversifolius Jacq.

PI 585134. Hibiscus diversifolius Jacq.
Wild. A82-1305; MYM 82-8. Collected 07/21/1982 in New South Wales, Australia. 10km S of Ballina, W side of Pacific Hwy.

The following were donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.

PI 585135. Hibiscus minutibracteolus F. D. Wilson

PI 585136. Hibiscus zonatus F. Muell.
Wild. A84-1369; 1379. Collected 03/31/1984 in Northern Territory, Australia. Latitude 12 deg. 48' S. Longitude 133 deg. 21' E. Headwaters of East Alligator River, Amhem Land.

PI 585137. Hibiscus amoenus Link & Otto
Wild. A84-1372. Collected in Uruguay. Rio Yaguaron drainage. This species is not in section Furcaria.

PI 585138. Hibiscus surattensis L.

PI 585139. Hibiscus acetosella Welw. ex Hiern

PI 585140. Hibiscus marenitensis Craven & F. D. Wilson

PI 585141. Hibiscus stewartii Craven & F. D. Wilson

PI 585142. Hibiscus orarius Craven & F. D. Wilson
Wild. A86-1392; CPS-87. Collected 06/14/1986 in Western Australia, Australia. Latitude 14 deg. 11' S. Longitude 126 deg. 10' E. East shore of Admiralty Gulf, bottom of Bouganville Peninsula.

PI 585143. Hibiscus bacalusius Craven & F. D. Wilson
Wild. A86-1393; CPS-105; 79E1212. Collected 06/1986 in Western Australia, Australia. Latitude 13 deg. 50' S. Longitude 130 deg. 54' E.
Candy Rock Range, ca. 23km ESE of Daly River Police Station.

PI 585144. Hibiscus furcellatus Desr.

PI 585145. Hibiscus furcellatus Desr.
Cultivated. A91-1411; 80S107. Collected in Hawaii, United States.

PI 585146. Abelmoschus moschatus Medikus

PI 585147. Hibiscus diversifolius Jacq.

PI 585148. Hibiscus diversifolius Jacq.

PI 585149. Hibiscus meraukensis Hochr.

PI 585150. Hibiscus menzeliae F. D. Wilson & Byrnes

PI 585151. Hibiscus arnhemensis F. D. Wilson

PI 585152. Hibiscus byrnesii F. D. Wilson

PI 585153. Hibiscus fryxellii Mabb. var. fryxellii

PI 585154. Hibiscus mastersianus Hiern
Wild. A75-1172; 69123. Collected 04/01/1969 in Zambia. 6 miles E of Lusaka-Broken Hill road (Great North Road), 25 miles N of Lusaka.

The following were collected by Q. Jones, USDA-ARS, Plant Industry Station, New Crops Research Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.

PI 585155. Hibiscus nigricaulis Baker f.

The following were collected by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 1965.

PI 585156. Hibiscus furcellatus Desr.
The following were donated by USDA, ARS, Florida Agr. Exp. Station, Florida, United States. Received 1965.

**PI 585157. Hibiscus furcellatus Desr.**

The following were collected by G.C. Van den Bergh, Barranquilla, Atlantico, Colombia. Donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 1965.

**PI 585158. Hibiscus furcellatus Desr.**

The following were donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.

**PI 585159. Hibiscus radiatus Cav.**
Cultivated. S60m39.

**PI 585160. Hibiscus radiatus Cav.**
Cultivated. S55m15.

The following were collected by Q. Jones, USDA-ARS, Plant Industry Station, New Crops Research Branch, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.

**PI 585161. Hibiscus diversifolius Jacq.**

**PI 585162. Hibiscus acetosella Welw. ex Hiern**

**PI 585163. Hibiscus diversifolius Jacq.**

**PI 585164. Hibiscus diversifolius Jacq.**

**PI 585165. Hibiscus asper Hook. f.**

**PI 585166. Hibiscus mastersianus Hiern**

**PI 585167. Hibiscus greenwayi Baker f.**
Hills, near Bura, about 23 miles SW of Voi, Voi District.

The following were donated by F. Douglas Wilson, USDA, ARS, Western Cotton Research Laboratory, 4135 East Broadway Road, Phoenix, Arizona 85040, United States. Received 01/24/1995.

**PI 585168. Hibiscus asper** Hook. f.

The following were collected by Central Transcaucasian Agric. Plant Breeding & Exp. Station, Gandja, Azerbaijan. Received 05/1927.

**PI 585169. Triticum aestivum** L., nom. cons.
Cultivated. 2633; NSGC 5547. Collected in Azerbaijan. Separation of species from original PI 73316.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 06/1948.

**PI 585170. Triticum aestivum** L., nom. cons.
Landrace. BUGDAY; 151; NSGC 5548. Collected 03/1948 in Ankara, Turkey. Ayas. Separation of species from original PI 165076.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States; V. Taysi, Agricultural Institute, Ankara, Turkey. Received 06/16/1948.

**PI 585171. Triticum aestivum** L., nom. cons.
Landrace. 820; SERT SARI; NSGC 5549. Collected in Konya, Turkey. Aksehir. 'Sert Sari' in Turkish means 'hard, yellow'. Separation of species from original PI 165195.

**PI 585172. Triticum aestivum** L., nom. cons.
Landrace. 1063; SERT; NSGC 5550. Collected in Canakkale, Turkey. Gelibolu. 'Sert' in Turkish means 'hard'. Separation of species from original PI 166650.

**PI 585173. Triticum aestivum** L., nom. cons.
Landrace. 1125; SARI; NSGC 5551. Collected in Burdur, Turkey. 'Tefenni. 'Sari' in Turkish means 'pale, yellow'. Separation of species from original PI 166712.

**PI 585174. Triticum aestivum** L., nom. cons.

**PI 585175. Triticum aestivum** L., nom. cons.
Landrace. 1252; KIRMUZ YAZLIK; NSGC 5553. Collected in Turkey. 'Yazlik' in Turkish means 'suitable for use in summer'. Separation of species from original PI 166839.

**PI 585176. Triticum durum** Desf.
Landrace. 1266; YUMUSAK; NSGC 5554. Collected in Amasya, Turkey. 'Yumusak' in Turkish means 'soft'. Separation of species from original PI 166853.
Landrace. 1342; UVEYIK; NSGC 5555. Collected in Turkey. Separation of species from original PI 166929.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 09/1948.

Landrace. 2644a; NSGC 5556. Collected 06/1948 in Edirne, Turkey. Edirne. Separation of species from original PI 167545.

Landrace. 3068; NSGC 5557. Collected 06/1948 in Canakkale, Turkey. Canakkale. Separation of species from original PI 167588.

Landrace. 8739; TOPIK; NSGC 5558. Collected 09/1948 in Elazig, Turkey. Ciftlik. Separation of species from original PI 178026.

Landrace. 5362; AKBASAK; NSGC 5559. Collected 09/1948 in Istanbul, Turkey. Silivri. 'Akbasak' is Turkish for 'white ear'. Separation of species from original PI 178078.


Landrace. 2532; NSGC 5562. Collected 06/1948 in Edirne, Turkey. South of Meric. Separation of species from original PI 182402.

The following were collected by National Institute of Genetics, Misimi, Japan. Received 02/04/1958.


The following were collected by D.E. Symon, Adelaide University, Waite Agricultural Institute, Adelaide, South Australia, Australia. Received 04/25/1960.


Landrace. 904; NSGC 5565. Collected 1956 in Bosnia and Herzegovina. Kavst Mountains, 2 km from Ljubuski. Separation of species from original PI 265009.

Landrace. 905; NSGC 5566. Collected 1956 in Bosnia and Herzegovina. Kavst Mountains, 2 km from Ljubuski. Separation of species from original PI 265010.
PI 585189. Triticum aestivum L., nom. cons.
Landrace. 910; NSGC 5567. Collected 1956 in Bosnia and Herzegovina. Red soils near Vrgorac, 16 km from Ljubuski. Separation of species from original PI 265011.

The following were collected by J.G. Dickson, Bureau of Plant Industry - USDA, University of Wisconsin, Madison, Wisconsin, United States. Received 10/1931.

PI 585190. Triticum durum Desf.
Landrace. 21938; 444; NSGC 5576. Collected in Turkey. Separation of species from original PI 94588.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 03/30/1949.

PI 585191. Triticum durum Desf.

PI 585192. Triticum durum Desf.

The following were collected by Department of Agriculture, Ankara, Turkey. Received 12/15/1953.

PI 585193. Triticum aestivum L., nom. cons.
Cultivated. 1449-1; NSGC 5579. Collected in Turkey. Separation of species from original PI 211703.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 04/07/1961.

PI 585194. Triticum turgidum L.

The following were collected by M. Jankovic, Institute for Small Grains, Kragujevac, Serbia, Yugoslavia. Received 05/01/1972.

PI 585195. Triticum durum Desf.

The following were collected by Institute of Agricultural Research, Addis Ababa, Ethiopia. Received 04/23/1974.

PI 585196. Triticum dicoccum Schrank
Landrace. IAR/W/180-4; NSGC 5582. Collected in Ethiopia. Separation of species from original PI 387722.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United
States; V. Taysi, Agricultural Institute, Ankara, Turkey. Received 06/16/1948.

PI 585197. Triticum aestivum L., nom. cons.
Landrace. 827; KARAKILCIK; NSGC 5583. Collected in Konya, Turkey. Seydisehiri. 'Karakilcik' in Turkish means 'black-awned'. Separation of species from original PI 165202.

The following were collected by J.R. Harlan, USDA-ARS, Plant Industry Station, Crops Research Division, Beltsville, Maryland 20705-2350, United States. Received 03/1949.

PI 585198. Triticum aestivum L., nom. cons.

The following were collected by L. Guarino, International Plant Genetic Resources Institute, Rome, Italy. Received 09/18/1992.

PI 585199. Triticum durum Desf.
Cultivated. 15005; NSGC 1356. Collected in Saudi Arabia.

PI 585200. Triticum aestivum L., nom. cons.
Cultivated. 15005; NSGC 5568. Collected in Saudi Arabia.

PI 585201. Triticum durum Desf.
Cultivated. 15006; NSGC 1357. Collected in Saudi Arabia.

Cultivated. 15006; NSGC 5569. Collected in Saudi Arabia.

PI 585203. Triticum durum Desf.
Cultivated. 15008; NSGC 1359. Collected in Saudi Arabia.

PI 585204. Triticum aestivum L., nom. cons.
Cultivated. 15008; NSGC 5570. Collected in Saudi Arabia.

PI 585205. Triticum durum Desf.
Cultivated. 15016; NSGC 1360. Collected in Saudi Arabia.

PI 585206. Triticum aestivum L., nom. cons.
Cultivated. 15016; NSGC 5571. Collected in Saudi Arabia.

PI 585207. Triticum durum Desf.
Cultivated. 15025; NSGC 1362. Collected in Saudi Arabia.

PI 585208. Triticum aestivum L., nom. cons.
Cultivated. 15025; NSGC 5572. Collected in Saudi Arabia.

PI 585209. Triticum aestivum L., nom. cons.
Cultivated. 1075; NSGC 1382. Collected 1988 in Yemen. PDR South Yemen.

PI 585210. Triticum durum Desf.
Cultivated. 1075; NSGC 5573. Collected 1988 in Yemen. PDR South Yemen.

PI 585211. Triticum aestivum L., nom. cons.
Cultivated. 1076; NSGC 1383. Collected 1988 in Yemen. PDR South Yemen.

PI 585212. Triticum durum Desf.
Cultivated. 1076; NSGC 5574. Collected 1988 in Yemen. PDR South Yemen.

PI 585213. Triticum aestivum L., nom. cons.
Cultivated. 1113; NSGC 1385. Collected 1988 in Yemen. PDR South Yemen.

PI 585214. *Triticum durum* Desf.

The following were developed by All Star Farms, United States. Received 01/31/1995.

PI 585215. *Festuca arundinacea* Schreber
Cultivar. "VERANDA". PVP 9500048.

The following were developed by Holland-Select B.V., Netherlands. Received 01/31/1995.

PI 585216. *Phaseolus vulgaris* L.
Cultivar. "NELSON". PVP 9500049.

PI 585217. *Phaseolus vulgaris* L.
Cultivar. "VEGAS". PVP 9500050.

The following were developed by Coastal Seeds, Inc., United States. Received 01/31/1995.

PI 585218. *Lactuca sativa* L.
Cultivar. "DIAMOND". PVP 9500051.

PI 585219. *Lactuca sativa* L.
Cultivar. "COASTAL GREEN". PVP 9500052.

The following were developed by Rogers Seed Company, United States. Received 01/31/1995.

PI 585220. *Capsicum annuum* L.
Cultivar. 6047A. PVP 9500053.

The following were developed by Ampac Seed Company, United States. Received 01/31/1995.

PI 585221. *Lolium perenne* L.
Cultivar. "NOBILITY". PVP 9500054.

The following were developed by United Genetics Seeds Company, United States. Received 01/31/1995.

PI 585222. *Citrullus lanatus* (Thunb.) Matsum. & Nakai
Cultivar. "FERRARI". PVP 9500055.

The following were developed by Holden's Foundation Seeds, Inc., United States. Received 01/31/1995.

PI 585223. *Zea mays* L. ssp. *mays*
Cultivar. "LH176". PVP 9500056.

PI 585224. *Zea mays* L. ssp. *mays*
Cultivar. "LH188". PVP 9500057.

PI 585225. *Zea mays* L. ssp. *mays*
Cultivar. "LH189". PVP 9500058.

PI 585226. Zea mays L. ssp. mays
   Cultivar. "LH231". PVP 9500059.

PI 585227. Zea mays L. ssp. mays
   Cultivar. "LH252". PVP 9500060.

PI 585228. Zea mays L. ssp. mays
   Cultivar. "LH260". PVP 9500061.

The following were developed by Enza Zaden De Enkhuizer Zaadhandel B.V., Netherlands. Received 01/31/1995.

PI 585229. Lactuca sativa L.
   Cultivar. "ESCORT". PVP 9500065.

The following were developed by Larry Eckler, 1879 Barron Lake Road, Niles, Michigan 49120-9358, United States. Received 01/31/1995.

PI 585230. Zea mays L. ssp. mays

The following were developed by Cebeco Zaden B.V., Netherlands. Received 01/31/1995.

PI 585231. Triticum aestivum L., nom. cons.
   Cultivar. "ESTICA". PVP 9500068.

The following were developed by Sunderman Breeding, Inc., United States. Received 01/31/1995.

PI 585232. Triticum aestivum L., nom. cons.
   Cultivar. "SUNSTAR PROMISE". PVP 9500069.

PI 585233. Hordeum vulgare L.

PI 585234. Hordeum vulgare L.
   Cultivar. "SUNSTAR PRINCE". PVP 9500071. Six row spring barley.

The following were developed by Terra International, Inc., United States. Received 01/31/1995.

PI 585235. Gossypium hirsutum L.
   Cultivar. "TERRA 302". PVP 9500072.

PI 585236. Gossypium hirsutum L.
   Cultivar. "TERRA 366". PVP 9500073.

The following were developed by Ferry-Morse Seed Company, United States. Received 01/31/1995.

PI 585237. Phaseolus vulgaris L.
   Cultivar. "DAYTONA". PVP 9500076.

The following were donated by J. Estrella E., INIAP, Plant Genetic Resources.
PI 585238. Capsicum annuum L.
Ecu 2255; Grif 11884. Collected in Loja, Ecuador. Latitude 4 deg. 13' S. Longitude 79 deg. 26' W. Elevation 1700 m. Gonzanama.

The following were donated by J. Estsella E., INIAP, Plant Genetic Resources Department, Casilla Postal 340, Quito, Ecuador. Received 01/04/1993.

PI 585239. Capsicum baccatum L.
Ecu 2231; Grif 11885. Collected in Cotopaxi, Ecuador. Latitude 0 deg. 55' S. Longitude 79 deg. 36' W. Elevation 2600 m. Salcedo. Alimentacion.

PI 585240. Capsicum baccatum L.
Ecu 2232; Grif 11886. Collected in Chimborazo, Ecuador. Latitude 1 deg. 55' S. Longitude 78 deg. 42' W. Elevation 3063 m. Guamote.

PI 585241. Capsicum baccatum L.
Ecu 2233; Grif 11887. Collected in Chimborazo, Ecuador. Latitude 1 deg. 55' S. Longitude 78 deg. 42' W. Elevation 3063 m. Guamote.

PI 585242. Capsicum baccatum L.
Ecu 2236; Grif 11888. Collected in Tungurahua, Ecuador. Latitude 1 deg. 18' S. Longitude 78 deg. 30' W. Elevation 2200 m. Patate.

PI 585243. Capsicum baccatum L.
Ecu 2242; Grif 11889. Collected in Chimborazo, Ecuador. Latitude 1 deg. 33' S. Longitude 78 deg. 31' W. Elevation 2460 m. Penipe. Alimentacion.

PI 585244. Capsicum baccatum L.

PI 585245. Capsicum baccatum L.
Ecu 2253; Grif 11891. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 410 m. Arenillas.

PI 585246. Capsicum baccatum L.
Ecu 2254; Grif 11892. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 410 m. Arenillas.

PI 585247. Capsicum baccatum L.
Ecu 2257; Grif 11893. Collected in Pichincha, Ecuador. Latitude 0 deg. 4' N. Longitude 78 deg. 23' W. Elevation 1338 m. Quito.

PI 585248. Capsicum baccatum L.
Ecu 2268; Grif 11894. Collected in Azuay, Ecuador. Latitude 3 deg. 18' S. Longitude 78 deg. 51' W. Elevation 3000 m. Sigsig. Alimentacion.

PI 585249. Capsicum baccatum L.
Ecu 2269; Grif 11895. Collected in Loja, Ecuador. Latitude 3 deg. 30' S. Longitude 79 deg. 22' W. Elevation 2680 m. Saraguro.

PI 585250. Capsicum baccatum L.
Ecu 3834; Grif 11896. Frutos color rojo intenso.

PI 585251. Capsicum chinense Jacq.
Ecu 2239; Grif 11897. Collected in Manabi, Ecuador. Latitude 1 deg. 10' S. Longitude 80 deg. 17' W. Elevation 100 m. Santa Ana.

PI 585252. Capsicum chinense Jacq.
Ecu 2240; Grif 11898. Collected in Manabi, Ecuador. Latitude 1 deg. 28'
S. Longitude 80 deg. 45' W. Elevation 20 m. Jipijapa.

PI 585253. *Capsicum chinense* Jacq.
Ecu 2241; Grif 11899. Collected in Manabi, Ecuador. Latitude 1 deg. 10' S. Longitude 80 deg. 45' W. Elevation 90 m. Santa Ana.

PI 585254. *Capsicum frutescens* L.
Ecu 2237; Grif 11900. Collected in Manabi, Ecuador. Latitude 1 deg. 10' S. Longitude 80 deg. 17' W. Elevation 100 m. Santa Ana.

PI 585255. *Capsicum frutescens* L.
Ecu 2247; Grif 11901. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 410 m. Arenillas. Alimentacion.

PI 585256. *Capsicum frutescens* L.
Ecu 2251; Grif 11902. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 410 m. Arenillas.

PI 585257. *Capsicum frutescens* L.
Ecu 2259; Grif 11903. Collected in Loja, Ecuador. Latitude 4 deg. 24' S. Longitude 79 deg. 28' W. Elevation 1200 m. Calvas.

PI 585258. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2230; Grif 11904. Collected in Cotopaxi, Ecuador. Latitude 0 deg. 55' S. Longitude 79 deg. 36' W. Elevation 2760 m. Latacunga. Possible parthenogenesis.

PI 585259. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2244; Grif 11905. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 420 m. Arenillas.

PI 585260. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2245; Grif 11906. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 420 m. Arenillas.

PI 585261. *Capsicum pubescens* Ruiz Lopez & Pavon

PI 585262. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2252; Grif 11908. Collected in Loja, Ecuador. Latitude 4 deg. 13' S. Longitude 79 deg. 25' W. Elevation 2045 m. Gonzanama.

PI 585263. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2258; Grif 11909. Collected in Loja, Ecuador. Latitude 4 deg. 24' S. Longitude 78 deg. 28' W. Elevation 1200 m. Loja.

PI 585264. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2260; Grif 11910. Collected in Azuay, Ecuador. Latitude 3 deg. 4' S. Longitude 78 deg. 47' W. Elevation 2610 m. Sigisig.

PI 585265. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2262; Grif 11911. Collected in Imbabura, Ecuador. Latitude 0 deg. 10' N. Longitude 78 deg. 12' W. Elevation 2780 m. Otavalo. Alimentacion.

PI 585266. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2263; Grif 11912. Collected in Ecuador. Desconocido.

PI 585267. *Capsicum pubescens* Ruiz Lopez & Pavon
Ecu 2264; Grif 11913. Collected in Azuay, Ecuador. Latitude 3 deg. 27' S. Longitude 79 deg. 9' W. Elevation 2372 m. Oea.

PI 585268. *Capsicum pubescens* Ruiz Lopez & Pavon
PI 585269. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 2265; Grif 11914. Collected in Loja, Ecuador. Latitude 4 deg. 24' S. Longitude 79 deg. 28' W. Elevation 2500 m. Saraguro.

PI 585270. *Capsicum pubescens* Ruiz Lopez & Pavon  

PI 585271. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 2267; Grif 11916. Collected in Loja, Ecuador. Latitude 4 deg. 24' S. Longitude 79 deg. 28' W. Elevation 2500 m. Saraguro. Alimentacion.

PI 585272. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 2268; Grif 11917. Collected in Loja, Ecuador. Latitude 3 deg. 34' S. Longitude 79 deg. 18' W. Elevation 2620 m. Saraguro. Alimentacion.

PI 585273. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 2269; Grif 11918. Collected in Loja, Ecuador. Latitude 3 deg. 36' S. Longitude 79 deg. 11' W. Elevation 2640 m. Saraguro. Alimentacion.

PI 585274. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 2270; Grif 11919. Collected in Carchi, Ecuador. Latitude 0 deg. 34' N. Longitude 79 deg. 48' W. Elevation 2740 m. Montufar. Alimentacion.

PI 585275. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 6220; Grif 11920. Collected in Napo, Ecuador. Elevation 2400 m. Quijos.

PI 585276. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 6221; Grif 11921. Collected in Napo, Ecuador. Elevation 2400 m. Quijos.

PI 585277. *Capsicum pubescens* Ruiz Lopez & Pavon  
Ecu 6222; Grif 11922. Collected in Napo, Ecuador. Elevation 2260 m. Quijos.

PI 585278. *Capsicum chinense* Jacq.  
Ecu 2256; Grif 11923. Collected in Galapagos Islands, Ecuador. Latitude 0 deg. 58' S. Longitude 91 deg. 0' W. Elevation 5 m. Isabela.

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 02/03/1995.

PI 585279. *Sorghum bicolor* (L.) Moench  
Breeding. Inbred. Tx2908; R8503. GP-384. Pedigree - (SC599 6* Tx430) 2-6-2-BK-1-4-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 60. Plant height 91cm. Epicarp color red. Endosperm type yellow. Plant color purple. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserohilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut (Sphacelotheca reiliana).

PI 585280. *Sorghum bicolor* (L.) Moench  
resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut Sphacelotheca reiliana).

PI 585281. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2893; R8510. GP-386. Pedigree -(Tx2816*Tx430)-1-4-2-2-5-2-2-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 63. Plant height 91cm. Epicarp color white. Endosperm type normal. Plant color tan. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut Sphacelotheca reiliana.

PI 585282. Sorghum bicolor (L.) Moench

PI 585283. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2895; 84C7730. GP-388. Pedigree -(Tx430*Tx2816)-1-1-5-3-1-1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 66. Plant height 91cm. Epicarp color red. Endosperm type normal. Plant color purple. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut Sphacelotheca reiliana.

PI 585284. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2896; R8903. GP-389. Pedigree - ((SC120 6*Tx7000)*Tx7000)-10-2-6-2-CBK*Tx433)-1-C2-C1-C1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 60. Plant height 91cm. Epicarp color red. Endosperm type normal. Plant color purple. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut Sphacelotheca reiliana.

PI 585285. Sorghum bicolor (L.) Moench

PI 585286. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2898; R8905. GP-391. Pedigree - ((Tx430*Tx2816)-1-5-3-1*SC326-6)-1-C1-C2-C1-C3-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 66. Plant height 86cm. Epicarp color white. Endosperm type normal. Plant color purple. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora
sorghii) except pathotype 3, and tolerant to head smut (Sphacelotheca reiliana).

PI 585287. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2899; R9922. GP-392. Pedigree - (((SC120 6*Tx7000)*Tx7000)-10-4-6-1-1-1*(SC326 6*SC103-12)) CF2-C1-C7-C1-CBK.
Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 64. Plant height 86 cm. Epicarp color red. Endosperm type normal. Plant color tan. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut (Sphacelotheca reiliana).

PI 585288. Sorghum bicolor (L.) Moench

PI 585289. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2901; R9021. GP-394. Pedigree - ((TAM428*77CS3)-1-1-4-3-2-2-1-4-Tx433)-CF2-B4-B1-B1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 63. Plant height 84 cm. Epicarp color red. Endosperm type normal. Plant color tan. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut (Sphacelotheca reiliana).

PI 585290. Sorghum bicolor (L.) Moench

PI 585291. Sorghum bicolor (L.) Moench
Breeding. Inbred. Tx2903; R9030. GP-396. Pedigree - ((SC120 6*Tx7000)*Tx7000)-10-2-6-2-CBKTx433) -F2-B13-B1-B1-B3-B3-CBK.
Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 60. Plant height 86 cm. Epicarp color red. Endosperm type normal. Plant color tan. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut (Sphacelotheca reiliana).

PI 585292. Sorghum bicolor (L.) Moench
Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype 3, and tolerant to head smut (Sphacelotheca reiliana).

**PI 585293. Sorghum bicolor (L.) Moench**  

**PI 585294. Sorghum bicolor (L.) Moench**  
Breeding. Inbred. Tx2906; TMTx430. GP-399. Pedigree - (Tall mutation Dw2Dw3 in Tx430)-1-1-1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 2-dwarf dw, Dw2 Dw3 dw4. Days to 50% anthesis 64. Plant height 178cm. Epicarp color white. Endosperm type yellow. Plant color purple with pseudo brown midrib. Resistant to anthracnose (Colletotrichum graminicola). Contain resistances to Fusarium spp. head blight, rust (Puccinia purpurea), leaf blight (Exserobilum turcicum), downy mildew (Sclerospora sorghi) except pathotype-3, and tolerant to head smut (Sphacelotheca reiliana).

**PI 585295. Sorghum bicolor (L.) Moench**  
Breeding. Inbred. Tx2907. PL-253. Pedigree - (Tx435*R3338wx)-C1-C1-T3-CBK. Genetically 3-dwarf (dw1Dw2Dw3Dw4) approximately equal to RTx435 in height. Panicle semi-open with erect rachis branches at maturity. Genotype of RyyiiZZBlB1b2b2wxwx for caryopsis traits. Caryopoes round to slightly elliptical and glumes cover approx. 1/3 of caryopsis. Glumes straw color, florets awnless, and sessile spikelets normally neuter. Plant color tan (ppOO) and midrib juicy. Approx. 3 to 5 days earlier than RTx430. Restores fertility to A1 cytoplasmic-genetic male-sterility, restoration of A2 and A3 systems is not known. Developed to provide white grain with waxy endosperm on a tan plant color for use in the food industry.

The following were donated by Ken Kofoed, Kansas State University, Fort Hays Experiment Station, 1232 240th Avenue, Hays, Kansas 67601-9228, United States. Received 08/1993.

**PI 585296. Sorghum bicolor (L.) Moench**  
Grif 7817; IS 24373; CS 1010. Collected in India.

**PI 585297. Sorghum bicolor (L.) Moench**  
Grif 7818; IS 24374; SAR 2035. Collected in Uttar Pradesh, India. Moth.

**PI 585298. Sorghum bicolor (L.) Moench**  
Grif 7819; IS 24375; SAR 2064. Collected in Uttar Pradesh, India. Navshahara.

**PI 585299. Sorghum bicolor (L.) Moench**  
Grif 7820; IS 24377; SAR 2066. Collected in Uttar Pradesh, India. Navshahara.

**PI 585300. Sorghum bicolor (L.) Moench**  
Grif 7821; IS 24378; SAR 2067. Collected in Uttar Pradesh, India. Navshahara.

**PI 585301. Sorghum bicolor (L.) Moench**  
Grif 7822; IS 24379; SAR 2070. Collected in Uttar Pradesh, India.
PI 585302. Sorghum bicolor (L.) Moench  
Grif 7823; IS 24382; SAR 2083. Collected in Uttar Pradesh, India. Agra.

PI 585303. Sorghum bicolor (L.) Moench  
Grif 7824; IS 24386; SAR 2131. Collected in Uttar Pradesh, India. Nagola.

PI 585304. Sorghum bicolor (L.) Moench  
Grif 7825; IS 24388; SAR 2134. Collected in Uttar Pradesh, India. Nagola.

PI 585305. Sorghum bicolor (L.) Moench  
Grif 7826; IS 24389; SAR 2147. Collected in Uttar Pradesh, India. Khudadiya.

PI 585306. Sorghum bicolor (L.) Moench  
Grif 7827; IS 24390; SAR 2149. Collected in Uttar Pradesh, India. Khudadiya.

PI 585307. Sorghum bicolor (L.) Moench  
Grif 7828; IS 24393; SAR 2154. Collected in Uttar Pradesh, India. Halpura.

PI 585308. Sorghum bicolor (L.) Moench  
Grif 7829; IS 24394; SAR 2155. Collected in Uttar Pradesh, India. Halpura.

PI 585309. Sorghum bicolor (L.) Moench  
Grif 7830; IS 24395; SAR 2156. Collected in Uttar Pradesh, India. Halpura.

PI 585310. Sorghum bicolor (L.) Moench  
Grif 7831; IS 24396; SAR 2159. Collected in Uttar Pradesh, India. Gulaothi.

PI 585311. Sorghum bicolor (L.) Moench  
Grif 7832; IS 24397; SAR 2160. Collected in Uttar Pradesh, India. Gulaothi.

PI 585312. Sorghum bicolor (L.) Moench  
Grif 7833; IS 24400; SAR 2168. Collected in Uttar Pradesh, India. Hapur.

PI 585313. Sorghum bicolor (L.) Moench  
Grif 7834; IS 24401; SAR 2173. Collected in Uttar Pradesh, India. Karkouda.

PI 585314. Sorghum bicolor (L.) Moench  
Grif 7835; IS 24402; SAR 2174. Collected in Uttar Pradesh, India. Karkouda.

PI 585315. Sorghum bicolor (L.) Moench  
Grif 7836; IS 24403; SAR 2175. Collected in Uttar Pradesh, India. Karkouda.

PI 585316. Sorghum bicolor (L.) Moench  
Grif 7837; IS 24407; SAR 2201. Collected in Uttar Pradesh, India. Brijghat.

PI 585317. Sorghum bicolor (L.) Moench  
Grif 7838; IS 24408; SAR 2203. Collected in Uttar Pradesh, India. Brijghat.
PI 585318. *Sorghum bicolor* (L.) Moench
Grif 7839; IS 24419; SAR 2442. Collected in Uttar Pradesh, India. Ramapur.

PI 585319. *Sorghum bicolor* (L.) Moench
Grif 7840; IS 24421; SAR 2527. Collected in Uttar Pradesh, India. Narayanpur.

PI 585320. *Sorghum bicolor* (L.) Moench
Grif 7841; IS 24423; SAR 2529. Collected in Uttar Pradesh, India. Narayanpur.

PI 585321. *Sorghum bicolor* (L.) Moench
Grif 7842; IS 24424; SAR 2530. Collected in Uttar Pradesh, India. Raffoochakvayan.

PI 585322. *Sorghum bicolor* (L.) Moench
Grif 7843; IS 24426; SAR 2533. Collected in Uttar Pradesh, India. Chakali Ballia.

PI 585323. *Sorghum bicolor* (L.) Moench
Grif 7844; IS 24428; SAR 2535. Collected in Uttar Pradesh, India. Sahevdi.

PI 585324. *Sorghum bicolor* (L.) Moench
Grif 7845; IS 24431; SAR 2548. Collected in Uttar Pradesh, India. Pasamohammadpu.

PI 585325. *Sorghum bicolor* (L.) Moench
Grif 7846; IS 24432; SAR 2549. Collected in Uttar Pradesh, India. Pasamohammadpu.

PI 585326. *Sorghum bicolor* (L.) Moench
Grif 7847; IS 24433; SAR 2550. Collected in Uttar Pradesh, India. Pasamohammadpu.

PI 585327. *Sorghum bicolor* (L.) Moench
Grif 7848; IS 24434; SAR 2555. Collected in Uttar Pradesh, India. Bhatia.

PI 585328. *Sorghum bicolor* (L.) Moench
Grif 7849; IS 24435; SAR 2583. Collected in Uttar Pradesh, India. Dramanganj.

PI 585329. *Sorghum bicolor* (L.) Moench
GYONGY; Grif 7850; IS 24439. Collected in Hungary.

PI 585330. *Sorghum bicolor* (L.) Moench
HYBAR 292; Grif 7851; IS 24441. Collected in Hungary.

PI 585331. *Sorghum bicolor* (L.) Moench
Grif 7852; IS 24442; 72/12. Collected in South Africa.

PI 585332. *Sorghum bicolor* (L.) Moench
Grif 7853; IS 24443; 73/180. Collected in South Africa.

PI 585333. *Sorghum bicolor* (L.) Moench
Grif 7854; IS 24445; 73/182. Collected in South Africa.

PI 585334. *Sorghum bicolor* (L.) Moench
Grif 7855; IS 24448; 65114. Collected in South Africa.

PI 585335. *Sorghum bicolor* (L.) Moench
Grif 7856; IS 24449; 65128. Collected in South Africa.

PI 585336. Sorghum bicolor (L.) Moench
Grif 7857; IS 24451; 65306. Collected in South Africa.

PI 585337. Sorghum bicolor (L.) Moench
Grif 7858; IS 24452; 65648. Collected in South Africa.

PI 585338. Sorghum bicolor (L.) Moench
Grif 7859; IS 24455; 67312. Collected in South Africa.

PI 585339. Sorghum bicolor (L.) Moench
Grif 7860; IS 24456; 67313. Collected in South Africa.

PI 585340. Sorghum bicolor (L.) Moench
Grif 7861; IS 24458; 66498. Collected in South Africa.

PI 585341. Sorghum bicolor (L.) Moench
Grif 7862; IS 24460; 67376. Collected in South Africa.

PI 585342. Sorghum bicolor (L.) Moench
Grif 7863; IS 24472; 69722. Collected in South Africa.

PI 585343. Sorghum bicolor (L.) Moench
Grif 7864; IS 24473; 69723. Collected in South Africa.

PI 585344. Sorghum bicolor (L.) Moench
Grif 7865; IS 24501; 70734. Collected in South Africa.

PI 585345. Sorghum bicolor (L.) Moench
Grif 7866; IS 24511; 1/38. Collected in Lebanon.

PI 585346. Sorghum bicolor (L.) Moench
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PI 585347. Sorghum bicolor (L.) Moench
Grif 7868; IS 24518; 2/13. Collected in Lebanon.

PI 585348. Sorghum bicolor (L.) Moench
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PI 585349. Sorghum bicolor (L.) Moench
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Grif 7871; IS 24526; 2/100. Collected in Lebanon.

PI 585351. Sorghum bicolor (L.) Moench
Grif 7872; IS 24533; 3/91. Collected in Lebanon.

PI 585352. Sorghum bicolor (L.) Moench
Grif 7873; IS 24554; 6/22. Collected in Lebanon.

PI 585353. Sorghum bicolor (L.) Moench
Grif 7874; IS 24566; 7/14. Collected in Lebanon.

PI 585354. Sorghum bicolor (L.) Moench
Grif 7875; IS 24572; 7/62. Collected in Lebanon.

PI 585355. Sorghum bicolor (L.) Moench
Grif 7876; IS 24579; 8/75. Collected in Lebanon.

PI 585356. Sorghum bicolor (L.) Moench
Grif 7877; IS 24580; 8/76. Collected in Lebanon.
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Grif 7899; IS 24692; SPV 126M. Collected in Andhra Pradesh, India. Rajendranagar.

PI 585379. Sorghum bicolor (L.) Moench
Grif 7900; IS 24694; ET 1793. Collected in Ethiopia.

PI 585380. Sorghum bicolor (L.) Moench
FARA-FARA; Grif 7901; IS 24696; POD 1. Collected in Nigeria.

PI 585381. Sorghum bicolor (L.) Moench
FARA-FARA; Grif 7902; IS 24697; POD 2. Collected in Nigeria.

PI 585382. Sorghum bicolor (L.) Moench
FARA-FARA; Grif 7903; IS 24698; POD 3. Collected in Nigeria.

PI 585383. Sorghum bicolor (L.) Moench
FARA-FARA; Grif 7904; IS 24705; POD 16. Collected in Nigeria.

PI 585384. Sorghum bicolor (L.) Moench
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PI 585392. Sorghum bicolor (L.) Moench
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PI 585394. Sorghum bicolor (L.) Moench
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PI 585395. Sorghum bicolor (L.) Moench
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PI 585397. Sorghum bicolor (L.) Moench
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PI 585398. Sorghum bicolor (L.) Moench
FARA-FARA; Grif 7919; IS 24744; POD 60. Collected in Nigeria.
PI 585399. Sorghum bicolor (L.) Moench
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PI 585404. Sorghum bicolor (L.) Moench
KAURA; Grif 7925; IS 24790; POD 113. Collected in Nigeria.

PI 585405. Sorghum bicolor (L.) Moench
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PI 585406. Sorghum bicolor (L.) Moench
Grif 7927; IS 24800; POD 125. Collected in Nigeria.

PI 585407. Sorghum bicolor (L.) Moench
Grif 7928; IS 24801; POD 126. Collected in Nigeria.

PI 585408. Sorghum bicolor (L.) Moench
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PI 585409. Sorghum bicolor (L.) Moench
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PI 585410. Sorghum bicolor (L.) Moench
KAURA; Grif 7931; IS 24810; POD 136. Collected in Nigeria.

PI 585411. Sorghum bicolor (L.) Moench
Grif 7932; IS 24811; POD 138-1. Collected in Nigeria.

PI 585412. Sorghum bicolor (L.) Moench
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PI 585413. Sorghum bicolor (L.) Moench
Grif 7934; IS 24817; POD 142-2. Collected in Nigeria.

PI 585414. Sorghum bicolor (L.) Moench
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PI 585415. Sorghum bicolor (L.) Moench
Grif 7936; IS 24824; POD 149. Collected in Nigeria.

PI 585416. Sorghum bicolor (L.) Moench
Grif 7937; IS 24830; POD 155. Collected in Nigeria.

PI 585417. Sorghum bicolor (L.) Moench
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PI 585430. Sorghum bicolor (L.) Moench
Grif 7951; IS 24899; NO 1105. Collected in Zambia.

PI 585431. Sorghum bicolor (L.) Moench
Grif 7952; IS 24910; NO 1176. Collected in Zambia.

PI 585432. Sorghum bicolor (L.) Moench
Grif 7953; IS 24917; NO 1351. Collected in Zambia.

PI 585433. Sorghum bicolor (L.) Moench
Grif 7954; IS 24920; NO 1372. Collected in Zambia.

PI 585434. Sorghum bicolor (L.) Moench
Grif 7955; IS 24923; NO 1397. Collected in Zambia.

PI 585435. Sorghum bicolor (L.) Moench
Grif 7956; IS 24924; NO 1414. Collected in Zambia.

PI 585436. Sorghum bicolor (L.) Moench
Grif 7957; IS 24925; NO 1427. Collected in Zambia.

PI 585437. Sorghum bicolor (L.) Moench
Grif 7958; IS 24934; NO 1885. Collected in Zambia.

PI 585438. Sorghum bicolor (L.) Moench
Grif 7959; IS 24939; NO 2072. Collected in Zambia.

PI 585439. Sorghum bicolor (L.) Moench
Grif 7960; IS 24941; NO 2086. Collected in Zambia.

PI 585440. Sorghum bicolor (L.) Moench
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PI 585441. Sorghum bicolor (L.) Moench
Grif 7962; IS 24950; NO 2315. Collected in Zambia.
PI 585442. Sorghum bicolor (L.) Moench
Grif 7963; IS 24951; NO 2317. Collected in Zambia.

PI 585443. Sorghum bicolor (L.) Moench
Grif 7964; IS 24955; NO 2454. Collected in Zambia.

PI 585444. Sorghum bicolor (L.) Moench
Grif 7965; IS 24956; NO 2476. Collected in Zambia.

PI 585445. Sorghum bicolor (L.) Moench
Grif 7966; IS 24957; NO 2489. Collected in Zambia.

PI 585446. Sorghum bicolor (L.) Moench
Grif 7967; IS 24958; NO 2491. Collected in Zambia.

PI 585447. Sorghum bicolor (L.) Moench
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PI 585448. Sorghum bicolor (L.) Moench
Grif 7969; IS 25050; DSA 11. Collected in Ghana.

PI 585449. Sorghum bicolor (L.) Moench
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PI 585451. Sorghum bicolor (L.) Moench
Grif 7972; IS 25053; DSA 13. Collected in Ghana.

PI 585452. Sorghum bicolor (L.) Moench
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PI 585453. Sorghum bicolor (L.) Moench
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PI 585454. Sorghum bicolor (L.) Moench
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PI 585455. Sorghum bicolor (L.) Moench
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PI 585456. Sorghum bicolor (L.) Moench
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PI 585457. Sorghum bicolor (L.) Moench
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PI 585458. Sorghum bicolor (L.) Moench
Grif 7979; IS 25075; DSA 117. Collected in Ghana.

PI 585459. Sorghum bicolor (L.) Moench
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PI 585465. Sorghum bicolor (L.) Moench
Grif 7986; IS 25102; DSA 173. Collected in Ghana.

PI 585466. Sorghum bicolor (L.) Moench
Grif 7987; IS 25105; DSA 177. Collected in Ghana.

PI 585467. Sorghum bicolor (L.) Moench
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PI 585468. Sorghum bicolor (L.) Moench
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PI 585469. Sorghum bicolor (L.) Moench
Grif 7990; IS 25111; DSA 186-1-1. Collected in Ghana.

PI 585470. Sorghum bicolor (L.) Moench
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PI 585471. Sorghum bicolor (L.) Moench
Grif 7992; IS 25113; DSA 196. Collected in Ghana.

PI 585472. Sorghum bicolor (L.) Moench
Grif 7993; IS 25115; DSA 196-1-2. Collected in Ghana.

PI 585473. Sorghum bicolor (L.) Moench
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PI 585474. Sorghum bicolor (L.) Moench
Grif 7995; IS 25121; DSA 117. Collected in Ghana.

PI 585475. Sorghum bicolor (L.) Moench
Grif 7996; IS 25122; DSA 166. Collected in Ghana.

PI 585476. Sorghum bicolor (L.) Moench
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PI 585477. Sorghum bicolor (L.) Moench
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PI 585478. Sorghum bicolor (L.) Moench
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PI 585479. Sorghum bicolor (L.) Moench
Grif 8000; IS 25128; DSA 176. Collected in Ghana.

PI 585480. Sorghum bicolor (L.) Moench
Grif 8001; IS 25133; ACC 70002. Collected in Ethiopia.

PI 585481. Sorghum bicolor (L.) Moench
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PI 585482. Sorghum bicolor (L.) Moench
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PI 585483. Sorghum bicolor (L.) Moench
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PI 585484. Sorghum bicolor (L.) Moench
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PI 585485. Sorghum bicolor (L.) Moench
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PI 585489. Sorghum bicolor (L.) Moench
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PI 585492. Sorghum bicolor (L.) Moench
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PI 585494. Sorghum bicolor (L.) Moench
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PI 585496. Sorghum bicolor (L.) Moench
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PI 585499. Sorghum bicolor (L.) Moench
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PI 585500. Sorghum bicolor (L.) Moench
Grif 8021; IS 25183; ACC 70618. Collected in Ethiopia.

PI 585501. Sorghum bicolor (L.) Moench
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PI 585502. Sorghum bicolor (L.) Moench
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PI 585503. Sorghum bicolor (L.) Moench
Grif 8024; IS 25189; ACC 70660. Collected in Ethiopia.

PI 585504. Sorghum bicolor (L.) Moench
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PI 585505. Sorghum bicolor (L.) Moench
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PI 585506. Sorghum bicolor (L.) Moench
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PI 585507. Sorghum bicolor (L.) Moench
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PI 585513. Sorghum bicolor (L.) Moench
Grif 8034; IS 25212; ACC 71068. Collected in Ethiopia.

PI 585514. Sorghum bicolor (L.) Moench
Grif 8035; IS 25213; ACC 71072. Collected in Ethiopia.

PI 585515. Sorghum bicolor (L.) Moench
Grif 8036; IS 25218; ACC 71116. Collected in Ethiopia.

PI 585516. Sorghum bicolor (L.) Moench
Grif 8037; IS 25222; ACC 71131. Collected in Ethiopia.

PI 585517. Sorghum bicolor (L.) Moench
Grif 8038; IS 25229; ACC 71338. Collected in Ethiopia.

PI 585518. Sorghum bicolor (L.) Moench
Grif 8039; IS 25232; ACC 71359. Collected in Ethiopia.

PI 585519. Sorghum bicolor (L.) Moench
Grif 8040; IS 25234; ACC 71388. Collected in Ethiopia.

PI 585520. Sorghum bicolor (L.) Moench
Grif 8041; IS 25236; ACC 71410. Collected in Ethiopia.

PI 585521. Sorghum bicolor (L.) Moench
Grif 8042; IS 25240; ACC 71437. Collected in Ethiopia.

PI 585522. Sorghum bicolor (L.) Moench
Grif 8043; IS 25248; ACC 71896. Collected in Ethiopia.

PI 585523. Sorghum bicolor (L.) Moench
Grif 8044; IS 25249; ACC 71899. Collected in Ethiopia.

PI 585524. Sorghum bicolor (L.) Moench
Grif 8045; IS 25250; ACC 71900. Collected in Ethiopia.

PI 585525. Sorghum bicolor (L.) Moench
Grif 8046; IS 25255; ACC 71908. Collected in Ethiopia.

PI 585526. Sorghum bicolor (L.) Moench
Grif 8047; IS 25257; ACC 72200. Collected in Ethiopia.
PI 585527. *Sorghum bicolor* (L.) Moench
Grif 8048; IS 25265; ACC 72227. Collected in Ethiopia.

PI 585528. *Sorghum bicolor* (L.) Moench
Grif 8049; IS 25270; ACC 72376. Collected in Ethiopia.

PI 585529. *Sorghum bicolor* (L.) Moench
Grif 8050; IS 25275; ACC 72659. Collected in Ethiopia.

PI 585530. *Sorghum bicolor* (L.) Moench
Grif 8051; IS 25279; ACC 72671. Collected in Ethiopia.

PI 585531. *Sorghum bicolor* (L.) Moench
Grif 8052; IS 25280; ACC 72671. Collected in Ethiopia.

PI 585532. *Sorghum bicolor* (L.) Moench
Grif 8053; IS 25281; ACC 72683. Collected in Ethiopia.

PI 585533. *Sorghum bicolor* (L.) Moench
Grif 8054; IS 25283; ACC 72684. Collected in Ethiopia.

PI 585534. *Sorghum bicolor* (L.) Moench
Grif 8055; IS 25284; ACC 72694. Collected in Ethiopia.

PI 585535. *Sorghum bicolor* (L.) Moench
Grif 8056; IS 25285; ACC 72715. Collected in Ethiopia.

PI 585536. *Sorghum bicolor* (L.) Moench
Grif 8057; IS 25289; ACC 72732. Collected in Ethiopia.

PI 585537. *Sorghum bicolor* (L.) Moench
Grif 8058; IS 25292; ACC 72737. Collected in Ethiopia.

PI 585538. *Sorghum bicolor* (L.) Moench
Grif 8059; IS 25296; ACC 72753. Collected in Ethiopia.

PI 585539. *Sorghum bicolor* (L.) Moench
Grif 8060; IS 25299; ACC 72760. Collected in Ethiopia.

PI 585540. *Sorghum bicolor* (L.) Moench
Grif 8061; IS 25302; ACC 72763. Collected in Ethiopia.

PI 585541. *Sorghum bicolor* (L.) Moench
Grif 8062; IS 25303; ACC 72764. Collected in Ethiopia.

PI 585542. *Sorghum bicolor* (L.) Moench
Grif 8063; IS 25304; ACC 72890. Collected in Ethiopia.

PI 585543. *Sorghum bicolor* (L.) Moench
Grif 8064; IS 25306; ACC 72893. Collected in Ethiopia.

PI 585544. *Sorghum bicolor* (L.) Moench
Grif 8065; IS 25307; ACC 73075. Collected in Ethiopia.

PI 585545. *Sorghum bicolor* (L.) Moench
Grif 8066; IS 25315; ACC 73361. Collected in Ethiopia.

PI 585546. *Sorghum bicolor* (L.) Moench
Grif 8067; IS 25319; ACC 73484. Collected in Ethiopia.

PI 585547. *Sorghum bicolor* (L.) Moench
Grif 8068; IS 25321; ACC 73517. Collected in Ethiopia.

PI 585548. *Sorghum bicolor* (L.) Moench
Grif 8069; IS 25324; ACC 73526. Collected in Ethiopia.

PI 585549. Sorghum bicolor (L.) Moench
Grif 8070; IS 25325; ACC 73527. Collected in Ethiopia.

PI 585550. Sorghum bicolor (L.) Moench
Grif 8071; IS 25326; ACC 73527. Collected in Ethiopia.

PI 585551. Sorghum bicolor (L.) Moench
Grif 8072; IS 25327; ACC 73528. Collected in Ethiopia.

PI 585552. Sorghum bicolor (L.) Moench
Grif 8073; IS 25329; ACC 74167. Collected in Ethiopia.

PI 585553. Sorghum bicolor (L.) Moench
Grif 8074; IS 25335; ACC 74484. Collected in Ethiopia.

PI 585554. Sorghum bicolor (L.) Moench
Grif 8075; IS 25341; ACC 75123. Collected in Ethiopia.

PI 585555. Sorghum bicolor (L.) Moench
Grif 8076; IS 25342; ACC 75124. Collected in Ethiopia.

PI 585556. Sorghum bicolor (L.) Moench
Grif 8077; IS 25344; ACC 75139. Collected in Ethiopia.

PI 585557. Sorghum bicolor (L.) Moench
Grif 8078; IS 25350; KVSR 1. Collected in Kenya.

PI 585558. Sorghum bicolor (L.) Moench
Grif 8079; IS 25375; KVSR 28. Collected in Kenya.

PI 585559. Sorghum bicolor (L.) Moench
Grif 8080; IS 25378; KVSR 31. Collected in Kenya.

PI 585560. Sorghum bicolor (L.) Moench
Grif 8081; IS 25380; KVSR 36. Collected in Kenya.

PI 585561. Sorghum bicolor (L.) Moench
Grif 8082; IS 25384; KVSR 40. Collected in Kenya.

PI 585562. Sorghum bicolor (L.) Moench
Grif 8083; IS 25388; KVSR 44. Collected in Kenya.

PI 585563. Sorghum bicolor (L.) Moench
Grif 8084; IS 25389; KVSR 45. Collected in Kenya.

PI 585564. Sorghum bicolor (L.) Moench
Grif 8085; IS 25397; KVSR 55. Collected in Kenya.

PI 585565. Sorghum bicolor (L.) Moench
Grif 8086; IS 25398; KVSR 56. Collected in Kenya.

PI 585566. Sorghum bicolor (L.) Moench
Grif 8087; IS 25400; KVSR 58. Collected in Kenya.

PI 585567. Sorghum bicolor (L.) Moench
Grif 8088; IS 25401; KVSR 59. Collected in Kenya.

PI 585568. Sorghum bicolor (L.) Moench
Grif 8089; IS 25413; KVSR 74. Collected in Kenya.

PI 585569. Sorghum bicolor (L.) Moench
Grif 8090; IS 25418; KVSR 80. Collected in Kenya.
PI 585570. Sorghum bicolor (L.) Moench
Grif 8091; IS 25421; KVSR 85. Collected in Kenya.

PI 585571. Sorghum bicolor (L.) Moench
Grif 8092; IS 25428; KVSR 93. Collected in Kenya.

PI 585572. Sorghum bicolor (L.) Moench
Grif 8093; IS 25456; P 33. Collected in Burundi. Kiofi.

PI 585573. Sorghum bicolor (L.) Moench
Grif 8094; IS 25457; P 34. Collected in Burundi. Kiofi.

PI 585574. Sorghum bicolor (L.) Moench
Grif 8095; IS 25466; P 44. Collected in Burundi. Nayange Makamba.

PI 585575. Sorghum bicolor (L.) Moench
YAMAHONDA; Grif 8096; IS 25470; PB 1. Collected in Burundi. Bugarama.

PI 585576. Sorghum bicolor (L.) Moench
Grif 8097; IS 25505; PB 72. Collected in Burundi.

PI 585577. Sorghum bicolor (L.) Moench
Grif 8098; IS 25514; PK 84. Collected in Burundi.

PI 585578. Sorghum bicolor (L.) Moench
Grif 8099; IS 25519; PK 91. Collected in Burundi. Mitakataka.

PI 585579. Sorghum bicolor (L.) Moench

PI 585580. Sorghum bicolor (L.) Moench
Grif 8101; IS 25521; PK 95. Collected in Burundi. Shari.

PI 585581. Sorghum bicolor (L.) Moench
Grif 8102; IS 25522; PK 98. Collected in Burundi. Ruzeba.

PI 585582. Sorghum bicolor (L.) Moench

PI 585583. Sorghum bicolor (L.) Moench
Grif 8104; IS 25524; PK 103. Collected in Burundi. Kabezi.

PI 585584. Sorghum bicolor (L.) Moench
NYIRARUMOGO; Grif 8105; IS 25529; PS 10. Collected in Rwanda. Kansi.

PI 585585. Sorghum bicolor (L.) Moench
CYAMIWIHA NSHYUSHU; Grif 8106; IS 25535; PS 25. Collected in Rwanda. Ntyazo.

PI 585586. Sorghum bicolor (L.) Moench
AMASHYIRAHAMWE; Grif 8107; IS 25543; PS 36. Collected in Rwanda. Munyinya.

PI 585587. Sorghum bicolor (L.) Moench
KIBUMBURI; Grif 8108; IS 25548; PS 55. Collected in Rwanda. Cyesha.

PI 585588. Sorghum bicolor (L.) Moench
IGIHOVE; Grif 8109; IS 25549; PS 56. Collected in Rwanda. Cyesha.

PI 585589. Sorghum bicolor (L.) Moench
MUGABO; Grif 8110; IS 25553; PS 64. Collected in Rwanda. Kibuye.

PI 585590. Sorghum bicolor (L.) Moench
Grif 8111; IS 25556; PS 73. Collected in Rwanda. Kigali.

PI 585591. Sorghum bicolor (L.) Moench
AMAMI KAZI; Grif 8112; IS 25557; PS 76. Collected in Rwanda.

PI 585592. Sorghum bicolor (L.) Moench
BAYISHINYIKE; Grif 8113; IS 25558; PS 77. Collected in Rwanda.

PI 585593. Sorghum bicolor (L.) Moench
BUHULI; Grif 8114; IS 25559; PS 78. Collected in Rwanda. Rwerere.

PI 585594. Sorghum bicolor (L.) Moench
NYIRABUHULI; Grif 8115; IS 25560; PS 80. Collected in Rwanda. Rwerere.

PI 585595. Sorghum bicolor (L.) Moench
Grif 8116; IS 25561; PS 84. Collected in Rwanda. Ruhengeri.

PI 585596. Sorghum bicolor (L.) Moench
Grif 8117; IS 25563; PS 89. Collected in Rwanda. Rwerere.

PI 585597. Sorghum bicolor (L.) Moench
MBAGARA; Grif 8118; IS 25565; PS 91. Collected in Rwanda. Cyuru.

PI 585598. Sorghum bicolor (L.) Moench
RUGOGOMA; Grif 8119; IS 25566; PS 92. Collected in Rwanda. Rutare.

PI 585599. Sorghum bicolor (L.) Moench
MBAGARA YUMUTUKU; Grif 8120; IS 25567; PS 93. Collected in Rwanda. Rutare.

PI 585600. Sorghum bicolor (L.) Moench
Grif 8121; IS 25568; PS 94. Collected in Rwanda. Rutare.

PI 585601. Sorghum bicolor (L.) Moench
IBAMBA; Grif 8122; IS 25569; PS 95. Collected in Rwanda. Rutare.

PI 585602. Sorghum bicolor (L.) Moench
Grif 8123; IS 25570; PS 96. Collected in Rwanda. Rutare.

PI 585603. Sorghum bicolor (L.) Moench
AMAMI KAZI; Grif 8124; IS 25571; PS 99. Collected in Rwanda. Rutare.

PI 585604. Sorghum bicolor (L.) Moench
KWEZIKUMWE; Grif 8125; IS 25572; PS 100. Collected in Rwanda. Kigali.

PI 585605. Sorghum bicolor (L.) Moench
NYIRAKAYANGE; Grif 8126; IS 25573; PS 104. Collected in Rwanda. Kigali.

PI 585606. Sorghum bicolor (L.) Moench
NYIRAKIGUFI; Grif 8127; IS 25574; PS 106. Collected in Rwanda. Kigali.

PI 585607. Sorghum bicolor (L.) Moench
Grif 8128; IS 25575; PS 108. Collected in Rwanda. Kigali.

PI 585608. Sorghum bicolor (L.) Moench
GIKONDO; Grif 8129; IS 25576; PS 109. Collected in Rwanda. Kigali.

PI 585609. Sorghum bicolor (L.) Moench
Grif 8130; IS 25577; PS 115. Collected in Rwanda. Kibungo.

PI 585610. Sorghum bicolor (L.) Moench
KEBO; Grif 8131; IS 25580. Collected in Rwanda.

PI 585611. Sorghum bicolor (L.) Moench
IGITEGA; Grif 8132; IS 25582. Collected in Rwanda.

PI 585612. Sorghum bicolor (L.) Moench
   MABEREYINGOMA; Grif 8133; IS 25583. Collected in Rwanda.

PI 585613. Sorghum bicolor (L.) Moench
   IMBUNDI; Grif 8134; IS 25584. Collected in Rwanda.

PI 585614. Sorghum bicolor (L.) Moench
   KAZANENDA MUTUKU; Grif 8135; IS 25585. Collected in Rwanda.

PI 585615. Sorghum bicolor (L.) Moench
   IMBUNDIGATARAGA; Grif 8136; IS 25586. Collected in Rwanda.

PI 585616. Sorghum bicolor (L.) Moench
   MBAGARE; Grif 8137; IS 25588. Collected in Rwanda.

PI 585617. Sorghum bicolor (L.) Moench
   MUHIMPUNDUGATARAGA; Grif 8138; IS 25591. Collected in Rwanda.

PI 585618. Sorghum bicolor (L.) Moench
   KAZANENDA; Grif 8139; IS 25592. Collected in Rwanda.

PI 585619. Sorghum bicolor (L.) Moench
   RUGOGOMA; Grif 8140; IS 25593. Collected in Rwanda.

PI 585620. Sorghum bicolor (L.) Moench
   KINISHA; Grif 8141; IS 25596. Collected in Rwanda.

PI 585621. Sorghum bicolor (L.) Moench
   Grif 8142; IS 25600; CSM 14-1122. Collected in Mali.

PI 585622. Sorghum bicolor (L.) Moench
   Grif 8143; IS 25602; CSM 22-1130. Collected in Mali.

PI 585623. Sorghum bicolor (L.) Moench
   Grif 8144; IS 25605; CSM 34-1134. Collected in Mali.

PI 585624. Sorghum bicolor (L.) Moench
   Grif 8145; IS 25606; CSM 35-1137. Collected in Mali.

PI 585625. Sorghum bicolor (L.) Moench
   Grif 8146; IS 25607; CSM 38-1149. Collected in Mali.

PI 585626. Sorghum bicolor (L.) Moench
   Grif 8147; IS 25609; CSM 45-1146. Collected in Mali.

PI 585627. Sorghum bicolor (L.) Moench
   Grif 8148; IS 25610; CSM 47-1152. Collected in Mali.

PI 585628. Sorghum bicolor (L.) Moench
   Grif 8149; IS 25615; CSM 84-819. Collected in Mali.

PI 585629. Sorghum bicolor (L.) Moench
   Grif 8150; IS 25617; CSM 101-802. Collected in Mali.

PI 585630. Sorghum bicolor (L.) Moench
   Grif 8151; IS 25618; CSM 103-854. Collected in Mali.

PI 585631. Sorghum bicolor (L.) Moench
   Grif 8152; IS 25619; CSM 106-857. Collected in Mali.

PI 585632. Sorghum bicolor (L.) Moench
   Grif 8153; IS 25620; CSM 123-839. Collected in Mali.
PI 585633. Sorghum bicolor (L.) Moench
Grif 8154; IS 25622; CSM 131-846. Collected in Mali.

PI 585634. Sorghum bicolor (L.) Moench
Grif 8155; IS 25623; CSM 132-847. Collected in Mali.

PI 585635. Sorghum bicolor (L.) Moench
Grif 8156; IS 25624; CSM 150-984. Collected in Mali.

PI 585636. Sorghum bicolor (L.) Moench
Grif 8157; IS 25626; CSM 166-873. Collected in Mali.

PI 585637. Sorghum bicolor (L.) Moench
Grif 8158; IS 25627; CSM 167-874. Collected in Mali.

PI 585638. Sorghum bicolor (L.) Moench
Grif 8159; IS 25631; CSM 195-941. Collected in Mali.

PI 585639. Sorghum bicolor (L.) Moench
Grif 8160; IS 25632; CSM 200-946. Collected in Mali.

PI 585640. Sorghum bicolor (L.) Moench
Grif 8161; IS 25634; CSM 222-968. Collected in Mali.

PI 585641. Sorghum bicolor (L.) Moench
Grif 8162; IS 25636; CSM 225-971. Collected in Mali.

PI 585642. Sorghum bicolor (L.) Moench
Grif 8163; IS 25638; CSM 241-911. Collected in Mali.

PI 585643. Sorghum bicolor (L.) Moench
Grif 8164; IS 25640; CSM 259-929. Collected in Mali.

PI 585644. Sorghum bicolor (L.) Moench
Grif 8165; IS 25645; CSM 305-1013. Collected in Mali.

PI 585645. Sorghum bicolor (L.) Moench
KENDE BA; Grif 8166; IS 25653; SG 4513. Collected in Mali. Koula.

PI 585646. Sorghum bicolor (L.) Moench
SAKOIKA; Grif 8167; IS 25656; SG 4517. Collected in Mali. Koula.

PI 585647. Sorghum bicolor (L.) Moench
DERENI; Grif 8168; IS 25657; SG 4518. Collected in Mali. Koula.

PI 585648. Sorghum bicolor (L.) Moench
GADIABA; Grif 8169; IS 25658; SG 4519. Collected in Mali. Koula.

PI 585649. Sorghum bicolor (L.) Moench
KENINKE BA; Grif 8170; IS 25660; SG 4522. Collected in Mali. Koula.

PI 585650. Sorghum bicolor (L.) Moench
KENDE BABOU KOUKA; Grif 8171; IS 25665; SG 4528. Collected in Mali. Tougouni.

PI 585651. Sorghum bicolor (L.) Moench
KENINKE NITELI; Grif 8172; IS 25668; SG 4533. Collected in Mali. Niamina.

PI 585652. Sorghum bicolor (L.) Moench
SOBENE; Grif 8173; IS 25669; SG 4535. Collected in Mali. Doumoukolo.
KENINKE; Grif 8174; IS 25670; SG 4539. Collected in Mali. Toukouroba.

PI 585654. Sorghum bicolor (L.) Moench
KENDE; Grif 8175; IS 25671; SG 4540. Collected in Mali. Toukouroba.

PI 585655. Sorghum bicolor (L.) Moench
KASSABANE; Grif 8176; IS 25672; SG 4542. Collected in Mali. Toukouroba.

PI 585656. Sorghum bicolor (L.) Moench
MANKALA BA; Grif 8177; IS 25673; SG 4543. Collected in Mali. Toukouroba.

PI 585657. Sorghum bicolor (L.) Moench
MANKALA LE; Grif 8178; IS 25674; SG 4545. Collected in Mali. Toukouroba.

PI 585658. Sorghum bicolor (L.) Moench
KENINKE NITELI; Grif 8179; IS 25676; SG 4549. Collected in Mali. Kiban.

PI 585659. Sorghum bicolor (L.) Moench
GADIABA; Grif 8180; IS 25677; SG 4551. Collected in Mali. Toukouroba.

PI 585660. Sorghum bicolor (L.) Moench
SOBENE; Grif 8181; IS 25679; SG 4553. Collected in Mali. Boro.

PI 585661. Sorghum bicolor (L.) Moench
TIA FOUGA; Grif 8182; IS 25681; SG 4557. Collected in Mali. Boro.

PI 585662. Sorghum bicolor (L.) Moench
SOBENE; Grif 8183; IS 25682; SG 4558. Collected in Mali. Mourdhia.

PI 585663. Sorghum bicolor (L.) Moench
RAHAYE; Grif 8184; IS 25684; SG 4564. Collected in Mali. Konronga.

PI 585664. Sorghum bicolor (L.) Moench
MAIDAM; Grif 8185; IS 25685; SG 4565. Collected in Mali. Konronga.

PI 585665. Sorghum bicolor (L.) Moench
GADIABA; Grif 8186; IS 25686; SG 4566. Collected in Mali. Konronga.

PI 585666. Sorghum bicolor (L.) Moench
MANGANIE TAI; Grif 8187; IS 25687; SG 4571. Collected in Mali. Segue.

PI 585667. Sorghum bicolor (L.) Moench
GADABA; Grif 8188; IS 25688; SG 4572. Collected in Mali. Segue.

PI 585668. Sorghum bicolor (L.) Moench
RAHAYE; Grif 8189; IS 25690; SG 4575. Collected in Mali. Douadi.

PI 585669. Sorghum bicolor (L.) Moench
DJEBANA; Grif 8190; IS 25692; SG 4580. Collected in Mali. Famabougou.

PI 585670. Sorghum bicolor (L.) Moench
TOUBABOUNIONI; Grif 8191; IS 25693; SG 4581. Collected in Mali. Famabougou.

PI 585671. Sorghum bicolor (L.) Moench
KENINKE; Grif 8192; IS 25694; SG 4583. Collected in Mali. Dilly.

PI 585672. Sorghum bicolor (L.) Moench
GADIABA; Grif 8193; IS 25696; SG 4586. Collected in Mali. Sampaka.

PI 585673. Sorghum bicolor (L.) Moench
SOBENE; Grif 8194; IS 25697; SG 4587. Collected in Mali. Sampaka.
PI 585674. Sorghum bicolor (L.) Moench  NIENIKO TAINÉ; Grif 8195; IS 25698; SG 4589. Collected in Mali. Balle.

PI 585675. Sorghum bicolor (L.) Moench  NIENIKO KORE; Grif 8196; IS 25699; SG 4590. Collected in Mali. Balle.

PI 585676. Sorghum bicolor (L.) Moench  GADIABA; Grif 8197; IS 25700; SG 4593. Collected in Mali. Korena Kore.

PI 585677. Sorghum bicolor (L.) Moench  LAKAHIRI; Grif 8198; IS 25701; SG 4598. Collected in Mali. Nioro Tougoune.

PI 585678. Sorghum bicolor (L.) Moench  MAGAN KOULA; Grif 8199; IS 25704; SG 4601. Collected in Mali. Falou.

PI 585679. Sorghum bicolor (L.) Moench  GADIABA; Grif 8200; IS 25706; SG 4604. Collected in Mali. Doubala.

PI 585680. Sorghum bicolor (L.) Moench  SOBENE; Grif 8201; IS 25707; SG 4605. Collected in Mali. Doubala.

PI 585681. Sorghum bicolor (L.) Moench  MANGANIE; Grif 8202; IS 25708; SG 4609. Collected in Mali. Beidiat.

PI 585682. Sorghum bicolor (L.) Moench  AMADI BOULOU; Grif 8203; IS 25711; SG 4612. Collected in Mali. Tourougoumbe.

PI 585683. Sorghum bicolor (L.) Moench  SAMPA; Grif 8204; IS 25712; SG 4614. Collected in Mali. Sirakoro.

PI 585684. Sorghum bicolor (L.) Moench  KELLO; Grif 8205; IS 25715; SG 4619. Collected in Mali. Sirakoro.

PI 585685. Sorghum bicolor (L.) Moench  DIANSE; Grif 8206; IS 25722; SG 4628. Collected in Mali. Lakamane.

PI 585686. Sorghum bicolor (L.) Moench  DIANSE BA; Grif 8207; IS 25723; SG 4629. Collected in Mali. Lakamane.

PI 585687. Sorghum bicolor (L.) Moench  LAKAHIRI; Grif 8208; IS 25725; SG 4631. Collected in Mali. Lakamane.

PI 585688. Sorghum bicolor (L.) Moench  GADIABA BA; Grif 8209; IS 25727; SG 4634. Collected in Mali. Bianga.

PI 585689. Sorghum bicolor (L.) Moench  YERANIO; Grif 8210; IS 25730; SG 4640. Collected in Mali. Diankoute.

PI 585690. Sorghum bicolor (L.) Moench  NIO DIE; Grif 8211; IS 25731; SG 4641. Collected in Mali. Diankoute.


PI 585692. Sorghum bicolor (L.) Moench  LAKAHIRI; Grif 8213; IS 25734; SG 4644. Collected in Mali. Bema.

PI 585693. Sorghum bicolor (L.) Moench  AMADI BOUBOU; Grif 8214; IS 25739; SG 4652. Collected in Mali. Diema.

PI 585694. Sorghum bicolor (L.) Moench
PI 585695. *Sorghum bicolor* (L.) Moench
KELLO; Grif 8216; IS 25741; SG 4660. Collected in Mali. Youri.

PI 585696. *Sorghum bicolor* (L.) Moench
GADIABA BLEMA; Grif 8217; IS 25743; SG 4665. Collected in Mali. Dioka.

PI 585697. *Sorghum bicolor* (L.) Moench
MASSERE; Grif 8218; IS 25744; SG 4669. Collected in Mali. Sandare.

PI 585698. *Sorghum bicolor* (L.) Moench
GADIABA BLEMA; Grif 8219; IS 25745; SG 4670. Collected in Mali. Sandare

PI 585699. *Sorghum bicolor* (L.) Moench
GADIABA; Grif 8220; IS 25746; SG 4672. Collected in Mali. Marana.

PI 585700. *Sorghum bicolor* (L.) Moench
NIENIKO; Grif 8221; IS 25747; SG 4673. Collected in Mali. Marana.

PI 585701. *Sorghum bicolor* (L.) Moench
KENDE; Grif 8222; IS 25748; SG 4674. Collected in Mali. Marana.

PI 585702. *Sorghum bicolor* (L.) Moench
MANGANIE; Grif 8223; IS 25751; SG 4682. Collected in Mali. Mandeha.

PI 585703. *Sorghum bicolor* (L.) Moench
DARNE; Grif 8224; IS 25752; SG 4684. Collected in Mali. Kirane.

PI 585704. *Sorghum bicolor* (L.) Moench
SOUATRA; Grif 8225; IS 25753; SG 4686. Collected in Mali. Kirane.

PI 585705. *Sorghum bicolor* (L.) Moench
KELLO; Grif 8226; IS 25754; SG 4688. Collected in Mali. Kirane.

PI 585706. *Sorghum bicolor* (L.) Moench
TIAFOUNGA; Grif 8227; IS 25755; SG 4689. Collected in Mali. Kirane.

PI 585707. *Sorghum bicolor* (L.) Moench
NIENIKO; Grif 8228; IS 25756; SG 4694. Collected in Mali. Kouloum.

PI 585708. *Sorghum bicolor* (L.) Moench
NIENIKO DAGAFARE; Grif 8229; IS 25758; SG 4698. Collected in Mali. Diamou.

PI 585709. *Sorghum bicolor* (L.) Moench
NIO NITELL; Grif 8230; IS 25760; SG 4701. Collected in Mali. Same.

PI 585710. *Sorghum bicolor* (L.) Moench
NIENIKO BA; Grif 8231; IS 25761; SG 4703. Collected in Mali. Same.

PI 585711. *Sorghum bicolor* (L.) Moench
KINTE; Grif 8232; IS 25765; SG 4707. Collected in Mali. Ambidedi.

PI 585712. *Sorghum bicolor* (L.) Moench
NIENIKO BA; Grif 8233; IS 25767; SG 4710. Collected in Mali. Takoutala.

PI 585713. *Sorghum bicolor* (L.) Moench
GADIABA BA; Grif 8234; IS 25768; SG 4711. Collected in Mali. Takoutala.

PI 585714. *Sorghum bicolor* (L.) Moench
KENDE; Grif 8235; IS 25770; SG 4713. Collected in Mali. Marena Gouka.
PI 585715. Sorghum bicolor (L.) Moench
BIMBERI TELI; Grif 8236; IS 25771; SG 4715. Collected in Mali. Babala.

PI 585716. Sorghum bicolor (L.) Moench
KENDE; Grif 8237; IS 25773; SG 4719. Collected in Mali. Sadiola.

PI 585717. Sorghum bicolor (L.) Moench
NAGBANE; Grif 8238; IS 25775; SG 4723. Collected in Mali. Koussane.

PI 585718. Sorghum bicolor (L.) Moench
DJOMBASSI; Grif 8239; IS 25776; SG 4725. Collected in Mali. Kantela.

PI 585719. Sorghum bicolor (L.) Moench
SOUSSA BADIANKA; Grif 8240; IS 25777; SG 4727. Collected in Mali. Kantela.

PI 585720. Sorghum bicolor (L.) Moench
SAMBANIERI; Grif 8241; IS 25779; SG 4731. Collected in Mali. Aourou.

PI 585721. Sorghum bicolor (L.) Moench
NIENIKO; Grif 8242; IS 25780; SG 4732. Collected in Mali. Aourou.

PI 585722. Sorghum bicolor (L.) Moench
KELLO; Grif 8243; IS 25781; SG 4734. Collected in Mali. Aourou.

PI 585723. Sorghum bicolor (L.) Moench
BELLISSI; Grif 8244; IS 25783; SG 4737. Collected in Mali. Bilikouate.

PI 585724. Sorghum bicolor (L.) Moench
MAKABE; Grif 8245; IS 25784; SG 4740. Collected in Mali. Bremassou.

PI 585725. Sorghum bicolor (L.) Moench
KINTO; Grif 8246; IS 25785; SG 4741. Collected in Mali. Bremassou.

PI 585726. Sorghum bicolor (L.) Moench
NIENIKO; Grif 8247; IS 25786; SG 4742. Collected in Mali. Bremassou.

PI 585727. Sorghum bicolor (L.) Moench
PATEKOUNDA; Grif 8248; IS 25787; SG 4743. Collected in Mali. Bremassou.

PI 585728. Sorghum bicolor (L.) Moench
KINTI OULE; Grif 8249; IS 25798; SG 4757. Collected in Mali. Sitikali.

PI 585729. Sorghum bicolor (L.) Moench
NIOLO KHYO; Grif 8250; IS 25799; SG 4758. Collected in Mali. Sitikali.

PI 585730. Sorghum bicolor (L.) Moench
NIO; Grif 8251; IS 25802; SG 4762. Collected in Mali. Sanogo.

PI 585731. Sorghum bicolor (L.) Moench
NIO; Grif 8252; IS 25804; SG 4764. Collected in Mali. Dabia.

PI 585732. Sorghum bicolor (L.) Moench
KINTO; Grif 8253; IS 25805; SG 4765. Collected in Mali. Dabia.

PI 585733. Sorghum bicolor (L.) Moench
M' BAYERI; Grif 8254; IS 25808; SG 4769. Collected in Mali. Tiankoun.

PI 585734. Sorghum bicolor (L.) Moench
NIO BA; Grif 8255; IS 25810; SG 4771. Collected in Mali. Tououokoto.

PI 585735. Sorghum bicolor (L.) Moench
KINTI; Grif 8256; IS 25811; SG 4772. Collected in Mali. Tououokoto.
PI 585736. Sorghum bicolor (L.) Moench
NIO BA; Grif 8257; IS 25812; SG 4773. Collected in Mali. Farina.

PI 585737. Sorghum bicolor (L.) Moench
NIO BA; Grif 8258; IS 25813; SG 4777. Collected in Mali. Solo.

PI 585738. Sorghum bicolor (L.) Moench
KINTO OULE; Grif 8259; IS 25814; SG 4778. Collected in Mali. Mantila.

PI 585739. Sorghum bicolor (L.) Moench
KENINKE; Grif 8260; IS 25900; SG 4906. Collected in Mali. Serado.

PI 585740. Sorghum bicolor (L.) Moench
SOBENE; Grif 8261; IS 25902; SG 4910. Collected in Mali. Kouloudjenhe.

PI 585741. Sorghum bicolor (L.) Moench
AMADI BOUBOU; Grif 8262; IS 25903; SG 4911. Collected in Mali. Kouloudjenhe.

PI 585742. Sorghum bicolor (L.) Moench
GADIABA; Grif 8263; IS 25907; SG 4915. Collected in Mali. Yagabougou.

PI 585743. Sorghum bicolor (L.) Moench
KENINKE; Grif 8264; IS 25908; SG 4916. Collected in Mali. Yagabougou.

PI 585744. Sorghum bicolor (L.) Moench
SAMONKO; Grif 8265; IS 25909; SG 4917. Collected in Mali. Yagabougou.

PI 585745. Sorghum bicolor (L.) Moench
KENDE BLE; Grif 8266; IS 25910; SG 4918. Collected in Mali. Yagabougou.

PI 585746. Sorghum bicolor (L.) Moench
KENDE FING; Grif 8267; IS 25911; SG 4919. Collected in Mali. Yagabougou.

PI 585747. Sorghum bicolor (L.) Moench
KENDE YENKO; Grif 8268; IS 25912; SG 4923. Collected in Mali. Missira.

PI 585748. Sorghum bicolor (L.) Moench
GADIABA BLE; Grif 8269; IS 25915; SG 4930. Collected in Mali. Massantola.

PI 585749. Sorghum bicolor (L.) Moench
GADIABA DIE; Grif 8270; IS 25916; SG 4931. Collected in Mali. Massantola.

PI 585750. Sorghum bicolor (L.) Moench
GADIABA BLE; Grif 8271; IS 25918; SG 4935. Collected in Mali. Sirakoroba.

PI 585751. Sorghum bicolor (L.) Moench
KENDE FING; Grif 8272; IS 25923; SG 4943. Collected in Mali. Nossombougou.

PI 585752. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8273; IS 25925; SG 4945. Collected in Mali. Nossombougou.

PI 585753. Sorghum bicolor (L.) Moench
KENDE; Grif 8274; IS 25926; SG 4947. Collected in Mali. Sonitieni.

PI 585754. Sorghum bicolor (L.) Moench
NIONIFI; Grif 8275; IS 25927; SG 4948. Collected in Mali. Sonitieni.
PI 585755. Sorghum bicolor (L.) Moench
SONI KOURA; Grif 8276; IS 25928; SG 4949. Collected in Mali. Sonitieni.

PI 585756. Sorghum bicolor (L.) Moench
KENDE OULE; Grif 8277; IS 25930; SG 4951. Collected in Mali. Narena.

PI 585757. Sorghum bicolor (L.) Moench
KENDE DIC; Grif 8278; IS 25931; SG 4953. Collected in Mali. Kenyeba.

PI 585758. Sorghum bicolor (L.) Moench
TOUROKANIO; Grif 8279; IS 25939; SG 4963. Collected in Mali. Dyeliba.

PI 585759. Sorghum bicolor (L.) Moench
KENDE DIE; Grif 8280; IS 25948; SG 4976. Collected in Mali. Seliban.

PI 585760. Sorghum bicolor (L.) Moench
KENINKE GELE; Grif 8281; IS 25949; SG 4977. Collected in Mali. Seliban.

PI 585761. Sorghum bicolor (L.) Moench
BIMBIRI BA; Grif 8282; IS 25950; SG 4978. Collected in Mali. Solo.

PI 585762. Sorghum bicolor (L.) Moench
BIMBIRI NIKA LOU; Grif 8283; IS 25951; SG 4979. Collected in Mali. Solo.

PI 585763. Sorghum bicolor (L.) Moench
SAKOIKA; Grif 8284; IS 25952; SG 4980. Collected in Mali. Solo.

PI 585764. Sorghum bicolor (L.) Moench
KENDE; Grif 8285; IS 25956; SG 4985. Collected in Mali. Meridyala.

PI 585765. Sorghum bicolor (L.) Moench
SAKOIKA; Grif 8286; IS 25957; SG 4986. Collected in Mali. Meridyala.

PI 585766. Sorghum bicolor (L.) Moench
KENINKE; Grif 8287; IS 25958; SG 4987. Collected in Mali. Meridyala.

PI 585767. Sorghum bicolor (L.) Moench
BIMBIRI SARA; Grif 8288; IS 25962; SG 4992. Collected in Mali. Toba.

PI 585768. Sorghum bicolor (L.) Moench
BIMBIRI GUESSA; Grif 8289; IS 25963; SG 4993. Collected in Mali. Toba.

PI 585769. Sorghum bicolor (L.) Moench
KENDE; Grif 8290; IS 25964; SG 5003. Collected in Mali. Madina.

PI 585770. Sorghum bicolor (L.) Moench
TIEBOUGOU; Grif 8291; IS 25965; SG 5005. Collected in Mali. Filamana.

PI 585771. Sorghum bicolor (L.) Moench
BIMBIRI SARA; Grif 8292; IS 25966; SG 5006. Collected in Mali. Niassoumala.

PI 585772. Sorghum bicolor (L.) Moench
KENDE OULE; Grif 8293; IS 25967; SG 5007. Collected in Mali. Niassoumala.

PI 585773. Sorghum bicolor (L.) Moench
KENDE OULE; Grif 8294; IS 25969; SG 5009. Collected in Mali. Badogo.

PI 585774. Sorghum bicolor (L.) Moench
KENDE SAMANOGO; Grif 8295; IS 25971; SG 5011. Collected in Mali. Gouelinkoro.
PI 585775. Sorghum bicolor (L.) Moench
KENDE N'GOU; Grif 8296; IS 25972; SG 5012. Collected in Mali. Gouelinkoro.

PI 585776. Sorghum bicolor (L.) Moench
KENDE OULE; Grif 8297; IS 25973; SG 5013. Collected in Mali. Gouelinkoro.

PI 585777. Sorghum bicolor (L.) Moench
KENDE OULE; Grif 8298; IS 25974; SG 5014. Collected in Mali. Siekorole.

PI 585778. Sorghum bicolor (L.) Moench
KENDE OULE; Grif 8299; IS 25978; SG 5018. Collected in Mali. Dossola.

PI 585779. Sorghum bicolor (L.) Moench
KENDE MASSA; Grif 8300; IS 25979; SG 5019. Collected in Mali. Dossola.

PI 585780. Sorghum bicolor (L.) Moench
BIMBIRI BA; Grif 8301; IS 25985; SG 5030. Collected in Mali. Manankoro.

PI 585781. Sorghum bicolor (L.) Moench
KENDE BLE; Grif 8302; IS 25987; SG 5038. Collected in Mali. Kadiana.

PI 585782. Sorghum bicolor (L.) Moench
BIMBIRI; Grif 8303; IS 25988; SG 5039. Collected in Mali. Kadiana.

PI 585783. Sorghum bicolor (L.) Moench
KENDE DIE; Grif 8304; IS 25989; SG 5040. Collected in Mali. Tienaga.

PI 585784. Sorghum bicolor (L.) Moench
BIMBIRI; Grif 8305; IS 25990; SG 5041. Collected in Mali. Tienaga.

PI 585785. Sorghum bicolor (L.) Moench
KENDE DIE; Grif 8306; IS 25991; SG 5042. Collected in Mali. Kebila.

PI 585786. Sorghum bicolor (L.) Moench
NIO DIE; Grif 8307; IS 25993; SG 5046. Collected in Mali. Zantiebougou.

PI 585787. Sorghum bicolor (L.) Moench
BIMBIRI; Grif 8308; IS 25994; SG 5047. Collected in Mali. Zantiebougou.

PI 585788. Sorghum bicolor (L.) Moench
KENINGUE BA; Grif 8309; IS 25995; SG 5050. Collected in Mali. Massigui.

PI 585789. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8310; IS 25996; SG 5053. Collected in Mali. Nien.

PI 585790. Sorghum bicolor (L.) Moench
BIMBIRI BA; Grif 8311; IS 25997; SG 5054. Collected in Mali. Nien.

PI 585791. Sorghum bicolor (L.) Moench
SEGUETENA; Grif 8312; IS 25999; SG 5056. Collected in Mali. Danderesso.

PI 585792. Sorghum bicolor (L.) Moench
KALLA KA; Grif 8313; IS 26003; SG 5064. Collected in Mali. Klela.

PI 585793. Sorghum bicolor (L.) Moench
KALLA NIEGUE; Grif 8314; IS 26004; SG 5065. Collected in Mali. Klela.

PI 585794. Sorghum bicolor (L.) Moench
KALLA NIEGUE; Grif 8315; IS 26006; SG 5069. Collected in Mali. Loulouli

PI 585795. Sorghum bicolor (L.) Moench
PI 585796. Sorghum bicolor (L.) Moench
KALLA NIEGUE; Grif 8317; IS 26008; SG 5071. Collected in Mali. Kadiola.

PI 585797. Sorghum bicolor (L.) Moench
KALLA WOGO; Grif 8318; IS 26009; SG 5072. Collected in Mali. Kadiola.

PI 585798. Sorghum bicolor (L.) Moench
KALLA KAMONI; Grif 8319; IS 26010; SG 5073. Collected in Mali. Kadiola.

PI 585799. Sorghum bicolor (L.) Moench
KALLA WOGO; Grif 8320; IS 26013; SG 5078. Collected in Mali. Gongasson.

PI 585800. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8321; IS 26016; SG 5081 WHITE. Collected in Mali.
Kignan.

PI 585801. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8322; IS 26019; SG 5085. Collected in Mali. Mena.

PI 585802. Sorghum bicolor (L.) Moench
DOROKON; Grif 8323; IS 26020; SG 5086. Collected in Mali. Mena.

PI 585803. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8324; IS 26021; SG 5087. Collected in Mali. Beleko.

PI 585804. Sorghum bicolor (L.) Moench
KENINKE BTENI; Grif 8325; IS 26023; SG 5089. Collected in Mali. Beleko.

PI 585805. Sorghum bicolor (L.) Moench
KENINKE BA; Grif 8326; IS 26028; SG 5097. Collected in Mali. Samene.

PI 585806. Sorghum bicolor (L.) Moench
DERE BLE; Grif 8327; IS 26029; SG 5098. Collected in Mali. Samene.

PI 585807. Sorghum bicolor (L.) Moench
BAGUI BAGUI; Grif 8328; IS 26030; SG 5099. Collected in Mali. Samene.

PI 585808. Sorghum bicolor (L.) Moench
NIENIFI; Grif 8329; IS 26031; SG 5100. Collected in Mali. Touna.

PI 585809. Sorghum bicolor (L.) Moench
KENINKE; Grif 8330; IS 26032; SG 5101. Collected in Mali. Touna.

PI 585810. Sorghum bicolor (L.) Moench
KALLA NIEGUE; Grif 8331; IS 26033; SG 5102. Collected in Mali. Nkourala.

PI 585811. Sorghum bicolor (L.) Moench
KALLA NIEGUE; Grif 8332; IS 26036; SG 5106. Collected in Mali. Niessoumana.

PI 585812. Sorghum bicolor (L.) Moench
N'PETOROGO; Grif 8333; IS 26037; SG 5107. Collected in Mali. Niessoumana.

PI 585813. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8334; IS 26038; SG 5108. Collected in Mali. Molobala.

PI 585814. Sorghum bicolor (L.) Moench
SEGUETENE; Grif 8335; IS 26041; SG 5111. Collected in Mali. Kouri.

PI 585815. Sorghum bicolor (L.) Moench
KALLA NIE NIE BLE; Grif 8336; IS 26042; SG 5112. Collected in Mali. Kouri.

PI 585816. Sorghum bicolor (L.) Moench
   KALLAFOULO; Grif 8337; IS 26044; SG 5114. Collected in Mali. Boura.

PI 585817. Sorghum bicolor (L.) Moench
   NIE NIE BLE; Grif 8338; IS 26045; SG 5115. Collected in Mali. Boura.

PI 585818. Sorghum bicolor (L.) Moench
   SEGUETENE; Grif 8339; IS 26046; SG 5118. Collected in Mali. Yorofolo.

PI 585819. Sorghum bicolor (L.) Moench
   KALLAFOULO; Grif 8340; IS 26047; SG 5119. Collected in Mali. Yorofolo.

PI 585820. Sorghum bicolor (L.) Moench
   KALLA KA; Grif 8341; IS 26048; SG 5120. Collected in Mali. Zamlara.

PI 585821. Sorghum bicolor (L.) Moench
   N'PETOROGO; Grif 8342; IS 26049; SG 5121. Collected in Mali. Zamlara.

PI 585822. Sorghum bicolor (L.) Moench
   MAHOUIN; Grif 8343; IS 26053; SG 5125. Collected in Mali. Beni.

PI 585823. Sorghum bicolor (L.) Moench
   BABATASSI; Grif 8344; IS 26056; SG 5130. Collected in Mali. Tominian.

PI 585824. Sorghum bicolor (L.) Moench
   SEGUETENE; Grif 8345; IS 26057; SG 5131. Collected in Mali. Tominian.

PI 585825. Sorghum bicolor (L.) Moench
   TIOSSOUNOU; Grif 8346; IS 26058; SG 5132. Collected in Mali. Tominian.

PI 585826. Sorghum bicolor (L.) Moench
   NEMAKA; Grif 8347; IS 26048; SG 5133. Collected in Mali. Tominian.

PI 585827. Sorghum bicolor (L.) Moench
   WERENOU; Grif 8348; IS 26060; SG 5135. Collected in Mali. Bamandougou.

PI 585828. Sorghum bicolor (L.) Moench
   NIENIFI; Grif 8349; IS 26063; SG 5136. Collected in Mali. Nyamana.

PI 585829. Sorghum bicolor (L.) Moench
   NIENIFI; Grif 8350; IS 26064; SG 5138. Collected in Mali. Nyamana.

PI 585830. Sorghum bicolor (L.) Moench
   DJOU KONINKE; Grif 8351; IS 26065; SG 5139. Collected in Mali. Konseguela.

PI 585831. Sorghum bicolor (L.) Moench
   N'PETOROGO; Grif 8352; IS 26066; SG 5140. Collected in Mali. Konseguela.

PI 585832. Sorghum bicolor (L.) Moench
   SEGUETENE; Grif 8353; IS 26067; SG 5141. Collected in Mali. Konseguela.

PI 585833. Sorghum bicolor (L.) Moench
   DJOU KONINKE; Grif 8354; IS 26069; SG 5143. Collected in Mali. Koumiana.

PI 585834. Sorghum bicolor (L.) Moench
   N'PETOROGO; Grif 8355; IS 26072; SG 5148. Collected in Mali. Niorosso.

PI 585835. Sorghum bicolor (L.) Moench

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SEGUETENE; Grif 8356; IS 26073; SG 5149. Collected in Mali. Niorosso.

PI 585836. Sorghum bicolor (L.) Moench

TIEMARIFING; Grif 8357; IS 26074; SG 5150. Collected in Mali. Toura.

PI 585837. Sorghum bicolor (L.) Moench

SEGUETENE; Grif 8358; IS 26075; SG 5151. Collected in Mali. Toura.

PI 585838. Sorghum bicolor (L.) Moench

SEGUETENE; Grif 8359; IS 26077; SG 5153. Collected in Mali. Wa.

PI 585839. Sorghum bicolor (L.) Moench

WERENOU; Grif 8360; IS 26078; SG 5154. Collected in Mali. Wa.

PI 585840. Sorghum bicolor (L.) Moench

KENINKE GONI; Grif 8361; IS 26080; SG 5160. Collected in Mali. Somadougou.

PI 585841. Sorghum bicolor (L.) Moench

M'BAYERI KOUNORI; Grif 8362; IS 26081; SG 5161. Collected in Mali. Sampara.

PI 585842. Sorghum bicolor (L.) Moench

KENDE KOU; Grif 8363; IS 26082; SG 5163. Collected in Mali. Diambakourou.

PI 585843. Sorghum bicolor (L.) Moench

KENDE TOMO; Grif 8364; IS 26083; SG 5164. Collected in Mali. Diambakourou.

PI 585844. Sorghum bicolor (L.) Moench

M'BAYERI DANIERI; Grif 8365; IS 26084; SG 5167. Collected in Mali. Konza.

PI 585845. Sorghum bicolor (L.) Moench

M'BAYERI KELLORI; Grif 8366; IS 26085; SG 5169. Collected in Mali. Nyminyana.

PI 585846. Sorghum bicolor (L.) Moench

M'BAYERI; Grif 8367; IS 26086; SG 5171. Collected in Mali. Tanal.

PI 585847. Sorghum bicolor (L.) Moench

M'BAYORI; Grif 8368; IS 26087; SG 5173. Collected in Mali. Kamounie.

PI 585848. Sorghum bicolor (L.) Moench

DOUNDOU KOUMARI; Grif 8369; IS 26090; SG 5176. Collected in Mali. Maounde.

PI 585849. Sorghum bicolor (L.) Moench

M'BOYORI; Grif 8370; IS 26091; SG 5180. Collected in Mali. Boula.

PI 585850. Sorghum bicolor (L.) Moench

SAMBALA; Grif 8371; IS 26093; SG 5184. Collected in Mali. Kikara.

PI 585851. Sorghum bicolor (L.) Moench

HOMBO LATA; Grif 8372; IS 26094; SG 5185. Collected in Mali. Kikara.

PI 585852. Sorghum bicolor (L.) Moench

DOUNDOU KOUMARI; Grif 8373; IS 26095; SG 5186. Collected in Mali. Kikara.

PI 585853. Sorghum bicolor (L.) Moench

M'BAYERI NATARI; Grif 8374; IS 26099; SG 5197. Collected in Mali. Nokara.
PI 585854. Sorghum bicolor (L.) Moench
M'BAYERI NATARI; Grif 8375; IS 26100; SG 5198. Collected in Mali. Ouronguerou.

PI 585855. Sorghum bicolor (L.) Moench
HAMONATO; Grif 8376; IS 26101; SG 5200. Collected in Mali. Hombori.

PI 585856. Sorghum bicolor (L.) Moench
HAMO BERO; Grif 8377; IS 26102; SG 5201. Collected in Mali. Hombori.

PI 585857. Sorghum bicolor (L.) Moench
TOUSSOU GARIMI; Grif 8378; IS 26103; SG 5202. Collected in Mali. Toupere.

PI 585858. Sorghum bicolor (L.) Moench
M'BETERI NATARI; Grif 8379; IS 26106; SG 5205. Collected in Mali. Dioumdourere.

PI 585859. Sorghum bicolor (L.) Moench
HEME DOUMO; Grif 8380; IS 26108; SG 5207. Collected in Mali. Diounouga.

PI 585860. Sorghum bicolor (L.) Moench
HEME BANE; Grif 8381; IS 26109; SG 5208. Collected in Mali. Diounouga.

PI 585861. Sorghum bicolor (L.) Moench
HEME NIAM; Grif 8382; IS 26111; SG 5211. Collected in Mali. Dinangourou.

PI 585862. Sorghum bicolor (L.) Moench
HEME NA; Grif 8383; IS 26112; SG 5213. Collected in Mali. Homo.

PI 585863. Sorghum bicolor (L.) Moench
HEME DOUMO; Grif 8384; IS 26113; SG 5214. Collected in Mali. Homo.

PI 585864. Sorghum bicolor (L.) Moench
HEME DOUMO; Grif 8385; IS 26116; SG 5218. Collected in Mali. Godon Ourou.

PI 585865. Sorghum bicolor (L.) Moench
HEME NA; Grif 8386; IS 26118; SG 5220. Collected in Mali. Godon Ourou.

PI 585866. Sorghum bicolor (L.) Moench
HEME BANE; Grif 8387; IS 26119; SG 5221. Collected in Mali. Bamba.

PI 585867. Sorghum bicolor (L.) Moench
HEME DOUMO; Grif 8388; IS 26120; SG 5223. Collected in Mali. Domnossogou.

PI 585868. Sorghum bicolor (L.) Moench
BELOKO; Grif 8389; IS 26123; SG 5228. Collected in Mali. Libe.

PI 585869. Sorghum bicolor (L.) Moench
BENDE BA; Grif 8390; IS 26124; SG 5229. Collected in Mali. Libe.

PI 585870. Sorghum bicolor (L.) Moench
HEME DOUMO; Grif 8391; IS 26126; SG 5236. Collected in Mali. Dourou.

PI 585871. Sorghum bicolor (L.) Moench
HEME DOUMO; Grif 8392; IS 26128; SG 5243. Collected in Mali. Nandoli.

PI 585872. Sorghum bicolor (L.) Moench
HEME DIGUINE; Grif 8393; IS 26132; SG 5247. Collected in Mali. Ningari.
PI 585873. *Sorghum bicolor* (L.) Moench  
HEME BOME; Grif 8394; IS 26134; SG 5250. Collected in Mali. Ningari.

PI 585874. *Sorghum bicolor* (L.) Moench  
RAHYE; Grif 8395; IS 26142; SG 5263. Collected in Mali. Tjili.

PI 585875. *Sorghum bicolor* (L.) Moench  
KENINKE NITELI; Grif 8396; IS 26145; SG 5270. Collected in Mali. Tibi.

PI 585876. *Sorghum bicolor* (L.) Moench  
KENINKE NITELI; Grif 8397; IS 26146; SG 5271. Collected in Mali. Tla.

PI 585877. *Sorghum bicolor* (L.) Moench  
KENINKE NITELI; Grif 8398; IS 26148; SG 5274. Collected in Mali. Sai.

PI 585878. *Sorghum bicolor* (L.) Moench  
DEMONI; Grif 8399; IS 26167; TOGO 34. Collected in Togo. Biankouri.

PI 585879. *Sorghum bicolor* (L.) Moench  
Kaziack; Grif 8400; IS 26173; TOGO 47. Collected in Togo. Warke.

PI 585880. *Sorghum bicolor* (L.) Moench  
DEMONI; Grif 8401; IS 26178; TOGO 56. Collected in Togo. Bogou.

PI 585881. *Sorghum bicolor* (L.) Moench  
BELOGO; Grif 8402; IS 26180; TOGO 58. Collected in Togo. Bogou.

PI 585882. *Sorghum bicolor* (L.) Moench  
SONG; Grif 8403; IS 26181; TOGO 59. Collected in Togo. Bogou.

PI 585883. *Sorghum bicolor* (L.) Moench  
DEMONI; Grif 8404; IS 26183; TOGO 64. Collected in Togo. Logpanou.

PI 585884. *Sorghum bicolor* (L.) Moench  
BELOGO; Grif 8405; IS 26184; TOGO 65. Collected in Togo. Logpanou.

PI 585885. *Sorghum bicolor* (L.) Moench  
DITORA; Grif 8406; IS 26190; TOGO 74. Collected in Togo. Yembour.

PI 585886. *Sorghum bicolor* (L.) Moench  
SONG; Grif 8407; IS 26194; TOGO 81. Collected in Togo. Niourkpourma.

PI 585887. *Sorghum bicolor* (L.) Moench  
APARPKOU; Grif 8408; IS 26202; TOGO 95. Collected in Togo. Borgou.

PI 585888. *Sorghum bicolor* (L.) Moench  
TCHINLOR; Grif 8409; IS 26203; TOGO 96. Collected in Togo. Borgou.

PI 585889. *Sorghum bicolor* (L.) Moench  
DEMONI; Grif 8410; IS 26206; TOGO 102. Collected in Togo. Koundjoure.

PI 585890. *Sorghum bicolor* (L.) Moench  
KPALOKOU MONON; Grif 8411; IS 26212; TOGO 117. Collected in Togo. Sawaga.

PI 585891. *Sorghum bicolor* (L.) Moench  
TCHATI; Grif 8412; IS 26220; TOGO 136. Collected in Togo. Pana.

PI 585892. *Sorghum bicolor* (L.) Moench  
TCHARAKA; Grif 8413; IS 26226; TOGO 147. Collected in Togo. Tchanaga.

PI 585893. *Sorghum bicolor* (L.) Moench  
NADOUNI; Grif 8414; IS 26230; TOGO 154. Collected in Togo. Nadoti.
PI 585894. Sorghum bicolor (L.) Moench
  LEMON; Grif 8415; IS 26231; TOGO 155. Collected in Togo. Nadoti.

PI 585895. Sorghum bicolor (L.) Moench
  APARAKOU; Grif 8416; IS 26232; TOGO 156. Collected in Togo. Nadoti.

PI 585896. Sorghum bicolor (L.) Moench
  DEMONI; Grif 8417; IS 26236; TOGO 170. Collected in Togo. Loko.

PI 585897. Sorghum bicolor (L.) Moench
  MOUMOUNGA; Grif 8418; IS 26247; TOGO 190. Collected in Togo. Loko.

PI 585898. Sorghum bicolor (L.) Moench
  TCHALIDJA; Grif 8419; IS 26251; TOGO 196. Collected in Togo. Mogou.

PI 585899. Sorghum bicolor (L.) Moench
  YOMDJA; Grif 8420; IS 26254; TOGO 199. Collected in Togo. Mogou.

PI 585900. Sorghum bicolor (L.) Moench
  ITOURE; Grif 8421; IS 26255; TOGO 201. Collected in Togo. Mogou.

PI 585901. Sorghum bicolor (L.) Moench
  YOMDJA; Grif 8422; IS 26257; TOGO 205. Collected in Togo. Gando.

PI 585902. Sorghum bicolor (L.) Moench
  OTANTOUNI; Grif 8423; IS 26258; TOGO 206. Collected in Togo. Gando.

PI 585903. Sorghum bicolor (L.) Moench
  EDJIMON; Grif 8424; IS 26259; TOGO 207. Collected in Togo. Gando.

PI 585904. Sorghum bicolor (L.) Moench
  APARAKOU; Grif 8425; IS 26264; TOGO 218. Collected in Togo. Nali.

PI 585905. Sorghum bicolor (L.) Moench
  ANAKOU; Grif 8426; IS 26266; TOGO 225. Collected in Togo. Tchakpamba.

PI 585906. Sorghum bicolor (L.) Moench
  TANGORE; Grif 8427; IS 26267; TOGO 227. Collected in Togo. Tchakpamba.

PI 585907. Sorghum bicolor (L.) Moench
  KOUNTOUAGA; Grif 8428; IS 26272; TOGO 241. Collected in Togo. Soute.

PI 585908. Sorghum bicolor (L.) Moench
  TCHERENGA; Grif 8429; IS 26274; TOGO 243. Collected in Togo. Soute.

PI 585909. Sorghum bicolor (L.) Moench
  TIBOATI; Grif 8430; IS 26278; TOGO 257. Collected in Togo. Wartemon.

PI 585910. Sorghum bicolor (L.) Moench
  SAPAGO; Grif 8431; IS 26279; TOGO 262. Collected in Togo. Baga.

PI 585911. Sorghum bicolor (L.) Moench
  MILA; Grif 8432; IS 26281; TOGO 269. Collected in Togo. Massedena.

PI 585912. Sorghum bicolor (L.) Moench
  IDEMAN; Grif 8433; IS 26282; TOGO 278. Collected in Togo. Nandoundja.

PI 585913. Sorghum bicolor (L.) Moench
  AMOUGNON; Grif 8434; IS 26288; TOGO 301. Collected in Togo. Kadjala.

PI 585914. Sorghum bicolor (L.) Moench
  TCHAKPAO; Grif 8435; IS 26290; TOGO 317. Collected in Togo. Landa Penzende.
PI 585915. Sorghum bicolor (L.) Moench
MAO; Grif 8436; IS 26291; TOGO 318. Collected in Togo. Landa Penzende.

PI 585916. Sorghum bicolor (L.) Moench
KATAPALE; Grif 8437; IS 26292; TOGO 319. Collected in Togo. Landa Penzende.

PI 585917. Sorghum bicolor (L.) Moench
KATAPALE; Grif 8438; IS 26298; TOGO 328. Collected in Togo. Lassa.

PI 585918. Sorghum bicolor (L.) Moench
KAZINZINGA; Grif 8439; IS 26300; TOGO 333. Collected in Togo. Ketao.

PI 585919. Sorghum bicolor (L.) Moench
MILZEMIRE; Grif 8440; IS 26302; TOGO 338. Collected in Togo. Gande.

PI 585920. Sorghum bicolor (L.) Moench
IMBONI; Grif 8441; IS 26304; TOGO 341. Collected in Togo. Gande.

PI 585921. Sorghum bicolor (L.) Moench
SEROU; Grif 8442; IS 26305; TOGO 342. Collected in Togo. Gande.

PI 585922. Sorghum bicolor (L.) Moench
MELEZENDE; Grif 8443; IS 26307; TOGO 345. Collected in Togo. Tchambao.

PI 585923. Sorghum bicolor (L.) Moench
MILWOULOUNDE; Grif 8444; IS 26308; TOGO 347. Collected in Togo. Tchambao.

PI 585924. Sorghum bicolor (L.) Moench
DJAKPERE; Grif 8445; IS 26309; TOGO 358. Collected in Togo. Kidjaboun.

PI 585925. Sorghum bicolor (L.) Moench
MAMANG; Grif 8446; IS 26310; TOGO 359. Collected in Togo. Kidjaboun.

PI 585926. Sorghum bicolor (L.) Moench
DJAPORA; Grif 8447; IS 26311; TOGO 360. Collected in Togo. Kidjaboun.

PI 585927. Sorghum bicolor (L.) Moench
IDI; Grif 8448; IS 26314; TOGO 366. Collected in Togo. Guerinkouka.

PI 585928. Sorghum bicolor (L.) Moench
NIDJIRE; Grif 8449; IS 26315; TOGO 368. Collected in Togo. Nanon.

PI 585929. Sorghum bicolor (L.) Moench
IDJI; Grif 8450; IS 26316; TOGO 369. Collected in Togo. Nanon.

PI 585930. Sorghum bicolor (L.) Moench
Grif 8451; IS 26318; TOGO 374. Collected in Togo. Maga.

PI 585931. Sorghum bicolor (L.) Moench
MLAKESSEME; Grif 8452; IS 26324; TOGO 395. Collected in Togo. Djande.

PI 585932. Sorghum bicolor (L.) Moench
MLAKESSEMA; Grif 8453; IS 26328; TOGO 406. Collected in Togo. Santeo.

PI 585933. Sorghum bicolor (L.) Moench
GAMAKOU; Grif 8454; IS 26331; TOGO 413. Collected in Togo. Kabou.

PI 585934. Sorghum bicolor (L.) Moench
IDEMAN; Grif 8455; IS 26332; TOGO 414. Collected in Togo. Kabou.

PI 585935. Sorghum bicolor (L.) Moench
IDEPINE; Grif 8456; IS 26333; TOGO 416. Collected in Togo. Kabou.
PI 585936. Sorghum bicolor (L.) Moench
  IDEPINE; Grif 8457; IS 26334; TOGO 418. Collected in Togo. Bandjeli.

PI 585937. Sorghum bicolor (L.) Moench
  IDJIMA; Grif 8458; IS 26340; TOGO 432. Collected in Togo. Bidjabe.

PI 585938. Sorghum bicolor (L.) Moench
  IDEPINE; Grif 8459; IS 26341; TOGO 436. Collected in Togo. Dimouri.

PI 585939. Sorghum bicolor (L.) Moench
  IDEMAN; Grif 8460; IS 26343; TOGO 438. Collected in Togo. Bagan.

PI 585940. Sorghum bicolor (L.) Moench
  IDEPINE; Grif 8461; IS 26344; TOGO 439. Collected in Togo. Bagan.

PI 585941. Sorghum bicolor (L.) Moench
  BOBAKOKPAN; Grif 8462; IS 26356; TOGO 465. Collected in Togo. Goubi.

PI 585942. Sorghum bicolor (L.) Moench
  BOBAKOKPAN; Grif 8463; IS 26357; TOGO 465. Collected in Togo. Goubi.

PI 585943. Sorghum bicolor (L.) Moench
  BOBADOKPAGO; Grif 8464; IS 26358; TOGO 466. Collected in Togo. Goubi.

PI 585944. Sorghum bicolor (L.) Moench
  MLAKOUKOULOMÉ; Grif 8465; IS 26361; TOGO 472 BIS. Collected in Togo. Kangba.

PI 585945. Sorghum bicolor (L.) Moench
  MLAKESESSEMÉ; Grif 8466; IS 26363; TOGO 485. Collected in Togo. Ouassarabou.

PI 585946. Sorghum bicolor (L.) Moench
  MLAKEFOLO; Grif 8467; IS 26364; TOGO 486. Collected in Togo. Ouassarabou.

PI 585947. Sorghum bicolor (L.) Moench
  MLAKESESSEMÉ; Grif 8468; IS 26365; TOGO 487 BIS. Collected in Togo. Agoulou.

PI 585948. Sorghum bicolor (L.) Moench
  MBONE; Grif 8469; IS 26367; TOGO 489. Collected in Togo. Agoulou.

PI 585949. Sorghum bicolor (L.) Moench
  MLAKOFOLOUNMÉ; Grif 8470; IS 26368; TOGO 491. Collected in Togo. Pazza KotoKoli.

PI 585950. Sorghum bicolor (L.) Moench
  MLAKESESSEMÉ; Grif 8471; IS 26369; TOGO 492. Collected in Togo. Pazza KotoKoli.

PI 585951. Sorghum bicolor (L.) Moench
  MLAKESESSEMÉ; Grif 8472; IS 26371; TOGO 498. Collected in Togo. Aleride.

PI 585952. Sorghum bicolor (L.) Moench
  MLAKOFOUMÉ; Grif 8473; IS 26372; TOGO 501. Collected in Togo. Pagalam.

PI 585953. Sorghum bicolor (L.) Moench
  FLANDEMELA; Grif 8474; IS 26376; TOGO 504 BIS. Collected in Togo. Kalianboua.

PI 585954. Sorghum bicolor (L.) Moench
  MOHOU; Grif 8475; IS 26378; TOGO 505 BIS. Collected in Togo. Kalianboua.
PI 585955. Sorghum bicolor (L.) Moench
MLADELEMA; Grif 8476; IS 26380; TOGO 508. Collected in Togo. Langabou.

PI 585956. Sorghum bicolor (L.) Moench
BOBAKIPPA; Grif 8477; IS 26381; TOGO 517. Collected in Togo. Kougnoun.

PI 585957. Sorghum bicolor (L.) Moench
ABOUKOUWEWE; Grif 8478; IS 26382; TOGO 518. Collected in Togo. Atchinedji.

PI 585958. Sorghum bicolor (L.) Moench
ABOUKOUWEWE; Grif 8479; IS 26383; TOGO 519. Collected in Togo. Atchinedji.

PI 585959. Sorghum bicolor (L.) Moench
EHOYE; Grif 8480; IS 26384; TOGO 520. Collected in Togo. Glito.

PI 585960. Sorghum bicolor (L.) Moench
EHODJIN; Grif 8481; IS 26385; TOGO 521. Collected in Togo. Glito.

PI 585961. Sorghum bicolor (L.) Moench
Grif 8482; IS 26386; TOGO 522. Collected in Togo.

PI 585962. Sorghum bicolor (L.) Moench
EHODJIN; Grif 8483; IS 26387; TOGO 523. Collected in Togo. Ountivou.

PI 585963. Sorghum bicolor (L.) Moench
MLAKESSEMA; Grif 8484; IS 26390; TOGO 535. Collected in Togo. Kati.

PI 585964. Sorghum bicolor (L.) Moench
OHLOE; Grif 8485; IS 26391; TOGO 536. Collected in Togo. Seva.

PI 585965. Sorghum bicolor (L.) Moench
MLAKOFOLOUME; Grif 8486; IS 26392; TOGO 537. Collected in Togo. Fazao.

PI 585966. Sorghum bicolor (L.) Moench
DJOFELA; Grif 8487; IS 26395; TOGO 542. Collected in Togo.

PI 585967. Sorghum bicolor (L.) Moench
YOU FLOUI; Grif 8488; IS 26396; TOGO 544. Collected in Togo. Pagala.

PI 585968. Sorghum bicolor (L.) Moench
YOU FLOUI; Grif 8489; IS 26397; TOGO 545. Collected in Togo. Pagala.

PI 585969. Sorghum bicolor (L.) Moench
BOBAKIKPE; Grif 8490; IS 26398; TOGO 555. Collected in Togo. Igboloudja.

PI 585970. Sorghum bicolor (L.) Moench
BOBAKIKPE; Grif 8491; IS 26399; TOGO 558. Collected in Togo. Bade.

PI 585971. Sorghum bicolor (L.) Moench
Grif 8492; IS 26401; TOGO 562. Collected in Togo. Akaba.

PI 585972. Sorghum bicolor (L.) Moench
YAKA; Grif 8493; IS 26402; TOGO 563. Collected in Togo. Akaba.

PI 585973. Sorghum bicolor (L.) Moench
TCHAMBA; Grif 8494; IS 26403; TOGO 565. Collected in Togo. Akaba.

PI 585974. Sorghum bicolor (L.) Moench
EPODJIN; Grif 8495; IS 26404; TOGO 566. Collected in Togo. Agoume.
PI 585975. *Sorghum bicolor* (L.) Moench
EPOHE; Grif 8496; IS 26405; TOGO 567. Collected in Togo. Agoume.

PI 585976. *Sorghum bicolor* (L.) Moench
BOBAKIKPE; Grif 8497; IS 26406; TOGO 569. Collected in Togo. Iilougba.

PI 585977. *Sorghum bicolor* (L.) Moench
BOBAFOULOU; Grif 8498; IS 26407; TOGO 570. Collected in Togo. Iilougba.

PI 585978. *Sorghum bicolor* (L.) Moench
MLAKESSEMA; Grif 8499; IS 26409; TOGO 574. Collected in Togo. Wahala.

PI 585979. *Sorghum bicolor* (L.) Moench
EPO; Grif 8500; IS 26411; TOGO 580. Collected in Togo. Hahomogbe.

PI 585980. *Sorghum bicolor* (L.) Moench
EPO; Grif 8501; IS 26412; TOGO 581. Collected in Togo. Kpele.

PI 585981. *Sorghum bicolor* (L.) Moench
Grif 8502; IS 26413; SG 3975. Collected in Benin. Zinkame.

PI 585982. *Sorghum bicolor* (L.) Moench
WOWE; Grif 8503; IS 26414; SG 3976. Collected in Benin. Zinkame.

PI 585983. *Sorghum bicolor* (L.) Moench
Grif 8504; IS 26415; SG 3979. Collected in Benin. Kasseholo.

PI 585984. *Sorghum bicolor* (L.) Moench
Grif 8505; IS 26416; SG 3981. Collected in Benin. Paouignan.

PI 585985. *Sorghum bicolor* (L.) Moench
Grif 8506; IS 26418; SG 3983. Collected in Benin. Paouignan.

PI 585986. *Sorghum bicolor* (L.) Moench
BABA FOUN FOUN; Grif 8507; IS 26420; SG 3986. Collected in Benin. Dogbo.

PI 585987. *Sorghum bicolor* (L.) Moench
Grif 8508; IS 26421; SG 3987. Collected in Benin. Boubou.

PI 585988. *Sorghum bicolor* (L.) Moench
BABA KPIKPA; Grif 8509; IS 26422; SG 3988. Collected in Benin. Save.

PI 585989. *Sorghum bicolor* (L.) Moench
Grif 8510; IS 26423; SG 3995. Collected in Benin. Idouya.

PI 585990. *Sorghum bicolor* (L.) Moench
ABO-WEWE; Grif 8511; IS 26424; SG 3996. Collected in Benin. Odougba.

PI 585991. *Sorghum bicolor* (L.) Moench
Grif 8512; IS 26425; SG 3997. Collected in Benin. Ouesse.

PI 585992. *Sorghum bicolor* (L.) Moench
Grif 8513; IS 26426; SG 3998. Collected in Benin. Tchaourou.

PI 585993. *Sorghum bicolor* (L.) Moench
DOBI; Grif 8514; IS 26427; SG 3999. Collected in Benin. Tourou.

PI 585994. *Sorghum bicolor* (L.) Moench
DOBI WOUNKORE; Grif 8515; IS 26430; SG 4004. Collected in Benin. Agrabansou.

PI 585995. *Sorghum bicolor* (L.) Moench
DOBISOEN; Grif 8516; IS 26432; SG 4008. Collected in Benin.

PI 585996. Sorghum bicolor (L.) Moench
DOB; Grif 8517; IS 26433; SG 4010. Collected in Benin. Guinagourou.

PI 585997. Sorghum bicolor (L.) Moench
DOB; Grif 8518; IS 26434; SG 4011. Collected in Benin. Sandilo.

PI 585998. Sorghum bicolor (L.) Moench
GAOURI BELLKI; Grif 8519; IS 26436; SG 4013. Collected in Benin. Santou.

PI 585999. Sorghum bicolor (L.) Moench
DOB PIKI; Grif 8520; IS 26438; SG 4015. Collected in Benin. Derassi.

PI 586000. Sorghum bicolor (L.) Moench
Grif 8521; IS 26439; SG 4017. Collected in Benin. Bessassi.

PI 586001. Sorghum bicolor (L.) Moench
YERE KOUN; Grif 8522; IS 26447; SG 4029. Collected in Benin. Koure.

PI 586002. Sorghum bicolor (L.) Moench
DOB SOAROU; Grif 8523; IS 26448; SG 4030. Collected in Benin. Bouka-Gando.

PI 586003. Sorghum bicolor (L.) Moench
MAALI; Grif 8524; IS 26449; SG 4032. Collected in Benin. Dunkassa.

PI 586004. Sorghum bicolor (L.) Moench
GAFFA; Grif 8525; IS 26450; SG 4033. Collected in Benin. Dunkassa.

PI 586005. Sorghum bicolor (L.) Moench
GAOURI; Grif 8526; IS 26451; SG 4037. Collected in Benin. Peonga.

PI 586006. Sorghum bicolor (L.) Moench
DOB; Grif 8527; IS 26456; SG 4048. Collected in Benin. Sirarou.

PI 586007. Sorghum bicolor (L.) Moench
DOB SOEN; Grif 8528; IS 26458; SG 4054. Collected in Benin. Sakarou.

PI 586008. Sorghum bicolor (L.) Moench
Grif 8529; IS 26459; SG 4059. Collected in Benin. Guessou Sud.

PI 586009. Sorghum bicolor (L.) Moench
Grif 8530; IS 26463; SG 4064. Collected in Benin.

PI 586010. Sorghum bicolor (L.) Moench
SAKARA BOKORO; Grif 8531; IS 26469; SG 4088. Collected in Benin. Gambia.

PI 586011. Sorghum bicolor (L.) Moench
ESSE TENHA; Grif 8532; IS 26484; SG 4109. Collected in Benin.

PI 586012. Sorghum bicolor (L.) Moench
DOB; Grif 8533; IS 26492; SG 4125. Collected in Benin. Bensekou.

PI 586013. Sorghum bicolor (L.) Moench
MAALI; Grif 8534; IS 26500; SG 4139. Collected in Benin. Lolo.

PI 586014. Sorghum bicolor (L.) Moench
MOLOKO; Grif 8535; IS 26521; SG 4172. Collected in Benin.

PI 586015. Sorghum bicolor (L.) Moench
SAKARA BOGOUROU; Grif 8536; IS 26534; SG 4211. Collected in Benin.
PI 586016. *Sorghum bicolor* (L.) Moench
DOBI PIKA; Grif 8537; IS 26540; SG 4237. Collected in Benin. Gbassa.

PI 586017. *Sorghum bicolor* (L.) Moench
YEREGOU; Grif 8538; IS 26544; SG 4246. Collected in Benin. Ouore.

PI 586018. *Sorghum bicolor* (L.) Moench
MAAGANI; Grif 8539; IS 26564; SG 4306. Collected in Benin.

PI 586019. *Sorghum bicolor* (L.) Moench
TCHAHONGA; Grif 8540; IS 26570; SG 4328. Collected in Benin.

PI 586020. *Sorghum bicolor* (L.) Moench
KERYA; Grif 8541; IS 26574; SG 4344. Collected in Benin. Cobly.

PI 586021. *Sorghum bicolor* (L.) Moench
ILA KHA; Grif 8542; IS 26575; SG 4353. Collected in Benin. Poury.

PI 586022. *Sorghum bicolor* (L.) Moench
DOBI FAROU; Grif 8543; IS 26588; SG 4419. Collected in Benin. Birni.

PI 586023. *Sorghum bicolor* (L.) Moench
Grif 8544; IS 26607; WS 80-125. Collected in Madagascar.

PI 586024. *Sorghum bicolor* (L.) Moench
Grif 8545; IS 26609; WS 80-164. Collected in Madagascar.

PI 586025. *Sorghum bicolor* (L.) Moench
Grif 8546; IS 26611; WS 80-217. Collected in Madagascar.

PI 586026. *Sorghum bicolor* (L.) Moench
Grif 8547; IS 26612; WS 80-163. Collected in Madagascar.

PI 586027. *Sorghum bicolor* (L.) Moench
Grif 8548; IS 26618; WS 436. Collected in Madagascar.

PI 586028. *Sorghum bicolor* (L.) Moench
Grif 8549; IS 26620; ZFA 3215. Collected in Zambia. Mungu.

PI 586029. *Sorghum bicolor* (L.) Moench
Grif 8550; IS 26621; ZFA 3216. Collected in Zambia. Mungu.

PI 586030. *Sorghum bicolor* (L.) Moench
Grif 8551; IS 26623; ZFA 3236. Collected in Zambia. Mukinga.

PI 586031. *Sorghum bicolor* (L.) Moench
Grif 8552; IS 26629; ZFA 3244. Collected in Zambia. Mukinga.

PI 586032. *Sorghum bicolor* (L.) Moench
Grif 8553; IS 26630; ZFA 3259. Collected in Zambia. Sangelnge.

PI 586033. *Sorghum bicolor* (L.) Moench
Grif 8554; IS 26632; ZFA 3274. Collected in Zambia. Luvelnega.

PI 586034. *Sorghum bicolor* (L.) Moench
Grif 8555; IS 26637; ZFA 3432. Collected in Zambia. Kaboupo River.

PI 586035. *Sorghum bicolor* (L.) Moench
Grif 8556; IS 26640; ZFA 3570. Collected in Zambia. Chinpebütu.

PI 586036. *Sorghum bicolor* (L.) Moench
Grif 8557; IS 26643; ZFA 3645. Collected in Zambia. Mtamba.

PI 586037. *Sorghum bicolor* (L.) Moench
Grif 8558; IS 26647; ZFA 3162. Collected in Zambia. Solweizi.

PI 586038. Sorghum bicolor (L.) Moench
Grif 8559; IS 26649; ZFA 3170. Collected in Zambia. Solweizi.

PI 586039. Sorghum bicolor (L.) Moench
Grif 8560; IS 26651; ZFA 3180. Collected in Zambia.

PI 586040. Sorghum bicolor (L.) Moench
Grif 8561; IS 26653; ZFA 3193. Collected in Zambia. Kasempa.

PI 586041. Sorghum bicolor (L.) Moench
Grif 8562; IS 26656; ZFA 3197. Collected in Zambia. Lwamabemba.

PI 586042. Sorghum bicolor (L.) Moench
Grif 8563; IS 26657; ZFA 3199. Collected in Zambia. Lwamabemba.

PI 586043. Sorghum bicolor (L.) Moench
Grif 8564; IS 26666; NA 57. Collected in Nigeria.

PI 586044. Sorghum bicolor (L.) Moench
Grif 8565; IS 26668; NA 60. Collected in Nigeria.

PI 586045. Sorghum bicolor (L.) Moench
Grif 8566; IS 26669; NA 61. Collected in Nigeria.

PI 586046. Sorghum bicolor (L.) Moench
Grif 8567; IS 26670; NA 63. Collected in Nigeria.

PI 586047. Sorghum bicolor (L.) Moench
Grif 8568; IS 26671; NA 65. Collected in Nigeria.

PI 586048. Sorghum bicolor (L.) Moench
Grif 8569; IS 26673; NA 68. Collected in Nigeria.

PI 586049. Sorghum bicolor (L.) Moench
Grif 8570; IS 26675; NA 71. Collected in Nigeria.

PI 586050. Sorghum bicolor (L.) Moench
Grif 8571; IS 26677; NA 74. Collected in Nigeria.

PI 586051. Sorghum bicolor (L.) Moench
Grif 8572; IS 26681; NA 93. Collected in Nigeria.

PI 586052. Sorghum bicolor (L.) Moench
Grif 8573; IS 26682; PR 6161. Collected in Malawi.

PI 586053. Sorghum bicolor (L.) Moench
Grif 8574; IS 26684; PR 6163. Collected in Malawi.

PI 586054. Sorghum bicolor (L.) Moench
Grif 8575; IS 26685; PR 6172. Collected in Malawi.

PI 586055. Sorghum bicolor (L.) Moench
KWAZULU ENGINI; Grif 8576; IS 26696; 1963. Collected in South Africa.

PI 586056. Sorghum bicolor (L.) Moench
KWAZULU ENXATHINI; Grif 8577; IS 26698; 1969. Collected in South Africa.

PI 586057. Sorghum bicolor (L.) Moench
KWAZULU ENXATHINI; Grif 8578; IS 26699; 1968. Collected in South Africa.
PI 586058. Sorghum bicolor (L.) Moench
KWAZULU HLEHLEMI; Grif 8579; IS 26701; 1988. Collected in South Africa.

PI 586059. Sorghum bicolor (L.) Moench
KWAZULU HLEHLEMI; Grif 8580; IS 26702; 1991. Collected in South Africa.

PI 586060. Sorghum bicolor (L.) Moench
KWAZULU HLEHLEMI; Grif 8581; IS 26703; 1992. Collected in South Africa.

PI 586061. Sorghum bicolor (L.) Moench
KWAZULU HLEHLEMI; Grif 8582; IS 26704; 1994. Collected in South Africa.

PI 586062. Sorghum bicolor (L.) Moench
KWAZULU HLEHLEMI; Grif 8583; IS 26705; 1996. Collected in South Africa.

PI 586063. Sorghum bicolor (L.) Moench
KWAZULU NGWARASE; Grif 8584; IS 26708; 2053. Collected in South Africa.

PI 586064. Sorghum bicolor (L.) Moench
KWAZULU HLOMULA; Grif 8585; IS 26709; 2069. Collected in South Africa.

PI 586065. Sorghum bicolor (L.) Moench
KWAZULU MAHLUNGULU; Grif 8586; IS 26710; 2117. Collected in South Africa.

PI 586066. Sorghum bicolor (L.) Moench
KWAZULU KWATHLIGOLAE; Grif 8587; IS 26711; 2126. Collected in South Africa.

PI 586067. Sorghum bicolor (L.) Moench
KWAZULU MSELENI; Grif 8588; IS 26713; 2176. Collected in South Africa.

PI 586068. Sorghum bicolor (L.) Moench
KWAZULU MAKATINI; Grif 8589; IS 26717; 2254. Collected in South Africa.

PI 586069. Sorghum bicolor (L.) Moench
KWAZULU MAKATINI; Grif 8590; IS 26718; 2255. Collected in South Africa.

PI 586070. Sorghum bicolor (L.) Moench
KWAZULU MAKATINI; Grif 8591; IS 26720; 2257. Collected in South Africa.

PI 586071. Sorghum bicolor (L.) Moench
KWAZULU MAHLANGERI; Grif 8592; IS 26726; 2265. Collected in South Africa.

PI 586072. Sorghum bicolor (L.) Moench
TRANSHI BROWN; Grif 8593; IS 26728; 65014. Collected in South Africa.

PI 586073. Sorghum bicolor (L.) Moench
HAAHBROING; Grif 8594; IS 26730; 65113. Collected in South Africa.

PI 586074. Sorghum bicolor (L.) Moench
BARNARD RED; Grif 8595; IS 26733; 65124. Collected in South Africa.

PI 586075. Sorghum bicolor (L.) Moench
RAMAHOTHLA; Grif 8596; IS 26734; 65125. Collected in South Africa.

PI 586076. Sorghum bicolor (L.) Moench
Grif 8597; IS 26735; 65128. Collected in South Africa.

PI 586077. Sorghum bicolor (L.) Moench
Grif 8598; IS 26736; 65306. Collected in South Africa.

PI 586078. Sorghum bicolor (L.) Moench
PI 586079. Sorghum bicolor (L.) Moench
Grif 8600; IS 26742; 67378. Collected in South Africa. Pedigree - H 11 X 51 WIL.

PI 586080. Sorghum bicolor (L.) Moench
Grif 8601; IS 26743; 67379. Collected in South Africa.

PI 586081. Sorghum bicolor (L.) Moench
UOEILPROET; Grif 8602; IS 26744; 67380. Collected in South Africa.

PI 586082. Sorghum bicolor (L.) Moench
HEGARI 1958; Grif 8603; IS 26745; 67381. Collected in South Africa.

PI 586083. Sorghum bicolor (L.) Moench

PI 586084. Sorghum bicolor (L.) Moench
TENANT WHITE; Grif 8605; IS 26750; 69713. Collected in South Africa.

PI 586085. Sorghum bicolor (L.) Moench
TENANT WHITE; Grif 8606; IS 26752; 69716. Collected in South Africa.

PI 586086. Sorghum bicolor (L.) Moench
SEGHOLANE; Grif 8607; IS 26753; 69721. Collected in South Africa.

PI 586087. Sorghum bicolor (L.) Moench
Grif 8608; IS 26755; 69723. Collected in South Africa.

PI 586088. Sorghum bicolor (L.) Moench
Grif 8609; IS 26756; 69724. Collected in South Africa.

PI 586089. Sorghum bicolor (L.) Moench
Grif 8610; IS 26757; 69725. Collected in South Africa.

PI 586090. Sorghum bicolor (L.) Moench
Grif 8611; IS 26758; 69726. Collected in South Africa.

PI 586091. Sorghum bicolor (L.) Moench
Grif 8612; IS 26759; 69727. Collected in South Africa.

PI 586092. Sorghum bicolor (L.) Moench
RED; Grif 8613; IS 26760; 69728. Collected in South Africa.

PI 586093. Sorghum bicolor (L.) Moench
ROMA WHITE; Grif 8614; IS 26761; 69729. Collected in South Africa.

PI 586094. Sorghum bicolor (L.) Moench
MBASA; Grif 8615; IS 26763; 69733. Collected in South Africa.

PI 586095. Sorghum bicolor (L.) Moench
MBASA; Grif 8616; IS 26766; 69737. Collected in South Africa.

PI 586096. Sorghum bicolor (L.) Moench
LUNDA; Grif 8617; IS 26768; 69741. Collected in South Africa.

PI 586097. Sorghum bicolor (L.) Moench
MAVI; Grif 8618; IS 26771; 69747. Collected in South Africa.

PI 586098. Sorghum bicolor (L.) Moench
MATAKUJI; Grif 8619; IS 26774; 69751. Collected in South Africa.
PI 586099. Sorghum bicolor (L.) Moench
MOTHOENG; Grif 8620; IS 26775; 69754. Collected in South Africa.

PI 586100. Sorghum bicolor (L.) Moench
APIERBORN ROOI; Grif 8621; IS 26786; 73183. Collected in South Africa.

PI 586101. Sorghum bicolor (L.) Moench
WIT; Grif 8622; IS 26787; 73225. Collected in South Africa.

PI 586102. Sorghum bicolor (L.) Moench
Grif 8623; IS 26789; 81141. Collected in South Africa.

PI 586103. Sorghum bicolor (L.) Moench
Grif 8624; IS 26897; S 756. Collected in Nigeria.

PI 586104. Sorghum bicolor (L.) Moench
Grif 8625; IS 26898; S 774-1. Collected in Nigeria.

PI 586105. Sorghum bicolor (L.) Moench
Grif 8626; IS 26905; S 832-1. Collected in Nigeria.

PI 586106. Sorghum bicolor (L.) Moench
NOURIDII; Grif 8627; IS 27296; SG 6125. Collected in Burkina Faso. Djoumsougou.

PI 586107. Sorghum bicolor (L.) Moench
Grif 8628; IS 27297; SG 6127. Collected in Burkina Faso. Djika.

PI 586108. Sorghum bicolor (L.) Moench
Grif 8629; IS 27298; SG 6128. Collected in Burkina Faso. Djika.

PI 586109. Sorghum bicolor (L.) Moench
Grif 8630; IS 27299; SG 6129. Collected in Burkina Faso. Djika.

PI 586110. Sorghum bicolor (L.) Moench
Grif 8631; IS 27300; SG 6130. Collected in Burkina Faso. Gorgadjii.

PI 586111. Sorghum bicolor (L.) Moench
Grif 8632; IS 27301; SG 6134. Collected in Burkina Faso. Sikire.

PI 586112. Sorghum bicolor (L.) Moench
Grif 8633; IS 27302; SG 6135. Collected in Burkina Faso. Tassamakat.

PI 586113. Sorghum bicolor (L.) Moench
Grif 8634; IS 27303; SG 6136. Collected in Burkina Faso. Tassamakat.

PI 586114. Sorghum bicolor (L.) Moench
Grif 8635; IS 27304; SG 6137. Collected in Burkina Faso. Touka Bayel.

PI 586115. Sorghum bicolor (L.) Moench
Grif 8636; IS 27305; SG 6139. Collected in Burkina Faso. Touka Bayel.

PI 586116. Sorghum bicolor (L.) Moench
M'BAYERI; Grif 8637; IS 27306; SG 6140. Collected in Burkina Faso. Sampelga.

PI 586117. Sorghum bicolor (L.) Moench
Grif 8638; IS 27307; SG 6141. Collected in Burkina Faso. Sampelga.

PI 586118. Sorghum bicolor (L.) Moench
Grif 8639; IS 27308; SG 6142. Collected in Burkina Faso. Seba.

PI 586119. Sorghum bicolor (L.) Moench
Grif 8640; IS 27309; SG 6144. Collected in Burkina Faso. Yantora.
PI 586120. Sorghum bicolor (L.) Moench  
Grif 8641; IS 27310; SG 6145. Collected in Burkina Faso. Yantora.

PI 586121. Sorghum bicolor (L.) Moench  
DABO; Grif 8642; IS 27312; SG 6152. Collected in Burkina Faso. Sambougou.

PI 586122. Sorghum bicolor (L.) Moench  
PISSOUPOUE MOPTI; Grif 8643; IS 27313; SG 6153. Collected in Burkina Faso. Sambougou.

PI 586123. Sorghum bicolor (L.) Moench  
Grif 8644; IS 27315; SG 6155. Collected in Burkina Faso. Dori.

PI 586124. Sorghum bicolor (L.) Moench  
Grif 8645; IS 27316; SG 6156. Collected in Burkina Faso. Dori.

PI 586125. Sorghum bicolor (L.) Moench  
KAZINGA KARAGA; Grif 8646; IS 27317; SG 6157. Collected in Burkina Faso. Miapsi.

PI 586126. Sorghum bicolor (L.) Moench  
TINTANGA-BANINGA; Grif 8647; IS 27318; SG 6159. Collected in Burkina Faso. Miapsi.

PI 586127. Sorghum bicolor (L.) Moench  
DIMOUWGA MOPTI; Grif 8648; IS 27319; SG 6160. Collected in Burkina Faso. Diagourou.

PI 586128. Sorghum bicolor (L.) Moench  
Grif 8649; IS 27320; SG 6162. Collected in Burkina Faso. Koala.

PI 586129. Sorghum bicolor (L.) Moench  
DIMOUWGA; Grif 8650; IS 27321; SG 6163. Collected in Burkina Faso. Koala.

PI 586130. Sorghum bicolor (L.) Moench  
DIMOUWGA; Grif 8651; IS 27322; SG 6163-1. Collected in Burkina Faso. Koala.

PI 586131. Sorghum bicolor (L.) Moench  
MOPTI; Grif 8652; IS 27323; SG 6164. Collected in Burkina Faso. Koala.

PI 586132. Sorghum bicolor (L.) Moench  
OUBI; Grif 8653; IS 27324; SG 6165. Collected in Burkina Faso. Koala.

PI 586133. Sorghum bicolor (L.) Moench  
DIGUE; Grif 8654; IS 27325; SG 6167. Collected in Burkina Faso. Koala.

PI 586134. Sorghum bicolor (L.) Moench  
BELOKO; Grif 8655; IS 27326; SG 6172. Collected in Burkina Faso. Yalogo.

PI 586135. Sorghum bicolor (L.) Moench  
HAMO KARO; Grif 8656; IS 27327; SG 6175. Collected in Burkina Faso. Gaigou.

PI 586136. Sorghum bicolor (L.) Moench  
M'BAYERI; Grif 8657; IS 27328; SG 6182. Collected in Burkina Faso. Deou.

PI 586137. Sorghum bicolor (L.) Moench  
Grif 8658; IS 27329; SG 6185. Collected in Burkina Faso. Guesselnay.
PI 586138. *Sorghum bicolor* (L.) Moench
M'BAYERI BADERI; Grif 8659; IS 27330; SG 6187. Collected in Burkina Faso. Guesselnay.

PI 586139. *Sorghum bicolor* (L.) Moench
AKOULLOUGA; Grif 8660; IS 27331; SG 6193. Collected in Burkina Faso. Darsalam.

PI 586140. *Sorghum bicolor* (L.) Moench
M'BAYERI; Grif 8661; IS 27332; SG 6194. Collected in Burkina Faso. Baraboule.

PI 586141. *Sorghum bicolor* (L.) Moench
Grif 8662; IS 27333; SG 6195. Collected in Burkina Faso. Titao.

PI 586142. *Sorghum bicolor* (L.) Moench
Grif 8663; IS 27334; SG 6201. Collected in Burkina Faso. Titao.

PI 586143. *Sorghum bicolor* (L.) Moench
M'BAYERI; Grif 8664; IS 27335; SG 6202. Collected in Burkina Faso. Ban.

PI 586144. *Sorghum bicolor* (L.) Moench
M'BAYERI; Grif 8665; IS 27336; SG 6204. Collected in Burkina Faso. Madougou.

PI 586145. *Sorghum bicolor* (L.) Moench
M'BAYERI; Grif 8666; IS 27337; SG 6205. Collected in Burkina Faso. Thiou.

PI 586146. *Sorghum bicolor* (L.) Moench
M'BAYERI; Grif 8667; IS 27338; SG 6206. Collected in Burkina Faso. Bango.

PI 586147. *Sorghum bicolor* (L.) Moench
Grif 8668; IS 27339; SG 6207. Collected in Burkina Faso. Ouahigouya.

PI 586148. *Sorghum bicolor* (L.) Moench
Grif 8669; IS 27340; SG 6208. Collected in Burkina Faso. Titao.

PI 586149. *Sorghum bicolor* (L.) Moench
KIENDA; Grif 8670; IS 27341; SG 6209. Collected in Burkina Faso. Touffe.

PI 586150. *Sorghum bicolor* (L.) Moench

PI 586151. *Sorghum bicolor* (L.) Moench
Grif 8672; IS 27343; SG 6212. Collected in Burkina Faso. Gaskinde.

PI 586152. *Sorghum bicolor* (L.) Moench
BALI PELLERA; Grif 8673; IS 27344; SG 6213. Collected in Burkina Faso. Boulounga.

PI 586153. *Sorghum bicolor* (L.) Moench
Grif 8674; IS 27345; SG 6217. Collected in Burkina Faso. Rollo.

PI 586154. *Sorghum bicolor* (L.) Moench
Grif 8675; IS 27346; SG 6218. Collected in Burkina Faso. Pogoro.

PI 586155. *Sorghum bicolor* (L.) Moench
Grif 8676; IS 27347; SG 6219. Collected in Burkina Faso. Ouahigouya.

PI 586156. *Sorghum bicolor* (L.) Moench
Grif 8677; IS 27349; SG 6221. Collected in Burkina Faso. Teossogo.

PI 586157. Sorghum bicolor (L.) Moench
Grif 8678; IS 27350; SG 6222. Collected in Burkina Faso. Seguenega.

PI 586158. Sorghum bicolor (L.) Moench
Grif 8679; IS 27351; SG 6223. Collected in Burkina Faso. Seguenega.

PI 586159. Sorghum bicolor (L.) Moench
Grif 8680; IS 27352; SG 6224. Collected in Burkina Faso. Tikare.

PI 586160. Sorghum bicolor (L.) Moench
Grif 8681; IS 27353; SG 6226. Collected in Burkina Faso. Tikare.

PI 586161. Sorghum bicolor (L.) Moench

PI 586162. Sorghum bicolor (L.) Moench
Grif 8683; IS 27356; SG 6229. Collected in Burkina Faso. Kongoussi.

PI 586163. Sorghum bicolor (L.) Moench
Grif 8684; IS 27357; SG 6230. Collected in Burkina Faso. Mone.

PI 586164. Sorghum bicolor (L.) Moench
Grif 8685; IS 27358; SG 6231. Collected in Burkina Faso. Mone.

PI 586165. Sorghum bicolor (L.) Moench
Grif 8686; IS 27359; SG 6233. Collected in Burkina Faso. Ziniare.

PI 586166. Sorghum bicolor (L.) Moench
Grif 8687; IS 27360; SG 6234. Collected in Burkina Faso. Ouaga.

PI 586167. Sorghum bicolor (L.) Moench
Grif 8688; IS 27361; SG 6235. Collected in Burkina Faso. Zorgo.

PI 586168. Sorghum bicolor (L.) Moench

PI 586169. Sorghum bicolor (L.) Moench
Grif 8690; IS 27363; SG 6237. Collected in Burkina Faso. Zorgo.

PI 586170. Sorghum bicolor (L.) Moench
BELOKO; Grif 8691; IS 27364; SG 6239. Collected in Burkina Faso. Kalourtenga.

PI 586171. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8692; IS 27365; SG 6240. Collected in Burkina Faso. Kalourtenga.

PI 586172. Sorghum bicolor (L.) Moench
Grif 8693; IS 27366; SG 6241. Collected in Burkina Faso. Nyega.

PI 586173. Sorghum bicolor (L.) Moench
Grif 8694; IS 27367; SG 6242. Collected in Burkina Faso. Nyega.

PI 586174. Sorghum bicolor (L.) Moench

PI 586175. Sorghum bicolor (L.) Moench

PI 586176. Sorghum bicolor (L.) Moench
PI 586177. Sorghum bicolor (L.) Moench
BELOKO; Grif 8698; IS 27372; SG 6247. Collected in Burkina Faso. Dargo.

PI 586178. Sorghum bicolor (L.) Moench

PI 586179. Sorghum bicolor (L.) Moench

PI 586180. Sorghum bicolor (L.) Moench
PISSOUPOUE; Grif 8701; IS 27376; SG 6251. Collected in Burkina Faso. Fada n'Gourma.

PI 586181. Sorghum bicolor (L.) Moench
Grif 8702; IS 27377; SG 6252. Collected in Burkina Faso. Kantchari.

PI 586182. Sorghum bicolor (L.) Moench
Grif 8703; IS 27378; SG 6253. Collected in Burkina Faso. Kantchari.

PI 586183. Sorghum bicolor (L.) Moench
Grif 8704; IS 27379; SG 6255. Collected in Burkina Faso. Comondi.

PI 586184. Sorghum bicolor (L.) Moench
Grif 8705; IS 27380; SG 6256. Collected in Burkina Faso. Diapaga.

PI 586185. Sorghum bicolor (L.) Moench
Grif 8706; IS 27381; SG 6257. Collected in Burkina Faso. Diapaga.

PI 586186. Sorghum bicolor (L.) Moench
TIANTOLI; Grif 8707; IS 27382; SG 6258. Collected in Burkina Faso. Topoa.

PI 586187. Sorghum bicolor (L.) Moench
ITIARE; Grif 8708; IS 27384; SG 6263. Collected in Burkina Faso. Tougou.

PI 586188. Sorghum bicolor (L.) Moench
DIMOUANGA; Grif 8709; IS 27385; SG 6264. Collected in Burkina Faso. Tougou.

PI 586189. Sorghum bicolor (L.) Moench
IBIARI; Grif 8710; IS 27386; SG 6265. Collected in Burkina Faso. Tougou.

PI 586190. Sorghum bicolor (L.) Moench
KIEMBORI; Grif 8711; IS 27388; SG 6267. Collected in Burkina Faso. Pama.

PI 586191. Sorghum bicolor (L.) Moench
Grif 8712; IS 27389; SG 6268. Collected in Burkina Faso. Biebiga.

PI 586192. Sorghum bicolor (L.) Moench
Grif 8713; IS 27390; SG 6269. Collected in Burkina Faso. Biebiga.

PI 586193. Sorghum bicolor (L.) Moench
BELOKO; Grif 8714; IS 27391; SG 6270. Collected in Burkina Faso. Sanga.

PI 586194. Sorghum bicolor (L.) Moench
YILM KY; Grif 8715; IS 27392; SG 6271. Collected in Burkina Faso. Sanga.

PI 586195. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8716; IS 27393; SG 6273. Collected in Burkina Faso. Ouargay.
PI 586196. *Sorghum bicolor* (L.) Moench  
KARAGA; Grif 8717; IS 27394; SG 6274. Collected in Burkina Faso. Ouargay.

PI 586197. *Sorghum bicolor* (L.) Moench  
OUEDIKY; Grif 8718; IS 27395; SG 6275. Collected in Burkina Faso. Ouargay.

PI 586198. *Sorghum bicolor* (L.) Moench  
BELOKO; Grif 8719; IS 27396; SG 6276. Collected in Burkina Faso. Ouargay.

PI 586199. *Sorghum bicolor* (L.) Moench  
MASON; Grif 8720; IS 27397; SG 6277. Collected in Burkina Faso. Boussouma.

PI 586200. *Sorghum bicolor* (L.) Moench  
NAM; Grif 8721; IS 27398; SG 6279. Collected in Burkina Faso. Boussouma.

PI 586201. *Sorghum bicolor* (L.) Moench  

PI 586202. *Sorghum bicolor* (L.) Moench  
KALARA; Grif 8723; IS 27400; SG 6281. Collected in Burkina Faso. Manga.

PI 586203. *Sorghum bicolor* (L.) Moench  
KALAGA; Grif 8724; IS 27401; SG 6284. Collected in Burkina Faso. Nobere.

PI 586204. *Sorghum bicolor* (L.) Moench  
KADAGA; Grif 8725; IS 27402; SG 6287. Collected in Burkina Faso. Banou.

PI 586205. *Sorghum bicolor* (L.) Moench  
Grif 8726; IS 27403; SG 6288. Collected in Burkina Faso. Tiebele.

PI 586206. *Sorghum bicolor* (L.) Moench  
KADAGA; Grif 8727; IS 27404; SG 6289. Collected in Burkina Faso. Gadourou.

PI 586207. *Sorghum bicolor* (L.) Moench  
SHONA NIONSO; Grif 8728; IS 27405; SG 6290. Collected in Burkina Faso. Gadourou.

PI 586208. *Sorghum bicolor* (L.) Moench  
KADAGA; Grif 8729; IS 27406; SG 6291. Collected in Burkina Faso. Koumbo.

PI 586209. *Sorghum bicolor* (L.) Moench  
SHONA NIONSO; Grif 8730; IS 27407; SG 6292. Collected in Burkina Faso. Koumbo.

PI 586210. *Sorghum bicolor* (L.) Moench  
KOBENDE; Grif 8731; IS 27408; SG 6295. Collected in Burkina Faso. Sabatenga.

PI 586211. *Sorghum bicolor* (L.) Moench  
KAZINGA; Grif 8732; IS 27409; SG 6296. Collected in Burkina Faso. Sabatenga.

PI 586212. *Sorghum bicolor* (L.) Moench  
BELOKO; Grif 8733; IS 27410; SG 6297. Collected in Burkina Faso. Sabatenga.
PI 586213. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8734; IS 27411; SG 6299. Collected in Burkina Faso. Razuinssi.

PI 586214. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8735; IS 27412; SG 6300. Collected in Burkina Faso. Razuinssi.

PI 586215. Sorghum bicolor (L.) Moench
BANINGA WANUIINGA; Grif 8736; IS 27413; SG 6301. Collected in Burkina Faso. Napalague.

PI 586216. Sorghum bicolor (L.) Moench
BANINGA; Grif 8737; IS 27414; SG 6302. Collected in Burkina Faso. Napalague.

PI 586217. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8738; IS 27415; SG 6303. Collected in Burkina Faso. Napalague.

PI 586218. Sorghum bicolor (L.) Moench
KAZINGA ZOUWOKO; Grif 8739; IS 27416; SG 6304. Collected in Burkina Faso. Ibia.

PI 586219. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8740; IS 27417; SG 6305. Collected in Burkina Faso. Ibia.

PI 586220. Sorghum bicolor (L.) Moench
BANINGA KENSALVEGA; Grif 8741; IS 27418; SG 6306. Collected in Burkina Faso. Ibia.

PI 586221. Sorghum bicolor (L.) Moench
BANINGA KEMPELGA; Grif 8742; IS 27419; SG 6307. Collected in Burkina Faso. Ibia.

PI 586222. Sorghum bicolor (L.) Moench
FIMIEGOU; Grif 8743; IS 27420; SG 6308. Collected in Burkina Faso. Ibia.

PI 586223. Sorghum bicolor (L.) Moench
KAZINGA ZOUOKO; Grif 8744; IS 27421; SG 6309. Collected in Burkina Faso. Zongbega.

PI 586224. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8745; IS 27422; SG 6310. Collected in Burkina Faso. Zongbega.

PI 586225. Sorghum bicolor (L.) Moench
BANINGA NAKOUGOULI; Grif 8746; IS 27423; SG 6311. Collected in Burkina Faso. Zongbega.

PI 586226. Sorghum bicolor (L.) Moench
BANINGA KAMIOUGOU; Grif 8747; IS 27424; SG 6312. Collected in Burkina Faso. Zongbega.

PI 586227. Sorghum bicolor (L.) Moench
BANINGA BELOKO; Grif 8748; IS 27425; SG 6313. Collected in Burkina Faso. Yako.

PI 586228. Sorghum bicolor (L.) Moench
KAZINGA RIGWONGO; Grif 8749; IS 27426; SG 6314. Collected in Burkina Faso. Yako.
PI 586229. Sorghum bicolor (L.) Moench
BANINGA; Grif 8750; IS 27427; SG 6315. Collected in Burkina Faso. Yako.

PI 586230. Sorghum bicolor (L.) Moench
BANINGA KAPELGA; Grif 8751; IS 27428; SG 6316. Collected in Burkina Faso. Dourou.

PI 586231. Sorghum bicolor (L.) Moench
BANINGA KAMANKI; Grif 8752; IS 27429; SG 6318. Collected in Burkina Faso. Dourou.

PI 586232. Sorghum bicolor (L.) Moench
BANINGA; Grif 8753; IS 27430; SG 6319. Collected in Burkina Faso. Gongo.

PI 586233. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8754; IS 27431; SG 6320. Collected in Burkina Faso. Gongo.

PI 586234. Sorghum bicolor (L.) Moench
BANINGA ZONOLODO; Grif 8755; IS 27432; SG 6321. Collected in Burkina Faso. Gorki.

PI 586235. Sorghum bicolor (L.) Moench
BANINGA RAMINI; Grif 8756; IS 27433; SG 6322. Collected in Burkina Faso. Gorki.

PI 586236. Sorghum bicolor (L.) Moench
BANINGA RUSSAGA; Grif 8757; IS 27434; SG 6323. Collected in Burkina Faso. Gorki.

PI 586237. Sorghum bicolor (L.) Moench
KAZINGA KALOABGA; Grif 8758; IS 27435; SG 6324. Collected in Burkina Faso. Gorki.

PI 586238. Sorghum bicolor (L.) Moench
BANINGA KOMBANGE; Grif 8759; IS 27436; SG 6325. Collected in Burkina Faso. Gorki.

PI 586239. Sorghum bicolor (L.) Moench
Grif 8760; IS 27437; SG 6326. Collected in Burkina Faso. Bouga.

PI 586240. Sorghum bicolor (L.) Moench
KAZINGA; Grif 8761; IS 27438; SG 6327. Collected in Burkina Faso. Bouga.

PI 586241. Sorghum bicolor (L.) Moench
BANINGA PELGA; Grif 8762; IS 27440; SG 6329. Collected in Burkina Faso. Bouga.

PI 586242. Sorghum bicolor (L.) Moench
BANINGA KAPELGA; Grif 8763; IS 27441; SG 6331. Collected in Burkina Faso. Bema.

PI 586243. Sorghum bicolor (L.) Moench
KAZINGA ZOUOKO; Grif 8764; IS 27442; SG 6332. Collected in Burkina Faso. Bema.

PI 586244. Sorghum bicolor (L.) Moench
KAZINGA RIGWONGO; Grif 8765; IS 27443; SG 6333. Collected in Burkina Faso. Bema.

PI 586245. Sorghum bicolor (L.) Moench
KAZINGA KOLIMNOAGA; Grif 8766; IS 27444; SG 6334. Collected in Burkina Faso.
PI 586246. Sorghum bicolor (L.) Moench
KAZINGA RIGWONGO; Grif 8767; IS 27445; SG 6335. Collected in Burkina Faso. Niessegua.

PI 586247. Sorghum bicolor (L.) Moench
BANINGA BELOKO; Grif 8768; IS 27446; SG 6336. Collected in Burkina Faso. Niessegua.

PI 586248. Sorghum bicolor (L.) Moench
BANINGA NIOUGA; Grif 8769; IS 27447; SG 6337. Collected in Burkina Faso. Niessegua.

PI 586249. Sorghum bicolor (L.) Moench
KIENDA ZONOB; Grif 8770; IS 27448; SG 6339. Collected in Burkina Faso. Rogo.

PI 586250. Sorghum bicolor (L.) Moench
KAZINGA KAZIN KUESSE; Grif 8771; IS 27449; SG 6341. Collected in Burkina Faso. Rogo.

PI 586251. Sorghum bicolor (L.) Moench
BANINGA; Grif 8772; IS 27450; SG 6345. Collected in Burkina Faso. Bilenga.

PI 586252. Sorghum bicolor (L.) Moench
KIENDA; Grif 8773; IS 27451; SG 6348. Collected in Burkina Faso. Sissamba.

PI 586253. Sorghum bicolor (L.) Moench
KAPELPOURE; Grif 8774; IS 27452; SG 6349. Collected in Burkina Faso. Sissamba.

PI 586254. Sorghum bicolor (L.) Moench
KIENDA BELOKO; Grif 8775; IS 27453; SG 6351. Collected in Burkina Faso. Lei.

PI 586255. Sorghum bicolor (L.) Moench
KAPELPOURE; Grif 8776; IS 27454; SG 6352. Collected in Burkina Faso. Lei.

PI 586256. Sorghum bicolor (L.) Moench
KENENKE; Grif 8777; IS 27455; SG 6353. Collected in Burkina Faso. Ouile.

PI 586257. Sorghum bicolor (L.) Moench
KENENKE ZONTO; Grif 8778; IS 27456; SG 6354. Collected in Burkina Faso. Ouile.

PI 586258. Sorghum bicolor (L.) Moench
KENENKE ZOURA; Grif 8779; IS 27457; SG 6355. Collected in Burkina Faso. Ouile.

PI 586259. Sorghum bicolor (L.) Moench
Grif 8780; IS 27458; SG 6356. Collected in Burkina Faso. Ouile.

PI 586260. Sorghum bicolor (L.) Moench
N'GUETA TINTON; Grif 8781; IS 27459; SG 6357. Collected in Burkina Faso. Gamboro.

PI 586261. Sorghum bicolor (L.) Moench
N'GUETA YAMESSENE; Grif 8782; IS 27460; SG 6358. Collected in Burkina Faso. Gamboro.
PI 586262. *Sorghum bicolor* (L.) Moench
N'GUETA BELOKO; Grif 8783; IS 27461; SG 6360. Collected in Burkina Faso. Gamboro.

PI 586263. *Sorghum bicolor* (L.) Moench
DAN GUALIN; Grif 8784; IS 27464; SG 6363. Collected in Burkina Faso. Seme.

PI 586264. *Sorghum bicolor* (L.) Moench
DAN TOUSSO; Grif 8785; IS 27465; SG 6364. Collected in Burkina Faso. Seme.

PI 586265. *Sorghum bicolor* (L.) Moench
DAN ZOUGOU; Grif 8786; IS 27466; SG 6365. Collected in Burkina Faso. Seme.

PI 586266. *Sorghum bicolor* (L.) Moench
YOUFOU; Grif 8787; IS 27468; SG 6367. Collected in Burkina Faso. Ouru.

PI 586267. *Sorghum bicolor* (L.) Moench
YOUFOU; Grif 8788; IS 27469; SG 6368. Collected in Burkina Faso. Ouru.

PI 586268. *Sorghum bicolor* (L.) Moench
YETAM; Grif 8789; IS 27470; SG 6369. Collected in Burkina Faso. Ouru.

PI 586269. *Sorghum bicolor* (L.) Moench
YOUFOU; Grif 8790; IS 27471; SG 6370. Collected in Burkina Faso. Dagale.

PI 586270. *Sorghum bicolor* (L.) Moench
YETAM; Grif 8791; IS 27472; SG 6371. Collected in Burkina Faso. Dagale.

PI 586271. *Sorghum bicolor* (L.) Moench
YOU; Grif 8792; IS 27473; SG 6372. Collected in Burkina Faso. Dissi.

PI 586272. *Sorghum bicolor* (L.) Moench
Grif 8793; IS 27474; SG 6373. Collected in Burkina Faso. Dissi.

PI 586273. *Sorghum bicolor* (L.) Moench
YETAM; Grif 8794; IS 27475; SG 6375. Collected in Burkina Faso. Dissi.

PI 586274. *Sorghum bicolor* (L.) Moench
M'BAYERI BELOKO; Grif 8795; IS 27476; SG 6376. Collected in Burkina Faso. Toga.

PI 586275. *Sorghum bicolor* (L.) Moench
M'BAYERI TINTCHAN; Grif 8796; IS 27478; SG 6378. Collected in Burkina Faso. Toga.

PI 586276. *Sorghum bicolor* (L.) Moench
N'DION KUASSTA; Grif 8797; IS 27479; SG 6380. Collected in Burkina Faso. Biba.

PI 586277. *Sorghum bicolor* (L.) Moench
YOUFO; Grif 8798; IS 27480; SG 6381. Collected in Burkina Faso. Biba.

PI 586278. *Sorghum bicolor* (L.) Moench
YETAM; Grif 8799; IS 27481; SG 6382. Collected in Burkina Faso. Kiouma.

PI 586279. *Sorghum bicolor* (L.) Moench
DONMAN; Grif 8800; IS 27482; SG 6383. Collected in Burkina Faso. Kiouma.
PI 586280. Sorghum bicolor (L.) Moench
   DARAMA; Grif 8801; IS 27483; SG 6384. Collected in Burkina Faso.
   Kouchiga.

PI 586281. Sorghum bicolor (L.) Moench
   DARAMA; Grif 8802; IS 27485; SG 6386. Collected in Burkina Faso. Kouri.

PI 586282. Sorghum bicolor (L.) Moench
   DARAMA; Grif 8803; IS 27486; SG 6387. Collected in Burkina Faso. Kouri.

PI 586283. Sorghum bicolor (L.) Moench
   DARAMA; Grif 8804; IS 27487; SG 6388. Collected in Burkina Faso. Kouri.

PI 586284. Sorghum bicolor (L.) Moench
   NIOHOULE; Grif 8805; IS 27488; SG 6389. Collected in Burkina Faso.

PI 586285. Sorghum bicolor (L.) Moench
   DAMA NIOHOULE; Grif 8806; IS 27489; SG 6390. Collected in Burkina Faso.
   Soin.

PI 586286. Sorghum bicolor (L.) Moench
   DAMA SENIO; Grif 8807; IS 27490; SG 6391. Collected in Burkina Faso.
   Soin.

PI 586287. Sorghum bicolor (L.) Moench
   DAMA FLANIO; Grif 8808; IS 27491; SG 6392. Collected in Burkina Faso.
   Soin.

PI 586288. Sorghum bicolor (L.) Moench
   CHIO BABATASSI; Grif 8809; IS 27492; SG 6393. Collected in Burkina Faso.
   Konankira.

PI 586289. Sorghum bicolor (L.) Moench
   CHIO; Grif 8810; IS 27493; SG 6394. Collected in Burkina Faso.
   Konankira.

PI 586290. Sorghum bicolor (L.) Moench
   CHIOFIDA; Grif 8811; IS 27494; SG 6395. Collected in Burkina Faso.
   Bomborokui.

PI 586291. Sorghum bicolor (L.) Moench
   CHIO BAOALA TAFI; Grif 8812; IS 27495; SG 6396. Collected in Burkina Faso.
   Bomborokui.

PI 586292. Sorghum bicolor (L.) Moench
   CHIO OUARA MONA; Grif 8813; IS 27496; SG 6397. Collected in Burkina Faso.
   Bomborokui.

PI 586293. Sorghum bicolor (L.) Moench
   CHIO DAMA; Grif 8814; IS 27497; SG 6398. Collected in Burkina Faso.
   Tonkoroni.

PI 586294. Sorghum bicolor (L.) Moench
   CHIO TAOTI; Grif 8815; IS 27498; SG 6399. Collected in Burkina Faso.
   Bagala.

PI 586295. Sorghum bicolor (L.) Moench
   WOUORO; Grif 8816; IS 27499; SG 6400. Collected in Burkina Faso. Sabana.

PI 586296. Sorghum bicolor (L.) Moench
   WOUORO MWUTONIA; Grif 8817; IS 27500; SG 6401. Collected in Burkina Faso.
   Daboura.
PI 586297. Sorghum bicolor (L.) Moench
WOURO TENTÉ; Grif 8818; IS 27501; SG 6402. Collected in Burkina Faso. Daboura.

PI 586298. Sorghum bicolor (L.) Moench
HAMLOBO; Grif 8819; IS 27502; SG 6403. Collected in Burkina Faso. Solenzo.

PI 586299. Sorghum bicolor (L.) Moench
MANE DETOUROU; Grif 8820; IS 27503; SG 6404. Collected in Burkina Faso. Denkoro.

PI 586300. Sorghum bicolor (L.) Moench
MANE FOU ROU; Grif 8821; IS 27504; SG 6405. Collected in Burkina Faso. Denkoro.

PI 586301. Sorghum bicolor (L.) Moench
HAMBOLO FEBE; Grif 8822; IS 27505; SG 6406. Collected in Burkina Faso. Kasinguo.

PI 586302. Sorghum bicolor (L.) Moench
HAMBOLO BABATASSI; Grif 8823; IS 27506; SG 6407. Collected in Burkina Faso. Kasinguo.

PI 586303. Sorghum bicolor (L.) Moench
DARAMA NIOBA; Grif 8824; IS 27508; SG 6409. Collected in Burkina Faso. Founa.

PI 586304. Sorghum bicolor (L.) Moench
NIO OULE; Grif 8825; IS 27509; SG 6410. Collected in Burkina Faso. Founa.

PI 586305. Sorghum bicolor (L.) Moench
BIMBIRI OULE; Grif 8826; IS 27510; SG 6411. Collected in Burkina Faso. Founa.

PI 586306. Sorghum bicolor (L.) Moench
BANINGA ROUMLA; Grif 8827; IS 27511; SG 6412. Collected in Burkina Faso. Badala.

PI 586307. Sorghum bicolor (L.) Moench
BANINGA RIGWONGO; Grif 8828; IS 27512; SG 6413. Collected in Burkina Faso. Badala.

PI 586308. Sorghum bicolor (L.) Moench
BANINGA; Grif 8829; IS 27513; SG 6414. Collected in Burkina Faso. Tinikongo.

PI 586309. Sorghum bicolor (L.) Moench
BANINGA; Grif 8830; IS 27514; SG 6415. Collected in Burkina Faso. Soure.

PI 586310. Sorghum bicolor (L.) Moench
BANINGA; Grif 8831; IS 27515; SG 6416. Collected in Burkina Faso. Mangana.

PI 586311. Sorghum bicolor (L.) Moench
KAZINGA KOUIMNONA; Grif 8832; IS 27516; SG 6417. Collected in Burkina Faso. Mangana.

PI 586312. Sorghum bicolor (L.) Moench
BANINGA RIGWONGO; Grif 8833; IS 27517; SG 6418. Collected in Burkina Faso. Mangana.
PI 586313. *Sorghum bicolor* (L.) Moench
KAZINGA RAKO; Grif 8834; IS 27518; SG 6420. Collected in Burkina Faso. Mangana.

PI 586314. *Sorghum bicolor* (L.) Moench
BANINGA LOMBRI; Grif 8835; IS 27519; SG 6421. Collected in Burkina Faso. Mangana.

PI 586315. *Sorghum bicolor* (L.) Moench
OUENI KOLROU; Grif 8836; IS 27520; SG 6422. Collected in Burkina Faso. Bekoui.

PI 586316. *Sorghum bicolor* (L.) Moench
OUENI KOLROU; Grif 8837; IS 27521; SG 6423. Collected in Burkina Faso. Bekoui.

PI 586317. *Sorghum bicolor* (L.) Moench
OUENI KOPOUA; Grif 8838; IS 27522; SG 6424. Collected in Burkina Faso. Bekoui.

PI 586318. *Sorghum bicolor* (L.) Moench
OUENI OUETENTE; Grif 8839; IS 27523; SG 6426. Collected in Burkina Faso. Kera.

PI 586319. *Sorghum bicolor* (L.) Moench
OUENI OUETENTE; Grif 8840; IS 27524; SG 6427. Collected in Burkina Faso. Kera.

PI 586320. *Sorghum bicolor* (L.) Moench
OUENI; Grif 8841; IS 27525; SG 6428. Collected in Burkina Faso. Ouakara.

PI 586321. *Sorghum bicolor* (L.) Moench
OUENI KIENE; Grif 8842; IS 27526; SG 6429. Collected in Burkina Faso. Ouakara.

PI 586322. *Sorghum bicolor* (L.) Moench
CHIO NATIOUNA; Grif 8843; IS 27527; SG 6431. Collected in Burkina Faso. Yaramoko.

PI 586323. *Sorghum bicolor* (L.) Moench
CHIONO; Grif 8844; IS 27528; SG 6432. Collected in Burkina Faso. Yaramoko.

PI 586324. *Sorghum bicolor* (L.) Moench
CHIO; Grif 8845; IS 27529; SG 6433. Collected in Burkina Faso. Yaramoko.

PI 586325. *Sorghum bicolor* (L.) Moench
CHIO YE DOUTUON; Grif 8846; IS 27530; SG 6434. Collected in Burkina Faso. Yaramoko.

PI 586326. *Sorghum bicolor* (L.) Moench
DAMA LIMI; Grif 8847; IS 27531; SG 6435. Collected in Burkina Faso. Bona.

PI 586327. *Sorghum bicolor* (L.) Moench
DAMA SOUNEDEDENI; Grif 8848; IS 27532; SG 6436. Collected in Burkina Faso. Bona.

PI 586328. *Sorghum bicolor* (L.) Moench
DAMA NIOBA; Grif 8849; IS 27533; SG 6437. Collected in Burkina Faso. Yankasso.
PI 586329. *Sorghum bicolor* (L.) Moench

**BIMBIRI**; Grif 8850; IS 27535; SG 6439. Collected in Burkina Faso. Yankasso.

PI 586330. *Sorghum bicolor* (L.) Moench

**BOFORA**; Grif 8851; IS 27536; SG 6440. Collected in Burkina Faso. Sao.

PI 586331. *Sorghum bicolor* (L.) Moench

**BO**; Grif 8852; IS 27537; SG 6441. Collected in Burkina Faso. Sao.

PI 586332. *Sorghum bicolor* (L.) Moench

**YBLA**; Grif 8853; IS 27538; SG 6442. Collected in Burkina Faso. Sao.

PI 586333. *Sorghum bicolor* (L.) Moench

**KAZINGA**; Grif 8854; IS 27539; SG 6443. Collected in Burkina Faso. La Volta.

PI 586334. *Sorghum bicolor* (L.) Moench

**BANINGA**; Grif 8855; IS 27540; SG 6444. Collected in Burkina Faso. La Volta.

PI 586335. *Sorghum bicolor* (L.) Moench

**BO**; Grif 8856; IS 27541; SG 6445. Collected in Burkina Faso. Tiogo.

PI 586336. *Sorghum bicolor* (L.) Moench

**YELE**; Grif 8857; IS 27542; SG 6446. Collected in Burkina Faso. Tiogo.

PI 586337. *Sorghum bicolor* (L.) Moench

**BO YARONO**; Grif 8858; IS 27543; SG 6447. Collected in Burkina Faso. Goundi.

PI 586338. *Sorghum bicolor* (L.) Moench

**YALA YALOME**; Grif 8859; IS 27544; SG 6449. Collected in Burkina Faso. Goundi.

PI 586339. *Sorghum bicolor* (L.) Moench


PI 586340. *Sorghum bicolor* (L.) Moench


PI 586341. *Sorghum bicolor* (L.) Moench

**YALA YALOME**; Grif 8862; IS 27547; SG 6452. Collected in Burkina Faso. Bonyolo.

PI 586342. *Sorghum bicolor* (L.) Moench

**YALA YALAMANA**; Grif 8863; IS 27548; SG 6453. Collected in Burkina Faso. Pouni.

PI 586343. *Sorghum bicolor* (L.) Moench

**YALA YAPSON**; Grif 8864; IS 27549; SG 6454. Collected in Burkina Faso. Pouni.

PI 586344. *Sorghum bicolor* (L.) Moench

**BO**; Grif 8865; IS 27550; SG 6455. Collected in Burkina Faso. Pouni.

PI 586345. *Sorghum bicolor* (L.) Moench

**YALA YAPOULKEL**; Grif 8866; IS 27551; SG 6456. Collected in Burkina Faso. Pouni.

PI 586346. *Sorghum bicolor* (L.) Moench

**YELEMI**; Grif 8867; IS 27552; SG 6457. Collected in Burkina Faso. Pouni.
PI 586347. *Sorghum bicolor* (L.) Moench
BO; Grif 8868; IS 27553; SG 6458. Collected in Burkina Faso. Kya.

PI 586348. *Sorghum bicolor* (L.) Moench
YALA DYA; Grif 8869; IS 27554; SG 6459. Collected in Burkina Faso. Kya.

PI 586349. *Sorghum bicolor* (L.) Moench
YALA GOYA; Grif 8870; IS 27555; SG 6460. Collected in Burkina Faso. Kya.

PI 586350. *Sorghum bicolor* (L.) Moench
BOGO; Grif 8871; IS 27556; SG 6461. Collected in Burkina Faso. Zoulo.

PI 586351. *Sorghum bicolor* (L.) Moench
YALA YAPSON; Grif 8872; IS 27557; SG 6462. Collected in Burkina Faso. Zoulo.

PI 586352. *Sorghum bicolor* (L.) Moench
YALA; Grif 8873; IS 27558; SG 6463. Collected in Burkina Faso. Zoulo.

PI 586353. *Sorghum bicolor* (L.) Moench
BANINGA; Grif 8874; IS 27559; SG 6464. Collected in Burkina Faso. Touessi.

PI 586354. *Sorghum bicolor* (L.) Moench
KAZINGA; Grif 8875; IS 27560; SG 6465. Collected in Burkina Faso. Touessi.

PI 586355. *Sorghum bicolor* (L.) Moench
YALA YALOME; Grif 8876; IS 27561; SG 6466. Collected in Burkina Faso. Nonion.

PI 586356. *Sorghum bicolor* (L.) Moench
Grif 8877; IS 27562; SG 6467. Collected in Burkina Faso. Nonion.

PI 586357. *Sorghum bicolor* (L.) Moench

PI 586358. *Sorghum bicolor* (L.) Moench
Grif 8879; IS 27564; SG 6469. Collected in Burkina Faso. Nonion.

PI 586359. *Sorghum bicolor* (L.) Moench
Grif 8880; IS 27565; SG 6471. Collected in Burkina Faso. Godin.

PI 586360. *Sorghum bicolor* (L.) Moench
Grif 8881; IS 27566; SG 6472. Collected in Burkina Faso. Godin.

PI 586361. *Sorghum bicolor* (L.) Moench
Grif 8882; IS 27567; SG 6473. Collected in Burkina Faso. Godin.

PI 586362. *Sorghum bicolor* (L.) Moench
Grif 8883; IS 27568; SG 6474. Collected in Burkina Faso. Godin.

PI 586363. *Sorghum bicolor* (L.) Moench

PI 586364. *Sorghum bicolor* (L.) Moench
Grif 8885; IS 27570; SG 6476. Collected in Burkina Faso. Nandiala.

PI 586365. *Sorghum bicolor* (L.) Moench
Grif 8886; IS 27572; SG 6478. Collected in Burkina Faso. Velia.

PI 586366. *Sorghum bicolor* (L.) Moench
PI 586367. *Sorghum bicolor* (L.) Moench
Grif 8887; IS 27573; SG 6479. Collected in Burkina Faso. Dana.

PI 586368. *Sorghum bicolor* (L.) Moench
Grif 8888; IS 27574; SG 6480. Collected in Burkina Faso. Dana.

PI 586369. *Sorghum bicolor* (L.) Moench
Grif 8889; IS 27575; SG 6481. Collected in Burkina Faso. Gao.

PI 586370. *Sorghum bicolor* (L.) Moench
Grif 8890; IS 27576; SG 6482. Collected in Burkina Faso. Gao.

PI 586371. *Sorghum bicolor* (L.) Moench
Grif 8891; IS 27577; SG 6483. Collected in Burkina Faso.

PI 586372. *Sorghum bicolor* (L.) Moench
Grif 8892; IS 27578; SG 6484. Collected in Burkina Faso. Metio.

PI 586373. *Sorghum bicolor* (L.) Moench
Grif 8893; IS 27579; SG 6485. Collected in Burkina Faso. Metio.

PI 586374. *Sorghum bicolor* (L.) Moench
Grif 8894; IS 27580; SG 6486. Collected in Burkina Faso. Metio.

PI 586375. *Sorghum bicolor* (L.) Moench
Grif 8895; IS 27581; SG 6487. Collected in Burkina Faso. Sissili.

PI 586376. *Sorghum bicolor* (L.) Moench
Grif 8896; IS 27582; SG 6488. Collected in Burkina Faso. Sissili.

PI 586377. *Sorghum bicolor* (L.) Moench
Grif 8897; IS 27583; SG 6489. Collected in Burkina Faso. Sissili.

PI 586378. *Sorghum bicolor* (L.) Moench

PI 586379. *Sorghum bicolor* (L.) Moench

PI 586380. *Sorghum bicolor* (L.) Moench
Grif 8900; IS 27593; PA 11. Collected in Cameroon. Afade.

PI 586381. *Sorghum bicolor* (L.) Moench
Grif 8901; IS 27594; PA 12. Collected in Cameroon. Afade.

PI 586382. *Sorghum bicolor* (L.) Moench
Grif 8902; IS 27595; PA 13. Collected in Cameroon. Afade.

PI 586383. *Sorghum bicolor* (L.) Moench

PI 586384. *Sorghum bicolor* (L.) Moench

PI 586385. *Sorghum bicolor* (L.) Moench
Grif 8905; IS 27600; PA 18. Collected in Cameroon. Afade.

PI 586386. *Sorghum bicolor* (L.) Moench
Grif 8906; IS 27601; PA 19. Collected in Cameroon. Afade.

PI 586387. *Sorghum bicolor* (L.) Moench
Grif 8907; IS 27602; PA 20. Collected in Cameroon. Afade.

PI 586388. *Sorghum bicolor* (L.) Moench
Grif 8908; IS 27604; PA 22. Collected in Cameroon. Makari.
PI 586388. *Sorghum bicolor* (L.) Moench
Grif 8909; IS 27605; PA 23. Collected in Cameroon. Makari.

PI 586389. *Sorghum bicolor* (L.) Moench
Grif 8910; IS 27606; PA 32. Collected in Cameroon. Goulfey.

PI 586390. *Sorghum bicolor* (L.) Moench
Grif 8911; IS 27607; PA 33. Collected in Cameroon. Goulfey.

PI 586391. *Sorghum bicolor* (L.) Moench
Grif 8912; IS 27608; PA 34-37. Collected in Cameroon. Jagawa.

PI 586392. *Sorghum bicolor* (L.) Moench
Grif 8913; IS 27609; PA 35. Collected in Cameroon. Jagawa.

PI 586393. *Sorghum bicolor* (L.) Moench

PI 586394. *Sorghum bicolor* (L.) Moench
Grif 8915; IS 27611; PA 36. Collected in Cameroon. Gambarn.

PI 586395. *Sorghum bicolor* (L.) Moench
Grif 8916; IS 27612; PA 36-35. Collected in Cameroon. Gambarn.

PI 586396. *Sorghum bicolor* (L.) Moench
Grif 8917; IS 27613; PA 37. Collected in Cameroon. Gambarn.

PI 586397. *Sorghum bicolor* (L.) Moench
Grif 8918; IS 27614; PA 37-34. Collected in Cameroon. Gambarn.

PI 586398. *Sorghum bicolor* (L.) Moench
Grif 8919; IS 27615; PA 38. Collected in Cameroon. Gambarn.

PI 586399. *Sorghum bicolor* (L.) Moench
Grif 8920; IS 27616; PA 45. Collected in Cameroon. Mundu.

PI 586400. *Sorghum bicolor* (L.) Moench
Grif 8921; IS 27617; PA 45-32. Collected in Cameroon. Mundu.

PI 586401. *Sorghum bicolor* (L.) Moench
Grif 8922; IS 27618; PA 46. Collected in Cameroon. Mundu.

PI 586402. *Sorghum bicolor* (L.) Moench

PI 586403. *Sorghum bicolor* (L.) Moench
Grif 8924; IS 27620; PA 51. Collected in Cameroon. Mora.

PI 586404. *Sorghum bicolor* (L.) Moench
Grif 8925; IS 27667; PA 74-7. Collected in Cameroon. Monyo.

PI 586405. *Sorghum bicolor* (L.) Moench
Grif 8926; IS 27668; PA 75. Collected in Cameroon. Monyo.

PI 586406. *Sorghum bicolor* (L.) Moench
NIKT; Grif 8927; IS 27716; PCI 68. Collected in Sierra Leone. Bongoma.

PI 586407. *Sorghum bicolor* (L.) Moench
KEITI; Grif 8928; IS 27717; PCI 78. Collected in Sierra Leone. Baiima.

PI 586408. *Sorghum bicolor* (L.) Moench
KEITI; Grif 8929; IS 27718; PCI 78-1. Collected in Sierra Leone. Baiima
PI 586409. Sorghum bicolor (L.) Moench
    TAGBAYO; Grif 8930; IS 27738; PCI 116. Collected in Sierra Leone. Maboom.

PI 586410. Sorghum bicolor (L.) Moench
    TAGBAYO; Grif 8931; IS 27739; PCI 117. Collected in Sierra Leone. Maboom.

PI 586411. Sorghum bicolor (L.) Moench
    KAGBAYO; Grif 8932; IS 27751; PCI 134. Collected in Sierra Leone. Chenche.

PI 586412. Sorghum bicolor (L.) Moench
    KAGBAYO; Grif 8933; IS 27752; PCI 135. Collected in Sierra Leone. Chenche.

PI 586413. Sorghum bicolor (L.) Moench
    DONGIRI; Grif 8934; IS 27754; PCI 145. Collected in Sierra Leone. Mile 14.

PI 586414. Sorghum bicolor (L.) Moench
    DONGIRI; Grif 8935; IS 27755; PCI 146. Collected in Sierra Leone. Mile 14.

PI 586415. Sorghum bicolor (L.) Moench
    TANKI; Grif 8936; IS 27756; PCI 148. Collected in Sierra Leone. Kabasa.

PI 586416. Sorghum bicolor (L.) Moench
    TANKI; Grif 8937; IS 27758; PCI 151. Collected in Sierra Leone. Kabasa.

PI 586417. Sorghum bicolor (L.) Moench
    TANKI; Grif 8938; IS 27760; PCI 154. Collected in Sierra Leone. Kabasa.

PI 586418. Sorghum bicolor (L.) Moench
    TANGI; Grif 8939; IS 27762; PCI 159. Collected in Sierra Leone. Kagberi.

PI 586419. Sorghum bicolor (L.) Moench
    TANGI; Grif 8940; IS 27764; PCI 161. Collected in Sierra Leone. Kagberi.

PI 586420. Sorghum bicolor (L.) Moench
    KAGBAYOH; Grif 8941; IS 27765; PCI 163. Collected in Sierra Leone. Kagberi.

PI 586421. Sorghum bicolor (L.) Moench
    SEREKETCH; Grif 8942; IS 27769; PCI 170. Collected in Sierra Leone. Lengehkoro.

PI 586422. Sorghum bicolor (L.) Moench
    SEREKETCH; Grif 8943; IS 27770; PCI 171. Collected in Sierra Leone. Lengehkoro.

PI 586423. Sorghum bicolor (L.) Moench
    MURTUNA; Grif 8944; IS 27772; PCI 176. Collected in Sierra Leone. Madogbo.

PI 586424. Sorghum bicolor (L.) Moench
    MURTUNA; Grif 8945; IS 27774; PCI 179. Collected in Sierra Leone. Tamigaya.

PI 586425. Sorghum bicolor (L.) Moench
    MURTUNA; Grif 8946; IS 27775; PCI 183. Collected in Sierra Leone.
Sinkunia.

PI 586426. Sorghum bicolor (L.) Moench
MURTUNA; Grif 8947; IS 27776; PCI 184. Collected in Sierra Leone. Sinkunia.

PI 586427. Sorghum bicolor (L.) Moench
MURTUNA; Grif 8948; IS 27777; PCI 185. Collected in Sierra Leone. Sinkunia.

PI 586428. Sorghum bicolor (L.) Moench
KINDAY; Grif 8949; IS 27778; PCI 186. Collected in Sierra Leone. Kabala.

PI 586429. Sorghum bicolor (L.) Moench
SEREKETEH; Grif 8950; IS 27781; PCI 193. Collected in Sierra Leone. Kamabongai.

PI 586430. Sorghum bicolor (L.) Moench
SEREKETEH; Grif 8951; IS 27782; PCI 194. Collected in Sierra Leone. Kamabongai.

PI 586431. Sorghum bicolor (L.) Moench
Grif 8952; IS 27792; SOR 28/82. Collected in Germany.

PI 586432. Sorghum bicolor (L.) Moench
HEMAIZE; Grif 8953; IS 27797; I 11/959-2. Collected in Hungary.

PI 586433. Sorghum bicolor (L.) Moench
MIKMAKER; Grif 8954; IS 27802; I 10-130. Collected in Hungary.

PI 586434. Sorghum bicolor (L.) Moench
NOVOKUMBANS KOE 26; Grif 8955; IS 27804; I 10-76. Collected in Hungary.

PI 586435. Sorghum bicolor (L.) Moench
SUGAR DRIP; Grif 8956; IS 27808; I 10-38. Collected in Hungary.

PI 586436. Sorghum bicolor (L.) Moench
BARNARDS RED; Grif 8957; IS 27810; 24/2828. Collected in Hungary.

PI 586437. Sorghum bicolor (L.) Moench
BOSMAN; Grif 8958; IS 27811; 24/2819. Collected in Hungary.

PI 586438. Sorghum bicolor (L.) Moench
CAPRICORN; Grif 8959; IS 27812; 22/2833. Collected in Hungary.

PI 586439. Sorghum bicolor (L.) Moench
Grif 8960; IS 27814; 23/876. Collected in Hungary.

PI 586440. Sorghum bicolor (L.) Moench
Grif 8961; IS 27815; 38/8108-11. Collected in Hungary.

PI 586441. Sorghum bicolor (L.) Moench
EARLY HEGARI; Grif 8962; IS 27816; 38/106-11. Collected in Hungary.

PI 586442. Sorghum bicolor (L.) Moench
Grif 8963; IS 27817; E 34; 33/8581. Collected in Hungary.

PI 586443. Sorghum bicolor (L.) Moench
Grif 8964; IS 27818; 33/2556; MN 818. Collected in Hungary.

PI 586444. Sorghum bicolor (L.) Moench
RED TANAPUR; Grif 8965; IS 27825; I 12/1416-1. Collected in Hungary.
PI 586445. Sorghum bicolor (L.) Moench
BLACKHULL KAFIR; Grif 8966; IS 27830; 22/178. Collected in Hungary.

PI 586446. Sorghum bicolor (L.) Moench
BAREA; Grif 8967; IS 27831; I 12-291. Collected in Hungary.

PI 586447. Sorghum bicolor (L.) Moench
DD WHITE SOONER; Grif 8968; IS 27832; I 12-123. Collected in Hungary.

PI 586448. Sorghum bicolor (L.) Moench
CODY; Grif 8969; IS 27833; I 12-61. Collected in Hungary.

PI 586449. Sorghum bicolor (L.) Moench
DD EARLY HEGARI; Grif 8970; IS 27835; I 12-119. Collected in Hungary.

PI 586450. Sorghum bicolor (L.) Moench
EARLY KALO; Grif 8971; IS 27838; I 12-18. Collected in Hungary.

PI 586451. Sorghum bicolor (L.) Moench
FRAMIDA; Grif 8972; IS 27839; I 12-202. Collected in Hungary.

PI 586452. Sorghum bicolor (L.) Moench
HYBAR; Grif 8973; IS 27841; I 12-272. Collected in Hungary.

PI 586453. Sorghum bicolor (L.) Moench
KORTVOSTER; Grif 8974; IS 27842; I 12-256. Collected in Hungary.

PI 586454. Sorghum bicolor (L.) Moench
LEOTI; Grif 8975; IS 27843; I 12-72. Collected in Hungary.

PI 586455. Sorghum bicolor (L.) Moench
MAIZDA; Grif 8976; IS 27844; I 12-52. Collected in Hungary.

PI 586456. Sorghum bicolor (L.) Moench
MARTIN; Grif 8977; IS 27845; I 12-2. Collected in Hungary.

PI 586457. Sorghum bicolor (L.) Moench
PAWNEE; Grif 8978; IS 27846; I 12-149. Collected in Hungary.

PI 586458. Sorghum bicolor (L.) Moench
RED SEED COMBINE; Grif 8979; IS 27847; I 12-84. Collected in Hungary.

PI 586459. Sorghum bicolor (L.) Moench
RELIANCE; Grif 8980; IS 27848; I 12-271. Collected in Hungary.

PI 586460. Sorghum bicolor (L.) Moench
Grif 8981; IS 27851; I 12-133. Collected in Hungary.

PI 586461. Sorghum bicolor (L.) Moench
WAI-BO-CHANG; Grif 8982; IS 27852; I 12-159. Collected in Hungary.

PI 586462. Sorghum bicolor (L.) Moench
Grif 8983; IS 27853; 29/7087. Collected in Hungary.

PI 586463. Sorghum bicolor (L.) Moench
SUHI; Grif 8984; IS 27854; I 14-27. Collected in Hungary.

PI 586464. Sorghum bicolor (L.) Moench
Grif 8985; IS 27856; JM 4562. Collected in South Africa.

PI 586465. Sorghum bicolor (L.) Moench
Grif 8986; IS 27857; JM 4563. Collected in South Africa.

PI 586466. Sorghum bicolor (L.) Moench
Grif 8987; IS 27860; JM 4573. Collected in South Africa.

PI 586467. Sorghum bicolor (L.) Moench
Grif 8988; IS 27861; JM 4574. Collected in South Africa.

PI 586468. Sorghum bicolor (L.) Moench
Grif 8989; IS 27862; JM 4575. Collected in South Africa.

PI 586469. Sorghum bicolor (L.) Moench
Grif 8990; IS 27864; JM 4577. Collected in South Africa.

PI 586470. Sorghum bicolor (L.) Moench
Grif 8991; IS 27867; JM 4581. Collected in South Africa.

PI 586471. Sorghum bicolor (L.) Moench
Grif 8992; IS 27868; JM 4583. Collected in South Africa.

PI 586472. Sorghum bicolor (L.) Moench
Grif 8993; IS 27869; JM 4585. Collected in South Africa.

PI 586473. Sorghum bicolor (L.) Moench
Grif 8994; IS 27870; JM 4586. Collected in South Africa.

PI 586474. Sorghum bicolor (L.) Moench
Grif 8995; IS 27871; JM 4587. Collected in South Africa.

PI 586475. Sorghum bicolor (L.) Moench
Grif 8996; IS 27872; JM 4588. Collected in South Africa.

PI 586476. Sorghum bicolor (L.) Moench
Grif 8997; IS 27873; JM 4592. Collected in South Africa.

PI 586477. Sorghum bicolor (L.) Moench
Grif 8998; IS 27874; JM 4596. Collected in South Africa.

PI 586478. Sorghum bicolor (L.) Moench
Grif 8999; IS 27876; JM 4597. Collected in South Africa.

PI 586479. Sorghum bicolor (L.) Moench
Grif 9000; IS 27877; JM 4601. Collected in South Africa.

PI 586480. Sorghum bicolor (L.) Moench
Grif 9001; IS 27878; JM 4602. Collected in South Africa.

PI 586481. Sorghum bicolor (L.) Moench
Grif 9002; IS 27879; JM 4603. Collected in South Africa.

PI 586482. Sorghum bicolor (L.) Moench
Grif 9003; IS 27880; JM 4605. Collected in South Africa.

PI 586483. Sorghum bicolor (L.) Moench
Grif 9004; IS 27881; JM 4606. Collected in South Africa.

PI 586484. Sorghum bicolor (L.) Moench
Grif 9005; IS 27882; JM 4607. Collected in South Africa.

PI 586485. Sorghum bicolor (L.) Moench
Grif 9006; IS 27884; JM 4609. Collected in South Africa.

PI 586486. Sorghum bicolor (L.) Moench
Grif 9007; IS 27885; JM 4617. Collected in South Africa.

PI 586487. Sorghum bicolor (L.) Moench
Grif 9008; IS 27887; JM 4621. Collected in South Africa.
PI 586488. *Sorghum bicolor* (L.) Moench
Grif 9009; IS 27888; JM 4629. Collected in South Africa.

PI 586489. *Sorghum bicolor* (L.) Moench
Grif 9010; IS 27889; JM 4630. Collected in South Africa.

PI 586490. *Sorghum bicolor* (L.) Moench
Grif 9011; IS 27890; JM 4631. Collected in South Africa.

PI 586491. *Sorghum bicolor* (L.) Moench
Grif 9012; IS 27891; JM 4632. Collected in South Africa.

PI 586492. *Sorghum bicolor* (L.) Moench
Grif 9013; IS 27892; JM 4633. Collected in South Africa.

PI 586493. *Sorghum bicolor* (L.) Moench
Grif 9014; IS 27893; JM 4644. Collected in South Africa.

PI 586494. *Sorghum bicolor* (L.) Moench
Grif 9015; IS 27894; JM 4645. Collected in South Africa.

PI 586495. *Sorghum bicolor* (L.) Moench
Grif 9016; IS 27895; JM 4646. Collected in South Africa.

PI 586496. *Sorghum bicolor* (L.) Moench
Grif 9017; IS 27896; JM 4647. Collected in South Africa.

PI 586497. *Sorghum bicolor* (L.) Moench
Grif 9018; IS 27897; JM 4649. Collected in South Africa.

PI 586498. *Sorghum bicolor* (L.) Moench
Grif 9019; IS 27899; JM 4655. Collected in South Africa.

PI 586499. *Sorghum bicolor* (L.) Moench
Grif 9020; IS 27900; JM 4656. Collected in South Africa.

PI 586500. *Sorghum bicolor* (L.) Moench
Grif 9021; IS 27901; JM 4658. Collected in South Africa.

PI 586501. *Sorghum bicolor* (L.) Moench
Grif 9022; IS 27902; JM 4659. Collected in South Africa.

PI 586502. *Sorghum bicolor* (L.) Moench
Grif 9023; IS 27904; JM 4664. Collected in South Africa.

PI 586503. *Sorghum bicolor* (L.) Moench
Grif 9024; IS 27906; JM 4670. Collected in South Africa.

PI 586504. *Sorghum bicolor* (L.) Moench
Grif 9025; IS 27907; JM 4671. Collected in South Africa.

PI 586505. *Sorghum bicolor* (L.) Moench
Grif 9026; IS 27908; JM 4672. Collected in South Africa.

PI 586506. *Sorghum bicolor* (L.) Moench
Grif 9027; IS 27909; JM 4673. Collected in South Africa.

PI 586507. *Sorghum bicolor* (L.) Moench
Grif 9028; IS 27910; JM 4677. Collected in South Africa.

PI 586508. *Sorghum bicolor* (L.) Moench
Grif 9029; IS 27911; JM 4679. Collected in South Africa.
PI 586509. *Sorghum bicolor* (L.) Moench  
Grif 9030; IS 27912; JM 4682. Collected in South Africa.

PI 586510. *Sorghum bicolor* (L.) Moench  
Grif 9031; IS 27913; JM 4683. Collected in South Africa.

PI 586511. *Sorghum bicolor* (L.) Moench  
Grif 9032; IS 27914; JM 4684. Collected in South Africa.

PI 586512. *Sorghum bicolor* (L.) Moench  
Grif 9033; IS 27915; JM 4689. Collected in South Africa.

PI 586513. *Sorghum bicolor* (L.) Moench  
Grif 9034; IS 27917; JM 4856. Collected in South Africa.

PI 586514. *Sorghum bicolor* (L.) Moench  
Grif 9035; IS 27918; 83 BL 2080.

PI 586515. *Sorghum bicolor* (L.) Moench  
Grif 9036; IS 27920; 83 BL 2104.

PI 586516. *Sorghum bicolor* (L.) Moench  
DAKUR; Grif 9037; IS 27921. Collected in Kenya.

PI 586517. *Sorghum bicolor* (L.) Moench  
BENDE; Grif 9038; IS 27922. Collected in Kenya.

PI 586518. *Sorghum bicolor* (L.) Moench  
SALU; Grif 9039; IS 27923. Collected in Kenya.

PI 586519. *Sorghum bicolor* (L.) Moench  
ASARAMA; Grif 9040; IS 27924. Collected in Kenya.

PI 586520. *Sorghum bicolor* (L.) Moench  
KABARGA; Grif 9041; IS 27925. Collected in Kenya.

PI 586521. *Sorghum bicolor* (L.) Moench  
NUARKHAN; Grif 9042; IS 27926. Collected in Kenya.

PI 586522. *Sorghum bicolor* (L.) Moench  
MABIOR; Grif 9043; IS 27927. Collected in Kenya.

PI 586523. *Sorghum bicolor* (L.) Moench  
Grif 9044; IS 27928; NO 1. Collected in China.

PI 586524. *Sorghum bicolor* (L.) Moench  
Grif 9045; IS 27929; NO 2. Collected in China.

PI 586525. *Sorghum bicolor* (L.) Moench  
Grif 9046; IS 27930; NO 3. Collected in China.

PI 586526. *Sorghum bicolor* (L.) Moench  
Grif 9047; IS 27931; NO 4. Collected in China.

PI 586527. *Sorghum bicolor* (L.) Moench  
Grif 9048; IS 27933; NO 6. Collected in China.

PI 586528. *Sorghum bicolor* (L.) Moench  
Grif 9049; IS 27934; NO 7. Collected in China.

PI 586529. *Sorghum bicolor* (L.) Moench  
Grif 9050; IS 27935; NO 10. Collected in China.

PI 586530. *Sorghum bicolor* (L.) Moench
PI 586531. Sorghum bicolor (L.) Moench  
Grif 9051; IS 27936; NO 11. Collected in China.

PI 586532. Sorghum bicolor (L.) Moench  
Grif 9052; IS 27937; NO 12. Collected in China.

PI 586533. Sorghum bicolor (L.) Moench  
Grif 9053; IS 27938; NO 12. Collected in China.

PI 586534. Sorghum bicolor (L.) Moench  
Grif 9054; IS 27939; NO 13. Collected in China.

The following were donated by Beijing Botanical Garden, Institute of Botany,  
Chinese Academy of Science, Beijing, Beijing, China. Received 01/30/1995.

PI 586535. Sorghum bicolor (L.) Moench  

PI 586536. Sorghum bicolor (L.) Moench  

PI 586537. Sorghum bicolor (L.) Moench  

PI 586538. Sorghum bicolor (L.) Moench  

PI 586539. Sorghum bicolor (L.) Moench  

PI 586540. Sorghum bicolor (L.) Moench  

PI 586541. Sorghum bicolor (L.) Moench  

PI 586542. Sorghum bicolor (L.) Moench  

PI 586543. Sorghum bicolor (L.) Moench  
Cultivar. "JISHAN"; BJ-68.

PI 586544. Sorghum bicolor (L.) Moench  
Cultivar. "TULUFAN"; BJ-70.

PI 586545. Sorghum bicolor (L.) Moench  

PI 586546. Sorghum bicolor (L.) Moench  

PI 586547. Sorghum bicolor (L.) Moench  

PI 586548. Sorghum bicolor (L.) Moench  

PI 586549. Sorghum bicolor (L.) Moench  
Cultivar. "KOREA 14"; BJ-75.

PI 586550. Sorghum bicolor (L.) Moench
Cultivar. "JIANHU"; BJ-76.


The following were collected by Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Donated by Beijing Botanical Garden, Institute of Botany, Chinese Academy of Science, Beijing, Beijing, China. Received 01/30/1995.


The following were donated by Beijing Botanical Garden, Institute of Botany, Chinese Academy of Science, Beijing, Beijing, China. Received 01/30/1995.


PI 586568. Sorghum bicolor (L.) Moench


PI 586583. Sorghum bicolor (L.) Moench Cultivar. BJ-175; "EXP P 935".

The following were collected by G. Schmidt. Donated by Botanischer Garten, der Universitat Leipzig, Linnestrasse 1, Leipzig, Germany. Received 06/17/1991.


The following were donated by Research Institute of Ecology and Botany, Hungarian Academy of Sciences Botanical, Vacratot, Hungary. Received 05/22/1989.

N. Longitude 19 deg. 15' E. Elevation 130 m. Seed grown in Botanical
Garden located in a northern extension of the Great Hungarian Plains, 7
km E from the Danube River, on alluvial clay, loam, and light sand of
the Szod-Rakos streamlet valley.

The following were donated by Botanischer Garten, der Universität Leipzig,
Linnestrasse 1, Leipzig, Germany. Received 06/17/1991.

PI 586586. Alcea rosea L.
Cultivated. Ames 15740; 1487.

PI 586587. Alcea rosea L.
Cultivated. Ames 15741; 1491.

The following were donated by Research Institute of Ecology and Botany,
Hungarian Academy of Sciences, Botanical Garden, Vacratot, Hungary. Received
04/18/1988.

PI 586588. Althaea armeniaca Ten.
Cultivated. Ames 8354; 2346. 1988 Index Seminum - Hungary #2346.

The following were donated by Karl-Marx-Universität, Sektion
Biowissenschaften, Botanischer Garten, Linnestrasse 1, Leipzig, Germany.
Received 06/12/1990.

PI 586589. Althaea armeniaca Ten.
Cultivated. Ames 13801; 1764.

The following were collected by T.M. Koyama, New York Botanical Garden,
Bronx, New York 10458-5126, United States. Received 06/01/1987.

PI 586590. Antirrhinum majus L.

The following were donated by S. Chiba, Oji Institute For Forest Trees, Japan
. Received 10/19/1989.

PI 586591. Aronia x prunifolia (Marshall) Rehder
Wild. CARO 1; Ames 10754. Collected in Japan. Collected at the Oji
Institute for Forest Trees.

The following were donated by K. Hammer, Institut fur Pflanzen genetik, und
Kulturpflanzenforschung, Gatersleben, Germany. Received 06/10/1993.

PI 586592. Chrysanthemum carinatum Schousboe

PI 586593. Chrysanthemum coronarium L.
Ames 21140; CHRY 60/87. Collected in Germany. From Rohrsdorf.

PI 586594. Chrysanthemum coronarium L.
Ames 21141; CHRY 64/90. Collected in Cyprus.

PI 586595. Chrysanthemum coronarium L.
Ames 21143; CHRY 39/76. Collected in Spain. From can Pastilla, Majorca,
Balearaes.

PI 586596. Chrysanthemum coronarium L.
Cultivated. Ames 21144; CHRY 63/90. Collected in Korea, South. Elevation 30 m. From Botanical Garden, Wonsan, Kangwon Province. B.L.H.

PI 586597. Chrysanthemum coronarium L.
Ames 21145; CHRY 37/78. Collected in Yugoslavia.

PI 586598. Chrysanthemum coronarium L.

The following were collected by Armando de Jesus Machado; Jose Loureiro Martins; Andre dos Anjos de Serra. Donated by Instituto de Botanica "Dr. G. Sampaio", R. Campo Alegre No. 1191, Porto 4100, Portugal. Received 08/23/1993.

PI 586599. Chrysanthemum coronarium L.

The following were donated by K. Hammer, Institut fur Pflanzengenetik, und Kulturpflanzenforschung, Gatersleben, Germany. Received 06/10/1993.

PI 586600. Chrysanthemum coronarium L.
Ames 21152; CHRY 48/80. Collected in Korea, South.

PI 586601. Chrysanthemum coronarium var. spatiosum L. Bailey

The following were collected by T. Gladis. Donated by Botanischer Garten, Universitat Leipzig, Linnestrasse 1, Leipzig, Germany. Received 12/30/1992.

PI 586602. Chrysanthemum segetum L.
Wild. Ames 20105; No. 103. Collected in Lower Saxony, Germany. Winsen/Aller, Niedersachsen.

The following were donated by K. Hammer, Institut fur Pflanzengenetik, und Kulturpflanzenforschung, Gatersleben, Germany. Received 06/10/1993.

PI 586603. Chrysanthemum segetum L.
Ames 21149; CHRY 47/76. Collected in France. From Cleden-cap-Sizun, Finistere.

PI 586604. Chrysanthemum segetum L.
Ames 21150; CHRY 44/79. Collected in Germany. From Kummerfeld by Pinneberg.

The following were collected by M. Holub; M. Lhotska; L. Moravcova. Donated by Zdenek Blahnik, Czechoslovak Academy of Sciences, Botanical Institute, Pruhonice, Czechoslovakia. Received 03/16/1990.

PI 586605. Dianthus plumarius L.

The following were donated by University of Alberta, Devonian Botanical Garden, Edmonton, Alberta T6G 2E1, Canada. Received 03/16/1990.
PI 586606. Dianthus pontederae A. Kerner

The following were donated by University of Turku Botanical Garden, Turku, Finland. Received 02/10/1987.

PI 586607. Dianthus sp.
Cultivated. Ames 7654; 108.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; A. Trapero Casas. Donated by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 02/04/1992.

PI 586608. Glaucium sp.

The following were donated by Chollipo Arboretum, Korea, South. Received 07/05/1985.

PI 586609. Gypsophila oldhamiana Miq.
Wild. Ames 4401; 92. Collected in Korea, South. Mountains in Chollipo, Ch'ungch'ong Namdo Province, South Korea.

The following were donated by Research Inst. of Ecology and Botany, Hungarian Academy of Science, Botanical Garden, Vacratot, Hungary. Received 06/03/1992.

PI 586610. Gypsophila scorzonerifolia Ser.
Cultivated. Ames 19134; No. 937.

The following were donated by Botanical Gardens, Agricultural University, Generaal Poulkesweg 37, Wageningen, Netherlands. Received 04/22/1991.

PI 586611. Hesperis matronalis L.
Cultivated. Ames 15433; 90139.

PI 586612. Hesperis matronalis L.

The following were collected by B. Slavik. Donated by Academy of Sciences, Institute of Botany, 252 43 Pruhonice, Czechoslovakia. Received 06/06/1989.

PI 586613. Lavatera thuringiaca L.

The following were donated by Karl-Marx-Universitat, Sektion Biowissenschaften, Botanischer Garten, Linnestrasse 1, Leipzig, Germany. Received 06/12/1990.

PI 586614. Lavatera thuringiaca L.
Cultivated. Ames 13802; No. 1380; 1770.

The following were collected by G. Kosa. Donated by Research Institute of Ecology & Botany, Hungarian Academy of Sciences, Botanical Garden, Vacrátot, Hungary. Received 09/20/1990.

PI 586615. Lavatera thuringiaca L.

The following were donated by Hortus Botanicus, Universitatis Posnaniensis, Dabrowskiego 165, Poznan, Poland. Received 08/16/1991.

PI 586616. Lavatera thuringiaca L.

The following were donated by Botania, Botanical Garden, University of Joensuu, P.O. Box 111, Joensuu, Finland. Received 04/30/1991.

PI 586617. Leucanthemum vulgare Lam.

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

PI 586618. Leucanthemum vulgare Lam.

The following were collected by K.G. Tkaczenko. Donated by V.L. Komaraov Botanical Institute, Academy of Science, Popov Street 2, Saint Petersburg, Russian Federation. Received 09/29/1992.

PI 586619. Leucanthemum vulgare Lam.

The following were collected by H.U.K. Hubatsch. Donated by Botanischer Garten, der Universität Leipzig, Linnestrasse 1, Leipzig, Germany. Received 06/17/1991.

PI 586620. Malva moschata L.
Wild. Ames 15715; 544. Collected in Germany. Saalburg, Thuringen, Germany.

The following were donated by Hortus Botanicus Acad. Sci., Tashkent, Uzbekistan. Received 10/19/1989.

PI 586621. Potentilla recta L.
CPOT 7; Ames 10768.

PI 586622. Potentilla recta L.
CPOT 8; Ames 10769.
PI 586623. *Potentilla recta* L.
CPOT 9; Ames 10770.

The following were collected by N. Fredricks, Oregon State University, Corvallis, Oregon, United States. Received 10/19/1989.

PI 586624. *Potentilla recta* L.
Wild. CPOT 11; Ames 10771. Collected in Oregon, United States.

The following were collected by Roger Fuentes-Granados, Iowa State University, Department of Agronomy, Room 2101 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 586625. *Sanvitalia angustifolia* Engelm. ex A. Gray

PI 586626. *Sanvitalia angustifolia* Engelm. ex A. Gray

PI 586627. *Sanvitalia ocymoides* DC.

PI 586628. *Sanvitalia ocymoides* DC.

PI 586629. *Sanvitalia procumbens* Lam.
Population very large, extends several m either side of road. A few plants of S. angustifolia present.

The following were donated by Hungary Academy of Science Bot. Gdn., Research Inst. of Ecology & Botany, Vacratót, Hungary. Received 08/21/1985.

PI 586630. Sorbaria sorbifolia (L.) A. Braun

The following were donated by Arboretum Kostelec, University of Agriculture - Prague, Kostelec nad Cernymi Lesy, Prague, Central Bohemia, Czech Republic. Received 04/10/1989.

PI 586631. Sorbaria tomentosa (Lindley) Rehder
Cultivated. Ames 10286; 381.

The following were donated by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Received 10/08/1991.

PI 586632. Spiraea miyabei Koidz.
Wild. Ames 20055; NA 61764; No. 162. Collected 10/11/1989 in Korea, South. Latitude 38 deg. 9' N. Longitude 128 deg. 28' E. Elevation 480 m. Collected from rock ledges of east facing slope between Pi-son-dae and Oh-yeon Waterfall, along path from Tourist Hotel to Temple. Kang-won Do, Sorak Dong, Korea. Multi-stem shrub, .5m tall. Fruit brown. Growing with Acer pseudosieboldianum, Quercus, Lindera obtusiloba, Rhododendron mucronulatum and Pinus densiflora.

The following were collected by Gertrude Ferrer. Donated by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Received 10/08/1991.

PI 586633. Spiraea salicifolia L.

The following were collected by Roger Fuentes-Granados, Iowa State University, Department of Agronomy, Room 2101 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 National Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Donated by William W. Roath, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States; Alvaro Campos, Universidad National Autonoma de Mexico, Department of Botany, Mexico City, Federal District, Mexico. Received 10/19/1993.

PI 586634. Zinnia violacea Cav.
PI 586635. Zinnia violacea Cav.

PI 586636. Zinnia violacea Cav.

PI 586637. Zinnia violacea Cav.


PI 586638. Medicago sativa L. ssp. sativa

The following were developed by A. E. Dudeck, University of Florida, Department of Environmental Horticulture, 1545 W. M. Fifield Hall, Gainesville, Florida 32611-0670, United States; J.A. Reinert, Texas A & M University, Dept. of Soil and Crop Sciences, College Station, Texas 77843-6599, United States; J.B. Beard, Texas A & M University, Dept. of Soil and Crop Sciences, College Station, Texas 77843-2474, United States; S.I. Sifers, Texas A & M University, Dept. of Soil and Crop Sciences, College Station, Texas 77843-2474, United States. Received 02/03/1995.

stress. Can be identified by starch gel electrophoresis banding pattern for aconitase. Produces seedheads in late Spring. May produce viable seed which may contaminate turf with off-types. Must be vegetatively propagated. Susceptible to sting nematode (Belonolaimus longicaudatus). Poor shade adaptation. Low maintenance for cemeteries, golf course fairways and roughs, lawns.

The following were donated by F. Cardenas Ramos, Instituto Nacional de Investigaciones, Forestales y Agropecuarias, CIFAP, CEVAMEX, Apartado Postal No. 10, Chapingo, Federal District CP 56230, Mexico. Received 06/05/1991.

PI 586640. Zea mays L. ssp. mays

PI 586641. Zea mays L. ssp. mays

PI 586642. Zea mays L. ssp. mays

PI 586643. Zea mays L. ssp. mays

PI 586644. Zea mays L. ssp. mays

PI 586645. Zea mays L. ssp. mays
Landrace. Population. Tamaulipas 146; Ames 15904; TAMA 146. Collected in Tamaulipas, Mexico.

The following were donated by International Maize & Wheat Improvement Center, Apdo. Postal 6-641, Lisboa 27, Mexico City, Federal District 06600, Mexico. Received 08/1992.

PI 586646. Zea mays L. ssp. mays
CIMMYT 10513; TAMA 125.

The following were developed by Instituto Nacional de Investigaciones, Forestales y Agropecuarias, Apartados Postal 6-882 y 6-883, Federal District, Mexico. Donated by Instituto Nacional de Investigaciones, Forestales y Agropecuarias, Apartado Postal No. 10, Chapingo, Federal District, Mexico. Received 02/1993.

PI 586647. Zea mays L. ssp. mays
COLI 54; Colima 54.

PI 586648. Zea mays L. ssp. mays
GUER 376; Guerrero 376.

PI 586649. Zea mays L. ssp. mays
JALI 285; Jalisco 285.

The following were donated by Instituto Nacional de Investigaciones, Forestales y Agropecuarias, Apartado Postal No. 10, Chapingo, Federal District, Mexico. Received 01/1994.
The following were donated by Cynthia Edwards, 21650 Keeney Road, Freeland, Maryland 21053, United States. Received 05/26/1994.

PI 586654. Zea mays L. ssp. mays
Uncertain. KOURPA; BE 7081. Collected in Nepal.

The following were donated by International Board for Plant Genetic Resources, AGPG, FAO, Via della terme de Caracalla, Rome, Italy. Received 04/29/1994.

PI 586655. Zea mays L. ssp. mays
Uncertain. 2818 (1). Collected in Pakistan.

The following were developed by 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; M.A. Uebersax, Michigan State University, Dept. of Food Sci. and Human Nutrition, East Lansing, Michigan 48824, United States; L.K. Afanador, Michigan State University, Dept. of Crop and Soil Sciences, East Lansing, Michigan 48824, United States. Received 02/13/1995.

PI 586656. Phaseolus vulgaris L.
Cultivar. Pureline. "NEWPORT"; N90599. CV-128. Pedigree - N85606/Harokent. Mid-season, high yielding navy. Growth habit erect, type 1 determinate with plants averaging 50cm in height. Flowers 42 days and matures 94 days. Carries I gene for resistance to BCMV; A and Are genes for resistance to anthracnose; Ur-3 gene for resistance to rust. Seed size 22g per 100 seeds. Exhibits satisfactory canning quality after processing.

The following were developed by Charles G. Cook, USDA, ARS, Subtrop. Agric. Res. Lab., 2413 E. Hwy 83, Weslaco, Texas 78596, United States; A.W. Scott, Jr., Rio Farms, Inc., Route 1, Box 326, Monte Alto, Texas 78538, United States. Received 02/09/1995.

PI 586657. Hibiscus cannabinus L.
Cultivar. "SF459". CV-4. Pedigree - Mass selection showing tolerance to root-knot nematode/soil-borne fungi complex from strain 45-9. Leaves palmate-shaped. Stem and leaves green. Flowering photoperiod sensitive. Flowering and seed maturity 5-10 days later at 26 deg. N latitude than most photoperiodic cultivars. Average bast and core fiber lengths 2.59 and 0.74mm and average bast and core fiber widths 0.017 and 0.033mm. Seed size approx. 34.785 seed per kg. Tolerance to southern root-knot
nematode (Meloidogyne incognita) / soil-borne fungi complex.

The following were developed by Alfred Haunold, USDA, ARS, Oregon State University, Department of Crop Sciences, Corvallis, Oregon 97333, United States; G.B. Nickerson, Oregon State University, Dept. of Agricultural Chemistry, Corvallis, Oregon 97331, United States; U. Gampert, Oregon State University, Dept. of Crop and Soil Science, Corvallis, Oregon 97331, United States; D.S. Kling, Oregon State University, Dept. of Agricultural Chemistry, Corvallis, Oregon 97331, United States. Received 02/27/1995.

PI 586658. Humulus lupulus L.
Cultivar. "SUNBEAM". CV-20. Pedigree - Saazer 38 (USDA Accession 21522) / Hallertau mittelfruh-derived aroma male (USDA 21617M). Ornamental diploid female with attractive lemon-yellow foliage and reddish stems. Although primarily intended for landscaping purposes, produces cones which could be used for brewing purposes. Similar to other aroma hops currently being sold. High proportions of humulene, farnesene, and caryophyllene in essential oil, similar to female parent Saazer.

The following were developed by Alfred Haunold, USDA, ARS, Oregon State University, Department of Crop Sciences, Corvallis, Oregon 97333, United States; G.B. Nickerson, Oregon State University, Dept. of Agricultural Chemistry, Corvallis, Oregon 97331, United States; U. Gampert, Oregon State University, Dept. of Crop and Soil Science, Corvallis, Oregon 97331, United States. Received 02/27/1995.

PI 586659. Humulus lupulus L.
Cultivar. "BIANCA". CV-21. Pedigree - Saazer 38 (USDA Accession 21522) / Hallertau mittelfruh-derived aroma male (USDA 21617M). Ornamental diploid female with attractive lemon-yellow foliage and reddish stems. Although primarily intended for landscaping purposes, produces cones which could be used for brewing purposes. Similar to other aroma hops currently being sold. Slightly higher soft resin content than Sunbean. High proportions of humulene, farnesene, and caryophyllene in essential oil, similar to female parent Saazer.

The following were developed by S.N. Lohani, Int. Crops Res. Inst. for the Semi-Arid Tropics, B.P. 320, Bamako, Mali. Received 02/22/1995.

PI 586660. Pennisetum glaucum (L.) R. Br.
Cultivar. Population. "ICMV-IS 88102".

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

PI 586661. Capsicum annuum L.
Cultivar. CALIFORNIA WONDER.

The following were donated by Seed Research Specialists, California, United States. Received 1961.

PI 586662. Capsicum annuum L.
Cultivar. PACIFIC BELL.

PI 586663. Capsicum annuum L.
Cultivar. RIO WONDER.

PI 586664. Capsicum annuum L.
Cultivar. CARIBE GORDO.
The following were donated by New Hampshire Agr. Exp. Sta., New Hampshire, United States. Received 1962.

PI 586665. Capsicum annuum L.
Cultivar. SWEET SALAD.

The following were donated by Petoseed Company, Inc., United States. Received 1962.

PI 586666. Capsicum annuum L.
Cultivar. ANNAHEIM CHILI SPECIAL STRAIN.

PI 586667. Capsicum annuum L.
Cultivar. PIMENTO SELECTED STRAIN.

The following were donated by Joseph Harris Company, Inc., Moreton Farm, Rochester, New York 14624, United States. Received 1962.

PI 586668. Capsicum annuum L.
Cultivar. CUBANELLE.

The following were donated by Robinson & Sons, Lawrence, California, United States. Received 1962.

PI 586669. Capsicum annuum L.
Cultivar. WONDER GIANT.

The following were donated by Ferry-Morse Seed Company, California, United States. Received 1962.

PI 586670. Capsicum annuum L.
Cultivar. ROUMANIAN.

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

PI 586671. Capsicum annuum L.
Cultivar. YOLO WONDER. Plant vigorous, tall (26"), upright, high-yield. Resistance to tobacco mosaic virus. Fruits blocky, smooth-skinned, thick-walled, 3 or 4-lobed, dark green to brilliant red at maturity. Corneli Seed Co., St. Louis, Mo., July 17, 1964.

The following were donated by Petoseed Company, Inc., United States. Received 1963.

PI 586672. Capsicum annuum L.
Cultivar. FLORAL GRANDE. Plant vigorous, upright, compact (24-26"). Yield medium with continuous setting. Fruits conical, blunt, thick-wall, 2-locules, rough flesh, pendant, green yellow to yellow.

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

PI 586673. Capsicum annuum L.
Cultivar. CUBAN.
The following were donated by Burgess Seed and Plant Company, Galesburg, Michigan, United States. Received 1964.

PI 586674. Capsicum annuum L.
Cultivar. GOLDEN WONDER.

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

PI 586675. Capsicum frutescens L.
Cultivar. TABASCO.

PI 586676. Capsicum annuum L.
Cultivar. LOUISANA RED CAYENNE.

The following were donated by Petoseed Company, Inc., United States. Received 1967.

PI 586677. Capsicum annuum L.
Cultivar. HUNGARIAN BLOCK.

The following were donated by S. Honma, Michigan State University, Department of Horticulture, East Lansing, Michigan 48824, United States. Received 1986.

PI 586678. Capsicum frutescens L.
Cultivar. MIGOLD.

The following were donated by International Maize & Wheat Improvement Center, Apdo. Postal 6-641, Lisboa 27, Mexico City, Federal District 06600, Mexico. Received 02/22/1995.

PI 586679. Zea mays L. ssp. mays

The following were donated by Martin Price, ECHO, 17430 Dorrance Road, North Fort Myers, Florida 33903, United States; F. Martin, USDA-ARS, Tropical Research Station, P.O. Box 70, Mayaguez, Puerto Rico. Received 01/04/1993.

PI 586680. Celosia argentea L.
Cultivated. 81-011; quail grass; Ames 20114. Leafy vegetable adapted to the tropics and subtropics. Attractive purple spots on leaf blades. Flowers purple, spike-type, becoming white in age. Leaves should be cooked by boiling to remove oxalic acid. Matures seeds in Florida, but flowers too late for seed maturity in Iowa.

The following were developed by D.R. Wood, Colorado State University, Department of Agronomy, Fort Collins, Colorado 80523, United States; Mark A. Brick, Colorado State University, Department of Agronomy, Fort Collins, Colorado 80521, United States; A.G. Fisher; H.F. Schwartz, Colorado State University, Dept. of Plant Pathology and Weed Science, Fort Collins, Colorado 80523, United States; J.B. Ogg, Colorado State University, Dept. of Soil and Crop Sciences, Fort Collins, Colorado 80523, United States; M. Stack, Colorado State University, Southwestern Colorado Research Center, Yellow Jacket, Colorado 81335, United States. Received 02/07/1995.
PI 586681. Phaseolus vulgaris L.
Cultivar. "FISHER". CV-127. Pedigree - San Juan/A56-240/Yellow Jacket/Olathe/Ar83-2, F5. Adapted to the rainfed production region of the San Juan Basin in southwestern Colorado. High yield potential. Growth habit (Type III). Seed size 35.1g 100-1. Seed color and shape excellent. Susceptible to NL8, New York 15, NL3 and NL5 strains of bean common mosaic virus ( BCMV) and likely contains the i, bcu, bc2, combination of recessive genes for resistance.

The following were developed by Frederic L. Kolb, University of Illinois, Dept. of Agronomy, W-203 Turner Hall, Urbana, Illinois 61801-4798, United States; C.M. Brown, University of Illinois, Department of Agronomy, 1102 South Goodwin Avenue, Urbana, Illinois 61801, United States. Received 02/16/1995.

PI 586682. Triticum aestivum L., nom. cons.

PI 586683. Triticum aestivum L., nom. cons.


PI 586684. Cajanus cajan (L.) Millsp.
Breeding. ICPM 93006. PL-1. Pedigree - Male sterile stock MS 3A / Prabhat. Short-duration genetic male-sterile parental line characterized by easily identifiable fully grown translucent anthers. Stem color green. Plant type determinate. Branching medium. Flower color yellow with red streaks of medium to dense intensity. Pod color green with dark brown streaks on surface. Leaf color green, size medium. Days to 50% fl. 68. Days to 75% mat. 110. Plant height 114cms. 100 seed mass 7.5g. Seed color dark brown with oval seed shape. Susceptible to all diseases. Susceptible to insects.

PI 586685. Cajanus cajan (L.) Millsp.
80. Days to 75% mat. 124. Plant height 138cms. 100 seed mass 6.9g. Seed color dark brown with oval seed shape. Susceptible to all diseases. Susceptible to insects.

PI 586686. Cajanus cajan (L.) Millsp.

The following were developed by David A. Van Sanford, University of Kentucky, Dept. of Agronomy, Ag. Sci. Ctr. N-106K, Lexington, Kentucky 40546-0091, United States; C.R. Tutt, Kentucky Agric. Exp. Station, Princeton, Kentucky, United States; C.S. Swanson, Kentucky Agric. Exp. Station, University of Kentucky, Lexington, Kentucky, United States; W.L. Pearce, Kentucky Agric. Exp. Station, Lexington, Kentucky, United States; L.J. Tomes, Kentucky Agric. Exp. Sta., Dept. of Agronomy, University of Kentucky, Lexington, Kentucky 40546-0091, United States; D.E. Hershman, Kentucky Agric. Exp. Sta., Dept. of Plant Pathology, Univ. of Kentucky, Lexington, Kentucky 40546-0091, United States. Received 02/23/1995.

PI 586687. Triticum aestivum L., nom. cons.

The following were developed by M.H. Yu, USDA, ARS, U.S. Agricultural Research Station, 1636 East Alisal St., Salinas, California 93905, United States. Received 02/23/1995.

PI 586688. Beta vulgaris var. maritima (L.) Moq.
Breeding. Population. M66. GP-166. Pedigree - Pooled seed of cycle 1, synthesis 1 from open pollination of WB 66 Beta maritima plants. Multigerm, partially self-compatible line derived from accession WB 66, designated PI 546387. Highly variable in bolting, plant type, and pigmentation. After inoculation of 1,000 Meloidogyne incognita race 1 second-stage juveniles (J2) per plant, 18 percent of seedlings from the initial accession were resistant (i.e. with fewer than 10 galls and/or protuberances per root system). Nematode resistance is heritable. Valuable as a root-knot nematode resistant germplasm source for conducting sugarbeet breeding and root-knot nematode resistance studies.

The following were developed by Brent E. Zehr, Purdue University, Dept. of Agronomy, West Lafayette, Indiana 47907-1150, United States; B.R. Hamaker, Purdue University, Dept. of Food Science, West Lafayette, Indiana 47907-1160, United States. Received 02/27/1995.

PI 586689. Zea mays L. ssp. mays
Plants from Pool 33 QPM displayed RFLP bands of 4.8 and 3.2 kb using an opaque-2 clone with restriction enzyme EcoR1, and had grain lysine content of 4.3% of protein (dwb). BSCB1(R)C11 parent displayed RFLP bands of 6.2 and 4.1 kb, and had lysine content of 2.7% of protein (dwb).

PI 586690. Zea mays L. ssp. mays
Breeding. Population. HQPSSS. GP-320. Pedigree - Pool 33 QPM(Early)/2*BSSS(R)C11. F1 progenitor averaged flowering date of 66 d (1353 GDD-base 50). Relative maturity classification AES700-800. Kernel types range from semi-flint to soft dent. Incorporates germplasm from CIMMYT Pool 33 QPM (modified opaque-2) and synthetic BSSS(R)C11. Plants from Pool 33 QPM displayed RFLP bands of 4.8 and 3.2 kb using an opaque-2 clone with restriction enzyme EcoR1, and had grain lysine content of 4.3% of protein (dwb). BSSS(R)C11 parent displayed RFLP bands of 8.5 and 6.2 kb, and had lysine content of 3.1% of protein (dwb).

The following were donated by Orlando Paratori B., Inst. de Investigaciones Agropecuarias, Estacion Experimental la Platina, Casilla 5427, Santiago, Chile. Received 08/15/1994.

PI 586691. Zea mays L. ssp. mays

PI 586692. Zea mays L. ssp. mays
Landrace. Population. CHZM07 115; Corriente; CHZM 07 115. Collected 01/01/1955 in Maule, Chile. Latitude 35 deg. S. Longitude 72 deg. W. Elevation 0 m. Maule, Maule. Farm.

PI 586693. Zea mays L. ssp. mays

PI 586694. Zea mays L. ssp. mays
Landrace. Population. CHZM07 120; CHZM 07 120. Collected 04/01/1953 in Maule, Chile. Latitude 35 deg. S. Longitude 72 deg. W. Elevation 300 m. Talca, Maule. Farm.

PI 586695. Zea mays L. ssp. mays
Landrace. Population. CHZM07 121; Chuchoquero; CHZM 07 121. Collected 04/01/1953 in Maule, Chile. Latitude 36 deg. S. Longitude 72 deg. W. Elevation 340 m. Cauquenes, Maule. Farm.

PI 586696. Zea mays L. ssp. mays

PI 586697. Zea mays L. ssp. mays

PI 586698. Zea mays L. ssp. mays

PI 586700. Zea mays L. ssp. mays

PI 586701. Zea mays L. ssp. mays

PI 586702. Zea mays L. ssp. mays

PI 586703. Zea mays L. ssp. mays

PI 586704. Zea mays L. ssp. mays

PI 586705. Zea mays L. ssp. mays

PI 586706. Zea mays L. ssp. mays
Landrace. Population. CHZM09 071; Santa Fe; CHZM 09 071. Collected 01/01/1955 in La Araucania, Chile. Latitude 37 deg. S. Longitude 73 deg. W. Elevation 0 m. Santa Fe, La Araucania. Farm.

PI 586707. Zea mays L. ssp. mays
Landrace. Population. CHZM09 073; Chico; CHZM 09 073. Collected 01/01/1955 in La Araucania, Chile. Latitude 39 deg. S. Longitude 73 deg. W. Elevation 0 m. Cautin, La Araucania. Farm.

PI 586708. Zea mays L. ssp. mays
Landrace. Population. CHZM09 074; Chico Temuco; CHZM 09 074. Collected 01/01/1955 in La Araucania, Chile. Latitude 39 deg. S. Longitude 73 deg. W. Elevation 0 m. Temuco, La Araucania. Farm.

PI 586709. Zea mays L. ssp. mays
Landrace. Population. CHZM09 076; Chileno; CHZM 09 076. Collected 01/01/1955 in La Araucania, Chile. Latitude 40 deg. S. Longitude 73 deg. W. Elevation 0 m. Valdivia, La Araucania. Farm.

PI 586710. Zea mays L. ssp. mays
Landrace. Population. CHZM09 077; Amarillo; CHZM 09 077. Collected 01/01/1955 in La Araucania, Chile. Latitude 39 deg. S. Longitude 73 deg. W. Elevation 0 m. Temuco, La Araucania. Farm.

PI 586711. Zea mays L. ssp. mays
Landrace. Population. CHZM09 102; Indiana; CHZM 09 102. Collected 04/01/1953 in La Araucania, Chile. Latitude 38 deg. S. Longitude 73 deg. W. Elevation 82 m. Temuco, La Araucania. Farm.

PI 586712. Zea mays L. ssp. mays
Landrace. Population. CHZM09 107; CHZM 09 107. Collected 04/01/1953 in
La Araucania, Chile. Latitude 39 deg. S. Longitude 73 deg. W. Elevation 43 m. Temuco, La Araucania. Farm.

PI 586713. Zea mays L. ssp. mays
Landrace. Population. CHZM09 110; Ocho Hileras; CHZM 09 110. Collected 04/01/1953 in La Araucania, Chile. Latitude 39 deg. S. Longitude 73 deg. W. Elevation 8 m. Imperial, La Araucania. Farm.

PI 586714. Zea mays L. ssp. mays
Landrace. Population. CHZM09 115; CHZM 09 115; Stowell Evergreen. Collected 04/01/1953 in La Araucania, Chile. Latitude 38 deg. S. Longitude 73 deg. W. Elevation 72 m. Angol, La Araucania. Farm.

PI 586715. Zea mays L. ssp. mays
Landrace. Population. CHZM09 118; Loro Mediano; CHZM 09 118. Collected 04/01/1953 in La Araucania, Chile. Latitude 39 deg. S. Longitude 73 deg. W. Elevation 0 m. Temuco, La Araucania. Farm.

PI 586716. Zea mays L. ssp. mays

PI 586717. Zea mays L. ssp. mays

PI 586718. Zea mays L. ssp. mays
Landrace. Population. CHZM10 039; Chico; CHZM 10 039. Collected 04/01/1953 in Los Lagos, Chile. Latitude 40 deg. S. Longitude 73 deg. W. Elevation 60 m. San Juan, Los Lagos. Farm.

PI 586719. Zea mays L. ssp. mays

PI 586720. Zea mays L. ssp. mays

PI 586721. Zea mays L. ssp. mays

PI 586722. Zea mays L. ssp. mays

PI 586723. Zea mays L. ssp. mays

PI 586724. Zea mays L. ssp. mays

PI 586725. Zea mays L. ssp. mays
Landrace. Population. CHZM13 035; Chinoco Grande; CHZM 13 035. Collected 01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586726. Zea mays L. ssp. mays

PI 586727. Zea mays L. ssp. mays

PI 586728. Zea mays L. ssp. mays

PI 586729. Zea mays L. ssp. mays

PI 586730. Zea mays L. ssp. mays

PI 586731. Zea mays L. ssp. mays

PI 586732. Zea mays L. ssp. mays

PI 586733. Zea mays L. ssp. mays

PI 586734. Zea mays L. ssp. mays

PI 586735. Zea mays L. ssp. mays

PI 586736. Zea mays L. ssp. mays

PI 586737. Zea mays L. ssp. mays

PI 586738. Zea mays L. ssp. mays
Landrace. Population. CHZM13 082; Camelia; CHZM 13 082. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586739. Zea mays L. ssp. mays

PI 586740. Zea mays L. ssp. mays

PI 586741. Zea mays L. ssp. mays

PI 586742. Zea mays L. ssp. mays

PI 586743. Zea mays L. ssp. mays

PI 586744. Zea mays L. ssp. mays

PI 586745. Zea mays L. ssp. mays

PI 586746. Zea mays L. ssp. mays

PI 586747. Zea mays L. ssp. mays

PI 586748. Zea mays L. ssp. mays

PI 586749. Zea mays L. ssp. mays

The following were developed by E. Donaldson, Washington Agr. Exp. Sta., Dry Land Research Unit, Lind, Washington 99341, United States. Received 03/06/1995.

PI 586750. Triticum aestivum L., nom. cons.
Breeding. WA 7678; N8701001; NSGC 5586. Pedigree - CI 14484/Bankut 1205/Gaines/3/Hatton sib. Common-type head, hard red winter, white glumes, awned, tall, mid-maturity. Adapted for low rainfall areas. Yield, stand establishment, winter survival, and stripe resistance equal to locally grown adapted varieties. Excellent test weight, good milling quality, and average baking quality.


Breeding. WA 7759; N9003202; NSGC 5589. Pedigree - PI 173467/CI 13438/Magnif/3/Cardon/Hatton. Common-type head, hard red winter, white glumes, awned, tall, mid-maturity. Adapted for low rainfall areas. Test weight slightly less than Hatton. Whole grain protein superior to Hatton. Milling and baking qualities similar to Hatton.


Breeding. WA 7761; N8400091; NSGC 5591. Pedigree - Weston/Hatton//Weston. Common-type head, hard red winter, awned, tall, mid-maturity, white glumes. Adapted for low rainfall areas. Test weight slightly less than Hatton. Whole grain protein superior to Hatton. Milling and baking quality similar to Hatton and Weston.


The following were donated by Suketoshi Taba, International Maize & Wheat Improvement Center, Lisboa 27, Apdo. Postal 6-641, 06600 Mexico, Federal District 06600, Mexico. Received 10/16/1988.

PI 586759. Zea mays L. ssp. mays

PI 586760. Zea mays L. ssp. mays

PI 586761. Zea mays L. ssp. mays

PI 586762. Zea mays L. ssp. mays

PI 586763. Zea mays L. ssp. mays

PI 586764. Zea mays L. ssp. mays

PI 586765. Zea mays L. ssp. mays

PI 586766. Zea mays L. ssp. mays

PI 586767. Zea mays L. ssp. mays

PI 586768. Zea mays L. ssp. mays

PI 586769. Zea mays L. ssp. mays

PI 586770. Zea mays L. ssp. mays

PI 586771. Zea mays L. ssp. mays
PI 586772. Zea mays L. ssp. mays
Landrace. Population. Cuba 28; CIMMYT 5648; Ames 9947; NRC 6659.
Collected in Cuba. Latitude 20 deg. 10' N. Longitude 75 deg. 12' W.
Elevation 183 m. Filipinas Guantanamo, Oriente.

PI 586773. Zea mays L. ssp. mays
Landrace. Population. Cuba 39; CIMMYT 5385; Ames 9948; NRC 6670; Tayuya.
Collected in Cuba. Latitude 20 deg. 21' N. Longitude 77 deg. 6' W.
Elevation 91 m. Las Barrancas Al Este De Manzanillo, Oriente.

PI 586774. Zea mays L. ssp. mays

PI 586775. Zea mays L. ssp. mays
Breeding. Population. Dominican Republic 119; Ames 9950; CIMMYT 2470; NRC 6839; NRC 6923. Collected in Santiago, Dominican Republic.

PI 586776. Zea mays L. ssp. mays
Breeding. Population. Dominican Republic 203; Ames 9951; CIMMYT 2476. Collected in La Vega, Dominican Republic. Latitude 19 deg. 11' N. Longitude 70 deg. 30' W. Las Yerbas.

PI 586777. Zea mays L. ssp. mays
Breeding. Population. Dominican Republic GP 5; CIMMYT 1262; Ames 9952; Dominican Republic Group 5. Collected in Dominican Republic. Developed in Mexico. Pedigree - TEPALCINGO 1962A PARCELA 2455. RDOM 40D, RDOM 44D, RDOM 47D, RDOM 48D are included.

PI 586778. Zea mays L. ssp. mays
Breeding. Population. Dominican Republic GP 12; Ames 9953; Dominican Republic Group 12; CIMMYT 1268. Collected in Dominican Republic. Developed in Mexico. Pedigree - TEPALCINGO 1962A PARCELA 2486. RDOM 72D and RDOM 73D are included.

PI 586779. Zea mays L. ssp. mays
Breeding. Population. Dominican Republic GP 13; CIMMYT 1269; Ames 9954; Dominican Republic Group 13. Collected in Dominican Republic. Latitude 18 deg. 35' N. Longitude 98 deg. 50' W. Elevation 1200 m. Developed in Mexico. Pedigree - TEPALCINGO 1962A PARCELA 2488. RDOM 51D, RDOM 52D, RDOM 53D, and RDOM 54D are included.

PI 586780. Zea mays L. ssp. mays

PI 586781. Zea mays L. ssp. mays

PI 586782. Zea mays L. ssp. mays

PI 586783. Zea mays L. ssp. mays
Landrace. Population. Saint Croix 10; CIMMYT 5560; Ames 9958. Collected
in Virgin Islands (U.S.). Latitude 17 deg. 43' N. Longitude 64 deg. 53' W. 24 kilometers east of Fredericksted.

**PI 586784. Zea mays L. ssp. mays**
Landrace. Population. Tobago 8; CIMMYT 2486; Ames 9959. Collected in Tobago, Trinidad and Tobago. Latitude 11 deg. 1' N. Longitude 60 deg. 4' W. Elevation 60 m. Idlewild, Scarborough.

**PI 586785. Zea mays L. ssp. mays**
Landrace. Population. Tobago 17; CIMMYT 2487; Ames 9960. Collected in Tobago, Trinidad and Tobago. Latitude 11 deg. 16' N. Longitude 60 deg. 33' W. Elevation 40 m. DelaFord.

**PI 586786. Zea mays L. ssp. mays**
Landrace. Population. Trinidad 6; CIMMYT 2489; Ames 9961; NRC 6975. Collected in Trinidad, Trinidad and Tobago. NRC/NAS catalogue, 1955 indicates latitude should be 10 degrees, 30 minutes.

The following were donated by Mayaguez, PR USDA, ARS, Puerto Rico. Received 1966.

**PI 586787. Sorghum bicolor (L.) Moench**
65I 1317; IS 3477; SC 267.

**PI 586788. Sorghum bicolor (L.) Moench**
65I 2523; IS 7005; SC 679.

**PI 586789. Sorghum bicolor (L.) Moench**
65I 2864; IS 3443; SC 1294.

**PI 586790. Sorghum bicolor (L.) Moench**
66I 3400; IS 3546; SC 713.

**PI 586791. Sorghum bicolor (L.) Moench**
66I 3445; IS 6928; SC 1112.

**PI 586792. Sorghum bicolor (L.) Moench**
66I 3467; IS 3553; SC 575.

The following were developed by P.Y.P. Tai, USDA-ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States. Received 02/17/1988.

**PI 586793. Saccharum spontaneum L.**
Cultivated. INn 82-321; S10506; Q 35378.

The following were donated by P.Y.P. Tai, USDA-ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States. Received 03/09/1995.

**PI 586794. Saccharum spontaneum L.**

**PI 586795. Saccharum spontaneum L.**
Cultivar. "IS 76-167"; 10788. Collected in Indonesia. 167km from Ujung Pandang, through Pare-Pare.

**PI 586796. Saccharum spontaneum L.**
PI 586797. Saccharum spontaneum L.  

PI 586798. Saccharum spontaneum L.  

PI 586799. Saccharum spontaneum L.  
US 78-500; 7360 F 2. Collected in Pakistan. Swat River N.W.F.P.

PI 586800. Saccharum spontaneum L.  
Cultivar. US 78-502; 7360 F 7. Collected in North-West Frontier, Pakistan. Swat River, N.W.F.P.

PI 586801. Saccharum spontaneum L.  

PI 586802. Saccharum spontaneum L.  
Cultivar. US 78-513; 7360. Collected in North-West Frontier, Pakistan. Swat River N.W.F.P.

PI 586803. Saccharum spontaneum L.  

PI 586804. Saccharum spontaneum L.  

PI 586805. Saccharum spontaneum L.  

The following were developed by Gilbert Stallknecht, Southern Agric. Res. Ctr., 748 Railroad Highway, Huntley, Montana 59037, United States; G.D. Kushnak, Western Triangle Agric. Research Center, P.O. Box 1474, Conrad, Montana 59425, United States; Phil L. Bruckner, Montana State University, Dept of Plant, Soil & Environmental Sciences, Leon Johnson Hall, Bozeman, Montana 59717-0312, United States; E.A. Hockett, USDA, ARS, Montana State University, Plant and Soil Science Department, Bozeman, Montana 59717, United States; D. B. Mathre, Montana State University, Dept. of Plant Pathology, Bozeman, Montana 59717, United States; G. A. Taylor, Montana State University, Department of Plant and Soil Science, Bozeman, Montana, United States; G.R. Carlson, Montana Agric. Exp. Station, Northern Agric. Research Center, Havre, Montana 59501, United States; J.L. Echhoff, Montana Agric. Exp. Station, Eastern Agric. Research Center, Sidney, Montana 59270, United States; D.W. Wichman, Montana Agric. Exp. Station, Central Agric. Exp. Station, Moccasin, Montana, United States; H.F. Bowman, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; C.F. McGuire, Montana State University, Montana Agr. Exp. Sta., Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; R.N. Stougaard, Northwestern Agric. Res. Ctr., Kalispell, Montana 59901, United States; G.D. Jackson, Western Triangle Agric. Res. Ctr., Conrad, Montana 59425, United States. Received 03/03/1995.

PI 586806. Triticum aestivum L., nom. cons.  
Resistant to prevalent races of Puccinia graminis (Sr5 and Sr6). Susceptible to P. recondita, wheat streak mosaic virus, Tilletia controversa, Diuraphis noxia, and Cephus cinctus. Moderately susceptible to P. striiformis and cephalosporium gramineum.

The following were collected by Cynthia Stauffer, Regional Plant Introduction Station, Iowa State University, 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 586810. Helianthus annuus L. Wild. Ames 17876; ANN 2106. Collected 09/05/1991 in North Dakota, United States. Latitude 47 deg. 40' N. Longitude 100 deg. 40' W. Disturbed area in roadside ditch. 0.8 km west of Minot, Hwy. 2 and 52 W, Ward County. Seed collected from 20 plants. Small localized population. Peak flowering, seed set good, typical species. Rust on most plants.


PI 586812. Helianthus annuus L.
PI 586813. Helianthus annuus L.
Wild. Ames 17878; ANN 2110. Collected 09/05/1991 in North Dakota, United States. Latitude 48 deg. 9' N. Longitude 102 deg. 21' W. Loam soil in roadside ditch, next to hayland. 4.8 km south of Belden, Hwy 8 S, Mountrail County. Population scattered along edge of field (hayland). Plants well past flowering, no green leaves left. Typical plants, one plant had very large head (outcross?). Seed set hard to determine. Head and receptacle damage. Rust present on few remaining leaves.

PI 586814. Helianthus annuus L.

PI 586815. Helianthus annuus L.

PI 586816. Helianthus annuus L.
Wild. Ames 17881; ANN 2114. Collected 09/05/1991 in North Dakota, United States. Latitude 47 deg. 48' N. Longitude 103 deg. 20' W. Disturbed area of roadside ditch. 10.4 km west of Watford City, Hwy. 85 W, McKenzie County. Seed collected from 35 plants. Scattered population in disturbed area, plants only followed disturbed area made by crawler tractor. Plants well past flowering. A couple plants with larger central head - possible hybrid, sunflower production in the area. Plants covered with rust. Helianthus petiolaris next to this population.

PI 586817. Helianthus annuus L.
Wild. Ames 17882; ANN 2116. Collected 09/05/1991 in Montana, United States. Latitude 47 deg. 43' N. Longitude 104 deg. 12' W. Disturbed area in roadside ditch, near irrigation canal, clay soil. 17.1 km southwest of Sidney, Hwy 16 SW, Richland County. Seed collected from 45 plants. Population scattered in level part of ditch, somewhat disturbed. Plants not at peak flowering, seed set good but collection samples may be too young. Typical H. annuus. Moderate to heavy rust on most plants.

PI 586818. Helianthus annuus L.
Wild. Ames 17883; ANN 2118. Collected 09/05/1991 in Montana, United States. Latitude 46 deg. 40' N. Longitude 105 deg. 16' W. Disturbed gravel-like soil in roadside ditch. 0.3 km north of Terry, Hwy 253 N, Prairie County. Seed collected from 20 plants. Small population located along both sides of road. Typical species, plants well past flowering, good seed set. Moderate rust infection.

PI 586819. Helianthus annuus L.
PI 586820. Helianthus annuus L.

PI 586821. Helianthus annuus L.
Wild. Ames 17887; ANN 2127. Collected 09/06/1991 in Montana, United States. Latitude 44 deg. 56' N. Longitude 105 deg. 25' W. Disturbed area in roadside ditch by approach. 35.2 km north of Weston, Hwy. 59 N, Campbell County. Seed collected from 30 plants. Scattered in disturbed area along roadside ditch. Typical H. annuus, no H. petiolaris plants present or near population. Moderate rust.
flowering, seed heads dry, good seed. Severe rust on most plants.

**PI 586827. Helianthus annuus L.**

**PI 586828. Helianthus annuus L.**

**PI 586829. Helianthus annuus L.**

**PI 586830. Helianthus annuus L.**
Wild. Ames 17896; ANN 2137. Collected 09/07/1991 in Wyoming, United States. Latitude 43 deg. 42' N. Longitude 105 deg. 26' W. Disturbed roadside ditch. 0.3 km northeast of Wright, Hwy. 387 N, Campbell County. Seed collected from 60 plants. Population scattered along disturbed roadside ditch. Plants very mature, seed set good, typical H. annuus, many single stems. Plants about 0.75 m tall. Plants well past maturity, no leaves to check rust.

**PI 586831. Helianthus annuus L.**

**PI 586832. Helianthus annuus L.**
Wild. Ames 17898; ANN 2139. Collected 09/07/1991 in Wyoming, United States. Latitude 43 deg. 51' N. Longitude 104 deg. 11' W. Roadside ditch, disturbed area by new bridge construction. 6.6 km east of New Castle, Hwy. 450 E, Weston County. Seed collected from 60 plants. Plants scattered along disturbed area by bridge, along both sides of road. Typical H. annuus except for some shorter, single to three-headed plants. Good seed set, plants dry, well past maturity. Very severe rust on most plants.

**PI 586833. Helianthus annuus L.**
Wild. Ames 17899; ANN 2140. Collected 09/08/1991 in South Dakota, United States. Latitude 44 deg. 6' N. Longitude 103 deg. 14' W. Disturbed backslope of roadside ditch. 14 km southwest of Rapid City, Hwy 16 S, Pennington County. Seed collected from 30 plants. Plants scattered in the ditch for approximately 100 m. Plants well past flowering, too late to check for rust.
PI 586834. Helianthus annuus L.
Wild. Ames 17900; ANN 2143. Collected 09/08/1991 in South Dakota, United States. Latitude 43 deg. 46' N. Longitude 103 deg. 13' W. Rocky soil, disturbed area in a roadside ditch. 3.8 km northwest of Hermosa, Hwy. 40, Pennington County. Seed collected from 60 plants. Small scattered population along roadside ditch and approach, disturbed area. Plants at peak flowering, good seed set, typical H. annuus. Only two plants with little rust.

PI 586835. Helianthus annuus L.
Wild. Ames 17901; ANN 2144. Collected 09/08/1991 in South Dakota, United States. Latitude 43 deg. 28' N. Longitude 103 deg. 36' W. Rocky soil in a roadside ditch, along guard rail. 4.8 km west of Hot Springs, Hwy. 18 W, Fall River County. Seed collected from 75 plants. Population scattered along disturbed roadside ditch, rocky soil. Most plants well past flowering, good seed set, some plants with severe rust.

PI 586836. Helianthus annuus L.
Wild. Ames 17902; ANN 2147. Collected 09/08/1991 in Wyoming, United States. Latitude 43 deg. 3' N. Longitude 104 deg. 15' W. Roadside ditch. 41.6 km north of Lusk, Hwy. 18 and 85 S, Niobrara County. Seed collected from 65 plants. Plants scattered for km. Probably only sampled a part of it. Plants typical H. annuus, some smaller heads. No apparent rust. Some H. petiolaris plants mixed in population, no hybrid-like plants.

PI 586837. Helianthus annuus L.

PI 586838. Helianthus annuus L.

PI 586839. Helianthus annuus L.

PI 586840. Helianthus annuus L.

PI 586841. Helianthus annuus L.
Wild. Ames 17907; ANN 2155. Collected 09/09/1991 in Colorado, United States. Latitude 40 deg. 25' N. Longitude 104 deg. 30' W. Disturbed sandy-loam soil along edge of road, near stream. 11.2 km west of Kersey,
Hwy 34 W, Weld County. Seed collected from 35 plants. Population scattered over approximately 100 m along both sides of road. Plants tall, large stems, just past peak flowering, good seed set. No apparent rust. Plants more branched than has been seen so far.

PI 586842. Helianthus annuus L.

PI 586843. Helianthus annuus L.

PI 586844. Helianthus annuus L.

PI 586845. Helianthus annuus L.

PI 586846. Helianthus annuus L.
Wild. Ames 17912; ANN 2168. Collected 09/10/1991 in Colorado, United States. Latitude 38° 55' N. Longitude 103° 10' W. Sandy-loam soil in disturbed roadside ditch. 42.4 km east of Punkin Center, Hwy 94 E, Lincoln County. Seed collected from 22 plants. Plants very scattered along both sides of road. Plants very branched and tall, red stem, large heads, plants just past peak flowering, good seed set. No apparent rust. Helianthus petiolaris population mixed in and near by.

PI 586847. Helianthus annuus L.
Wild. Ames 17913; ANN 2169. Collected 09/19/1991 in Colorado, United States. Latitude 38° 46' N. Longitude 102° 36' W. Loam soil in disturbed roadside ditch. 14.4 km east of Kit Carson, Hwy 40 E, Cheyenne County. Seed collected from 32 plants. Very large population extending over 100 m, very dense population along both sides of road. Plants tall, strong branching, spreading, very large heads, some red stems. Plants just past peak flowering, good seed set. Few plants with rust.

PI 586848. Helianthus annuus L.
PI 586849. Helianthus annuus L.  

PI 586850. Helianthus annuus L.  

PI 586851. Helianthus annuus L.  
Wild. Ames 17917; ANN 2173. Collected 09/11/1991 in Kansas, United States. Latitude 38 deg. 28' N. Longitude 100 deg. 42' W. Disturbed loam soil in roadside ditch near cultivated field. 35.2 km east of Scott City, Hwy. 96 E, Lane County. Seed collected from 100 plants. Population scattered around edge of highway department lot (storage area). Typical H. annuus for Kansas, taller, larger heads. Good seed set, much past peak flowering. Light to moderate rust.

PI 586852. Helianthus annuus L.  
Wild. Ames 17918; ANN 2174. Collected 09/11/1991 in Kansas, United States. Latitude 38 deg. 28' N. Longitude 100 deg. 29' W. Sandy-loam soil in stubble field (small grains). 30.4 km east of Dighton, Hwy 96 E, Ness County. Seed collected from 100 plants. Population was very large, covering over 30 ha of stubble field, very dense population. Tall plants, dark green leaves, branching and spreading. Good seed set, past flowering. No apparent rust. Sand burr.
Hwy. 156 E, Hodgeman County. Seed collected from 100 plants. Large population in roadside ditch, waste area at corner. Plants tall, some very compact, dark green leaves, leaves whitish also. Rodent damage to base (roots) of plants. Seed set good, some Suleima damage to heads. Population well past flowering. No apparent rust.

PI 586856. Helianthus annuus L.

PI 586857. Helianthus annuus L.

PI 586858. Helianthus annuus L.

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; 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, FUSA, 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 586859. Helianthus annuus L.

PI 586860. Helianthus annuus L.
Wild. Ames 17926; ANN 2183. Collected 09/12/1991 in Kansas, United States. Latitude 39 deg. 10' N. Longitude 95 deg. 1' W. Clay soil on backslope of roadside ditch. 9.6 km northeast of Tonganoxie, Hwy. 16, Douglas County. Seed collected from 25 plants. Population scattered on west facing slope of road, population very small, restricted to small area. Plants typical, ca. 2 m tall, branching, spreading. Good seed set, past peak flowering. Moderate to severe rust. Helianthus grosseserratus in population but just beginning to flower.
PI 586861. Helianthus annuus L.

PI 586862. Helianthus annuus L.

PI 586863. Helianthus annuus L.
Wild. Ames 17929; ANN 2186. Collected 09/13/1991 in Kansas, United States. Latitude 39 deg. 33' N. Longitude 95 deg. 10' W. Disturbed roadside ditch along edge of soybean field. 6.4 km west of Atchinson, Hwy 73 W, Atchinson County. Seed collected from 35 plants. Scattered population in roadside ditch, also along edge of cultivated soybean field. Very tall plants - 3.5 m, branching, larger heads. Grasshopper damage to head, also Suleima damage, few plants with rust. Good seed set, past flowering.

PI 586864. Helianthus annuus L.
Wild. Ames 17930; ANN 2187. Collected 09/13/1991 in Kansas, United States. Latitude 39 deg. 51' N. Longitude 95 deg. 50' W. Clay soil in roadside ditch, along fence row by corn field. 12.8 km south of Fairview, Hwy. 75 S, Brown County. Seed collected from 33 plants. Plants scattered along fence row and corn field. Plants ca. 3 m tall, slender, branched above, dark green leaves, good heads. Just past peak flowering, good seed set. No apparent rust, grasshopper damage to heads.

PI 586865. Helianthus annuus L.
Wild. Ames 17931; ANN 2188. Collected 09/13/1991 in Nebraska, United States. Latitude 40 deg. 8' N. Longitude 96 deg. 22' W. Disturbed area along railroad tracks near abandoned grain elevator at south edge of Burchard. Hwy 3 S, Pawnee County. Seed collected from 35 plants. Plants ca. 3 m tall, lower basal type branching in many plants. Good seed set, past peak flowering. Few plants with rust, grasshopper damage to heads.

PI 586866. Helianthus annuus L.
Wild. Ames 17932; ANN 2191. Collected 09/13/1991 in Nebraska, United States. Latitude 40 deg. 28' N. Longitude 96 deg. 22' W. Rocky clay-loam soil along railroad track right-of-way. 5.8 km east of Sterling, Hwy 41 E, Johnson County. Seed collected from 50 plants. Population very large, extending along railroad for 0.4 km. Past peak flowering, good seed set, typical H. annuus, ca 2.5 m tall, thin stems. Suleima damage to heads, moderate rust.

PI 586867. Helianthus annuus L.
Wild. Ames 17933; ANN 2192. Collected 09/13/1991 in Nebraska, United States. Latitude 40 deg. 58' N. Longitude 95 deg. 56' W. Loam soil in disturbed roadside ditch. 0.8 km northeast of Murray, Hwy 1 E, Cass County. Seed collected from 35 plants. Plants scattered around corner of roadside ditch. Only H. annuus seen for awhile. Typical H. annuus, tall plants ca. 2m, evenly branching all the way up, heads large for H. annuus. Seed set good, just at peak flowering. No apparent rust.
PI 586868. Helianthus annuus L.
Wild. Ames 17934; ANN 2193. Collected 09/13/1991 in Nebraska, United States. Latitude 41 deg. 5' N. Longitude 96 deg. 1' W. Disturbed roadside ditch along frontage road. 8.0 km north of Springfield, Hwy. 50 N, Sarpy County. Seed collected from 28 plants. Population scattered along disturbed area of the roadside ditch, in channel. Plants extremely tall, some 4 to 5 m, branching equally up and down the stem, looking uniformly spaced. Heads as large as we have seen, but definitely are still wild. Seed set good, some insect damage to head (Suleima) no apparent rust.

PI 586869. Helianthus annuus L.
Wild. Ames 17935; ANN 2194. Collected 09/14/1991 in Nebraska, United States. Latitude 41 deg. 22' N. Longitude 97 deg. 40' W. Roadside ditch along corn field. 6.9 km northeast of Silver Creek, Hwy. 30 E, Merrick County. Seed collected from 20 plants. Population along edge of field and roadside ditch. Clay-loam soil. Plants 2m tall, branched below, larger heads, good seed set, past peak flowering. Head damage due to grasshopper and Suleima, moderate rust.

PI 586870. Helianthus annuus L.
Wild. Ames 17936; ANN 2196. Collected 09/14/1991 in Nebraska, United States. Latitude 41 deg. 6' N. Longitude 97 deg. 40' W. Roadside ditch along railroad tracks. 9.6 km southwest of Central City, Hwy. 30 W, Merrick County. Seed collected from 28 plants. Population scattered along edge of railroad right-of-way, also in ditch. Black clay soil. Typical H. annuus, well past flowering, 2m tall. Slight rust, severe grasshopper damage, some heads 1/4 eaten.

PI 586871. Helianthus annuus L.
Wild. Ames 17937; ANN 2197. Collected 09/14/1991 in Nebraska, United States. Latitude 40 deg. 15' N. Longitude 98 deg. 33' W. Along edge of cultivated soybean field. 10.7 km west of Wood River, Hwy. 30 W, Hall County. Seed collected from 33 plants. Population small, 50 plants, along edge of soybean field. Typical H. annuus, very tall, plants with large lower leaves, past flowering, good seed set. No apparent rust.

PI 586872. Helianthus annuus L.
Wild. Ames 17938; ANN 2198. Collected 09/14/1991 in Nebraska, United States. Latitude 40 deg. 30' N. Longitude 99 deg. 10' W. Along railroad right-of-way. 5.6 km west of Axtell, Hwy. 6 and 34 W, Kearney County. Seed collected from 23 plants. Population extending along railroad tracks for ca. 100 m. Many plants branching from base, very large stems, plants past flowering, larger green leaves. Head damage due to Suleima, slight rust problem.

PI 586873. Helianthus annuus L.
Wild. Ames 17939; ANN 2199. Collected 09/14/1991 in Nebraska, United States. Latitude 40 deg. 34' N. Longitude 99 deg. 51' W. Sandy-loam soil in disturbed roadside ditch along railroad right-of-way. 6.4 km northwest of Bertrand, Hwy. 23 W, Phelps County. Seed collected from 32 plants. Plants scattered along railroad right-of-way. Badger holes frequent in area, another population was in disturbed area of roadside ditch. Plants 2.5 m tall, good seed set. Grasshopper damage to heads. Typical H. annuus. Slight rust in population.

PI 586874. Helianthus annuus L.
Wild. Ames 17940; ANN 2200. Collected 09/14/1991 in Nebraska, United States. Latitude 40 deg. 46' N. Longitude 99 deg. 48' W. Sandy-loam soil in disturbed roadside ditch along railroad tracks. 1.6 km west of Lexington, Hwy. 30 W, Dawson County. Seed collected from 22 plants. Population scattered along railroad tracks. Plants 2.5 - 3 m tall, branching, larger leaves. Good seed set, well past flowering. No apparent rust.
PI 586875. *Helianthus annuus* L.
Wild. Ames 17941; ANN 2201. Collected 09/14/1991 in Nebraska, United States. Latitude 40 deg. 56' N. Longitude 100 deg. 10' W. Sandy soil in disturbed waste area of roadside ditch, by canal. 11.2 km south of Gothenburg, Hwy. 47 S, Dawson County. Seed collected from 21 plants. Population localized along railroad tracks and disturbed area of canal. Plants tall, 3.5 m, branching, spreading above, larger heads, but still *H. annuus*. Plants well past flowering, good seed set. No apparent rust.

PI 586876. *Helianthus annuus* L.
Wild. Ames 17942; ANN 2202. Collected 09/14/1991 in Nebraska, United States. Latitude 40 deg. 40' N. Longitude 100 deg. 20' W. Sandy soil in disturbed area of roadside ditch. 4.8 km west of Moorefield, Hwy. 23 W, Frontier County. Seed collected from 29 plants. Population scattered along roadside ditch, disturbed area along drainage ditch, sandy soil. Plants 2.5 m tall, branched above, larger heads. Some damage due to grasshopper and *Suleima*. Plants well past flowering, good seed set. No apparent rust.

PI 586877. *Helianthus annuus* L.
Wild. Ames 17943; ANN 2206. Collected 09/15/1991 in Nebraska, United States. Latitude 41 deg. 10' N. Longitude 100 deg. 46' W. Disturbed sandy soil of roadside ditch. 8.0 km north and 5 km west of North Platte, Hwy 97 W, Lincoln County. Seed collected from 15 plants. Small population scattered in *H. petiolaris* population, around rodent disturbance. Typical *H. annuus*, but shorter than previously seen. Good seed set, well past flowering. Moderate to severe rust.

PI 586878. *Helianthus annuus* L.
Wild. Ames 17944; ANN 2210. Collected 09/15/1991 in Nebraska, United States. Latitude 42 deg. 3' N. Longitude 100 deg. 58' W. Disturbed soil along backslope of roadside ditch, edge of drainage ditch. 16km east of Mullen, Hwy 2 E, Thomas County. Seed collected from 28 plants. Population small on backslope and by windmill, sandy soil. Typical *H. annuus*, ca. 1.5-2m tall. Population well past flowering, good seed set. Moderate rust, some head damage due to *Suleima*.

PI 586879. *Helianthus annuus* L.
Wild. Ames 17945; ANN 2213. Collected 09/15/1991 in Nebraska, United States. Latitude 42 deg. 55' N. Longitude 100 deg. 12' W. Disturbed sandy soil in roadside ditch. 47.2 km west of Norden, Hwy. 12 W, Keya Paha County. Seed collected from 21 plants. Small scattered population in roadside ditch. Plants well past flowering, good seed set. Plants branched above equally, 2 m tall, larger heads. Head damage due to grasshopper and *Suleima*. Moderate rust.

PI 586880. *Helianthus annuus* L.
Wild. Ames 17946; ANN 2216. Collected 09/15/1991 in South Dakota, United States. Latitude 43 deg. 20' N. Longitude 99 deg. 47' W. Sandy soil along right-of-way of abandoned railroad. 13.9 km northwest of Colome, Hwy. 18 and 183 W, Tripp County. Seed collected from 29 plants. Population small, occurring only along disturbed area of old railroad tracks, sandy, rocky soil. Good seed set, plants almost dried up. Plants very branched, lower and upper branches equal, about half single stems and had limited heads. Plants 2 m tall. The few remaining green plants had severe rust.

PI 586881. *Helianthus annuus* L.
Wild. Ames 17947; ANN 2217. Collected 09/16/1991 in South Dakota, United States. Latitude 43 deg. 23' N. Longitude 99 deg. 56' W. Roadside ditch, disturbed soil of rocky drainage ditch. 20.8 km east of Pierre, Hwy. 34 E, Hughes County. Seed collected from 22 plants. Small population along drainage ditch, rocky soil. Typical *H. annuus*, plants well past...
flowering, good seed set, plants 2 m tall. No apparent rust, insect
damage to heads due to Suleima.

**PI 586882. Helianthus annuus L.**

**PI 586883. Helianthus annuus L.**
Wild. Ames 17949; ANN 2220. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 25' N. Longitude 98 deg. 30' W. Sandy-loam soil in roadside ditch along edge of soybean and corn fields. 8 km south of Wolsey, Hwy 281 S, Beadle County. Seed collected from 35 plants. Plant population scattered only along edge of cultivated field. Good seed set, well past flowering, typical H. annuus, ca. 1.5-2 m tall, smaller heads. No apparent rust.

**PI 586884. Helianthus annuus L.**
Wild. Ames 17950; ANN 2223. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 1' N. Longitude 97 deg. 9' W. Clay-loam soil along edge of cultivated sunflower field and within field. 16 km north of Madison, Hwy 81 N, Lake County. Seed collected from 31 plants. Population scattered in and along edge of cultivated sunflower field. Clay-loam soil. Plants tall (2.5-3 m), some heads had large bracts (long) but probably still wild H. annuus. Typical branching plants, well past flowering, good seed set. Only a few plants with rust.

**PI 586885. Helianthus annuus L.**
Wild. Ames 17951; ANN 2225. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 21' N. Longitude 97 deg. 33' W. Sandy soil in disturbed roadside ditch. 5.6 km south of DeSmet, Hwy 25 S, Kingsbury County. Seed collected from 17 plants. Small population, isolated in disturbed area of pipeline construction, disturbed sandy soil. Plants well past flowering, shorter than typical, smaller heads. Moderate damage to heads by Suleima. Rust present on remaining leaves. Helianthus maximiliani mixed in same population.

**PI 586886. Helianthus annuus L.**

**PI 586887. Helianthus annuus L.**
Wild. Ames 17953; ANN 2231. Collected 09/17/1991 in South Dakota, United States. Latitude 45 deg. 30' N. Longitude 98 deg. 7' W. Disturbed clay-loam soil in roadside ditch. 11.2 km north of Groton, Hwy. 37 N, Brown County. Seed collected from 29 plants. Scattered population along disturbed area. Plants well past flowering, about 2-2.5 m tall. Smaller heads, few plants looked like hybrid with cultivated, 6.3 cm diameter heads. Possible hybrid has typical wild plant characters except for head diameter. Severe rust.

**PI 586888. Helianthus annuus L.**
Wild. Ames 17954; ANN 2233. Collected 09/17/1991 in North Dakota, United States. Latitude 46 deg. 1' N. Longitude 98 deg. 25' W. Sandy soil of roadside ditch, along disturbed area of cultivated sunflower field. 1.6
km north of Fullerton, Hwy County 8, Becker township, Dickey County. Seed collected from 28 plants. Population isolated in a disturbed area next to cultivated sunflower field, sandy soil. Seed set good, plants well past flowering, plants typical of wild H. annuus, 2 m tall, branching above. A few plants with larger heads (5-8 cm diameter), probably hybrid with cultivated sunflower.

PI 586889. Helianthus grosseserratus Martens
Wild. Ames 17956; GRO 2204. Collected 09/15/1991 in Nebraska, United States. Latitude 41 deg. 9' N. Longitude 100 deg. 45' W. Roadside ditch in moist lowland. 4.8 km north of North Platte, Hwy. 83 N, Lincoln County. Seed collected from 75 plants. Population scattered in low, moist area of roadside, sandy soil. Plants 1.5-2 m tall, lanceolate leaves, purple stem, slight branching above. Most plants fit H. grosseserratus type, dark green serrated leaves but leaves are scaberous, thicker than normal. No insect damage, no apparent rust.

PI 586890. Helianthus grosseserratus Martens

The following were collected by Cynthia Stauffer, Regional Plant Introduction Station, Iowa State University, 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 586891. Helianthus maximilianii Schrader
Wild. Ames 17958; MAX 2097. Collected 09/04/1991 in North Dakota, United States. Latitude 46 deg. 55' N. Longitude 97 deg. 11' W. Clay soil in roadside ditch. 12.8 km north of Casselton, Hwy 18 N, Cass County. Seed collected from approximately 75 plants. Large scattered population, extending 0.4 km. Typical species, plants past flowering, seed set variable. No associated sunflower species. No apparent insect damage.

PI 586892. Helianthus maximilianii Schrader
Wild. Ames 17959; MAX 2098. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 26' N. Longitude 98 deg. 7' W. Loam soil in roadside ditch at edge of wet area. 7.7 km east of Cooperstown, Hwy. 200 E, Griggs County. Seed collected from 35 plants. Large scattered population, extending ca. 100 m. Plants past flowering, seed set variable. Plants have wider than typical leaves for H. maximiliani, plants slightly taller than normal. Very severe rust infection. Rust sampled for T. Gulya, probably too old for spores.

PI 586893. Helianthus maximilianii Schrader
Wild. Ames 17960; MAX 2100. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 26' N. Longitude 98 deg. 20' W. Loam soil in roadside ditch at level part of ditch. 36 km west of Cooperstown, Hwy. 200 W, Griggs County. Seed collected from 50-60 plants. Population scattered over ca. 100 m. All plants past flowering, seed set variable, appears to be typical species. Some insect damage to disc flowers. A light rust infection present in population.
PI 586894. *Helianthus maximilianii* Schrader

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; 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 Delhi, 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 586895. *Helianthus maximilianii* Schrader
Wild. Ames 17963; MAX 2195. Collected 09/14/1991 in Nebraska, United States. Latitude 41 deg. 22' N. Longitude 97 deg. 40' W. Clay-loam soil in roadside ditch. 2.4 km northeast of Silver Creek, Hwy. 30 E, Merrick County. Seed collected from 31 plants. Small scattered population at corner of road. Clay-loam soil. Typical *H. maximiliani*, folded leaves, red stem, ca 1.5 m tall, heads toward top of plant. Seed set good, past peak flowering. Some insect damage - head clipper, no apparent rust.

PI 586896. *Helianthus maximilianii* Schrader

PI 586897. *Helianthus maximilianii* Schrader
Wild. Ames 17965; MAX 2219. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 28' N. Longitude 98 deg. 58' W. Roadside ditch by drainage area. 2.1 km east of St. Lawrence, Hwy. 14 E, Hand County. Seed collected from 38 plants. Small scattered population along drainage area, sandy-loam soil, moist at times. Typical *H. maximiliani*, multiheaded, silver leaves, folded, 1.5 m tall, typical branching and flowering heads. No damage by insects, but had clubbed heads (wide stem and head) abnormality, otherwise typical. Plants past flowering. Few plants with rust.

PI 586898. *Helianthus maximilianii* Schrader

PI 586899. *Helianthus maximilianii* Schrader
Wild. Ames 17967; MAX 2222. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 1' N. Longitude 97 deg. 49' W. Sandy-loam soil in roadside ditch. 1.9 km east of Fedora, Hwy. 34 E, Miner County. Seed
collected from 100 plants. Small population at this location, scattered. Sandy loam soil. Plants well past flowering, good seed set, typical but shorter, 1-1.5 m tall, grey red stems, axially branching. High frequency of single headed shorter plants types. H. annuus near, no apparent polygonium associated. Rust.

PI 586900. Helianthus maximilianii Schrader

PI 586901. Helianthus maximilianii Schrader

PI 586902. Helianthus maximilianii Schrader

PI 586903. Helianthus maximilianii Schrader

PI 586904. Helianthus maximilianii Schrader
Wild. Ames 17973; MAX 2234. Collected 09/17/1991 in North Dakota, United States. Latitude 46 deg. 21' N. Longitude 98 deg. 20' W. Disturbed sandy soil in roadside ditch. 4.8 km west of LaMoure, Hwy. 13 W, LaMoure County. Seed collected from 36 plants. Population extensive, ca. 1000 sq. m. Plants well past flowering, seed set good. Typical H. maximilianii for mid-west, narrow folded leaves, wavy margin, gray color, 1-2 m tall, flowering upper 1/3 of plant. No apparent rust. Helianthus paucifloris ssp subrhomboideus mixed in population. Clubbed head and flat stemmed plants present in the population.

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Fargo, North Dakota 58105, United States. Received 10/17/1991.

PI 586905. Helianthus nuttallii ssp. nuttallii (Torrey & A. Gray) Heiser

PI 586906. Helianthus nuttallii ssp. rydbergii (Britton) R. Long
Wild. Ames 17975; NUT 2109. Collected 09/05/1991 in North Dakota, United States. Latitude 48 deg. 19' N. Longitude 102 deg. 23' W. Loam soil in roadside ditch, swampy area. 1.6 km south of Stanley, Hwy 8 S, Mountrail County. Seed collected from 25 plants. Small population, well past flowering, occurring along edge of wet area. Seed set appears good, typical, but plants did not have red stems. Smaller type leaves. Rust infection lighter than previously seen, population appears to have been grazed.

PI 586907. Helianthus nuttallii ssp. rydbergii (Britton) R. Long
Wild. Ames 17976; NUT 2236. Collected 09/17/1991 in North Dakota, United States. Latitude 46 deg. 34' N. Longitude 97 deg. 6' W. Sandy soil in moist roadside ditch. 11.2 km west and 5.9 km south of Kindred, Hwy 18 S, Richland County. Seed collected from 36 plants. Population along both sides of road, ca. 150 plants. Typical H. nuttallii, red stem, plants well past flowering, seed set poor, questionable seed quality. Plants 2 m tall, branched above. Rust moderate to severe.

PI 586908. Helianthus pauciflorus ssp. subrhomboideus (Rydb.) O. Spring & E. Schilling
Wild. Ames 17984; PAU 2235. Collected 09/17/1991 in North Dakota, United States. Latitude 46 deg. 21' N. Longitude 98 deg. 20' W. Disturbed sandy soil of roadside ditch. 4.8 km west of LaMoure, Hwy. 13 W, LaMoure, County. Seed collected from 66 plants. Small scattered population over ca. 100 sq. m. Plants well past flowering, seed set fair, many heads very black. Plant typical, 1 m tall, 1-3 head per plant, red stems, larger basal leaves. No apparent rust. Helianthus maximiliani mixed in population.

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PI 586909. Helianthus pauciflorus ssp. subrhomboideus (Rydb.) O. Spring & E. Schilling  
Wild. Ames 18011; PAU 2099. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 26' N. Longitude 98 deg. 7' W. Loam soil in level part of roadside ditch. 36 km west of Cooperstown, Hwy. 200 W, Griggs County. Seed collected from 100 plants. Large scattered population extending ca. 100 m. All plants past flowering, seed set variable. Typical species, 1-2 heads per plant, 0.5 to 0.75 m tall. Severe rust infection on leaves, sample collected for T. Gulya, probably too old, spores black not brown.

PI 586910. Helianthus petiolaris ssp. petiolaris  
Wild. Ames 17985; PET 2113. Collected 09/05/1991 in North Dakota, United States. Latitude 47 deg. 48' N. Longitude 103 deg. 20' W. Sandy gravel-like soil in roadside ditch along edge of asphalt of road. 10.4 km west of Watford City, Hwy. 85 W, McKenzie County. Seed collected from 40 plants. Population scattered along road edge next to blacktop. Gravel, sandy soil. Peak flowering, typical H. petiolaris with white center of head. Light infection of rust. Helianthus annuus nearby. Plants somewhat shorter due to location along edge of road.

PI 586911. Helianthus petiolaris ssp. petiolaris  
Wild. Ames 17986; PET 2117. Collected 09/05/1991 in Montana, United States. Latitude 47 deg. 22' N. Longitude 104 deg. 43' W. Sandy gravel-like soil of roadside ditch, edge of asphalt road. 71.2 km southwest of Sidney, Hwy 16 S, Dawson County. Seed collected from 30 plants. Population scattered along edge of road, approximately 75 plants. Typical plants, past peak flowering, seed set good. Moderate rust infection. Helianthus annuus plants mixed with H. petiolaris on both sides of road.

PI 586912. Helianthus petiolaris ssp. petiolaris  
Wild. Ames 17987; PET 2119. Collected 09/05/1991 in Montana, United States. Latitude 46 deg. 23' N. Longitude 105 deg. 42' W. Sandy soil of roadside ditch and extending into gray, sandy soil of small grain field (stubble). 7.5 km southwest of Terry, Hwy. 253 SW, Prairie County. Seed collected from more than 250 plants. Very large population, scattered over several hectares. Plants just past peak flowering, good seed set, typical species. No apparent insect damage, slight infection of rust on plants along roadside.

PI 586913. Helianthus petiolaris ssp. petiolaris  
Wild. Ames 17988; PET 2120. Collected 09/06/1991 in Montana, United States. Latitude 46 deg. 20' N. Longitude 105 deg. 50' W. Sandy soil of roadside, along edge of asphalt of road. 19.5 km south of Miles City, Hwy. 312 S, Custer County. Seed collected from 30 plants. Scattered population along road. Just about peak flowering, good seed set. Some intermixed plants with H. annuus next to population. Moderate rust.

PI 586914. Helianthus petiolaris ssp. petiolaris  

PI 586915. Helianthus petiolaris ssp. petiolaris  
PI 586916. Helianthus petiolaris ssp. petiolaris

PI 586917. Helianthus petiolaris ssp. petiolaris
Wild. Ames 17992; PET 2145. Collected 09/08/1991 in South Dakota, United States. Latitude 43 deg. 19' N. Longitude 103 deg. 40' W. Sandy roadside ditch. 30.5 km southwest of Hot Springs, Hwy. 18 S, Fall River County. Seed collected from 60 plants. Population scattered for ca. 100 m along edge of road blacktop and in sandy ditch. Typical H. petiolaris, plants just past peak flowering. Only one plant seen with rust.

PI 586918. Helianthus petiolaris ssp. petiolaris

PI 586919. Helianthus petiolaris ssp. petiolaris

PI 586920. Helianthus petiolaris ssp. petiolaris

PI 586921. Helianthus petiolaris ssp. petiolaris
Wild. Ames 17996; PET 2156. Collected 09/09/1991 in Colorado, United States. Latitude 40 deg. 22' N. Longitude 104 deg. 28' W. Sandy roadside ditch. 10.9 km southeast of Kersey, Hwy. 34 S, Weld County. Seed collected from 75 plants. Population large - scattered for kilometers in pastures and ditches along road. Typical plants, well past flowering, some 2 m tall, some large heads. No apparent rust.

PI 586922. Helianthus petiolaris ssp. petiolaris
Wild. Ames 17997; PET 2158. Collected 09/09/1991 in Colorado, United States. Latitude 39 deg. 50' N. Longitude 104 deg. 25' W. Sandy roadside ditch. 1.1 km northeast of Bennett, Hwy. 79 N, Adams County. Seed collected from 60 plants. Population scattered along roadside ditch, sandy soil, mostly on backslope. Plants very tall, heads larger than normal in several plants, plants just past peak flowering, good seed set. No apparent rust. Helianthus annuus population mixed and adjacent. Some insect damage on face of head.

PI 586923. Helianthus petiolaris ssp. petiolaris
Wild. Ames 17998; PET 2160. Collected 09/10/1991 in Colorado, United
States. Latitude 39 deg. 28' N. Longitude 104 deg. 55' W. Disturbed sandy roadside ditch. 4.2 km south of Franktown, Hwy. 83 S, Douglas County. Seed collected from 30 plants. Plants scattered along sandy disturbed area. Some plants with red stems, otherwise typical, past peak flowering. Rust moderate. Helianthus annuus mixed in population.

PI 586924. Helianthus petiolaris ssp. petiolaris

PI 586925. Helianthus petiolaris ssp. petiolaris
Wild. Ames 18000; PET 2164. Collected 09/10/1991 in Colorado, United States. Latitude 39 deg. 15' N. Longitude 103 deg. 41' W. Sandy roadside ditch. 0.8 km east of Punkin Center, Hwy 94 E, Lincoln County. Seed collected from 60 plants. Population on both sides of road. Typical H. petiolaris, tall, light green, well past peak flowering. Only one H. annuus plant seen. No apparent rust.

PI 586926. Helianthus petiolaris ssp. petiolaris
Wild. Ames 18001; PET 2166. Collected 09/10/1991 in Colorado, United States. Latitude 38 deg. 55' N. Longitude 103 deg. 10' W. Sandy soil in roadside ditch. 42.4 km east of Pawnee Rock, Hwy. 56 E, Barton County. Seed collected from 45 plants. Population large, extending along railroad tracks and roadside ditch, sandy soil. Several plants had heads clipped off by head clipper. Tall H. petiolaris, approximately 1 m, otherwise typical. Just at peak flowering. No apparent rust.

PI 586927. Helianthus petiolaris ssp. petiolaris
Wild. Ames 18003; PET 2178. Collected 09/11/1991 in Kansas, United States. Latitude 38 deg. 20' N. Longitude 99 deg. 54' W. Sandy soil in roadside ditch, along cultivated field. 14.4 km northeast of Pawnee Rock, Hwy. 56 E, Barton County. Seed collected from 62 plants. Population large, extending along railroad tracks and roadside ditch, sandy soil. Several plants had heads clipped off by head clipper. Tall H. petiolaris, approximately 1 m, otherwise typical. Just at peak flowering. No apparent rust.

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PI 586929. Helianthus petiolaris ssp. petiolaris
Wild. Ames 18004; PET 2203. Collected 09/14/1991 in Nebraska, United
States. Latitude 40 deg. 42' N. Longitude 100 deg. 44' W. Disturbed area of sandy roadside ditch. 8.0 km north of Wellfleet, Hwy 83 N, Lincoln County. Seed collected from 18 plants. Population scattered along backslope of roadside ditch, sandy soil. Plants tall for H. petiolaris, over 1 m, but had H. typical petiolaris heads (some larger), leaves, bracts, and seed. Population well past flowering, good seed. No apparent rust. One plant might have been hybrid with H. annuus, but none in immediate area.

**PI 586930. Helianthus petiolaris ssp. petiolaris**
Wild. Ames 18005; PET 2205. Collected 09/15/1991 in Nebraska, United States. Latitude 41 deg. 10' N. Longitude 100 deg. 46' W. Disturbed sandy soil in roadside ditch. 8.0 km north and 5 km west of North Platte, Hwy 97 W, Lincoln County. Seed collected from 32 plants. Population scattered along disturbed roadside ditch, sandy soil. Typical H. petiolaris, some with larger heads. Helianthus annuus mixed in, but no evidence of hybrid plants. Well past flowering, good seed set. Moderate to severe rust.

**PI 586931. Helianthus petiolaris ssp. petiolaris**
Wild. Ames 18006; PET 2208. Collected 09/15/1991 in Nebraska, United States. Latitude 41 deg. 59' N. Longitude 101 deg. 2' W. Sandy roadside ditch. 27.2 km south of Mullen, Hwy. 97 S, Hooker County. Seed collected from 32 plants. Population scattered along road and into field. Depauperate plants in grasslands, single stems, few heads, otherwise typical H. petiolaris. Good seed set, well past flowering. Moderate to severe rust.

**PI 586932. Helianthus petiolaris ssp. petiolaris**
Wild. Ames 18007; PET 2211. Collected 09/15/1991 in Nebraska, United States. Latitude 43 deg. 2' N. Longitude 100 deg. 23' W. Sandy soil in disturbed roadside ditch. 20.8 km north of Thedford, Hwy 83 N, Cherry County. Seed collected from 39 plants. Very large population extending several kilometers. Typical H. petiolaris, branching above, good seed set, well past flowering. Severe rust infection.

**PI 586933. Helianthus petiolaris ssp. petiolaris**

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**PI 586934. Helianthus petiolaris ssp. petiolaris**
Wild. Ames 18012; PET 2105. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 4' N. Longitude 100 deg. 40' W. Sandy soil in roadside ditch, along road. 11.2 km north of Turtle Lake, Hwy 41 N, McClean County. Seed collected from 5 plants. Small localized population. Typical H. petiolaris population, mid-flowering, good seed set. No insect damage, some light rust present.
PI 586935. Zea mays L. ssp. mays
Breeding. CIRAD 300. PL-176. Pedigree - [(CVR3-C3(*) x Tocumen 8331) x Suwan 8331(2)]S4. Yellow, semi-flint tropical line with complete resistance to maize streak virus (MSV) under artificial inoculation by MSV infectious Cicadulina mbila and using a strongly aggressive local isolate of the pathogen in Reunion Island. Plant height 1.30cm with ear placement approx. at midpoint of stalk. Maturity short to medium. Short ear with white cob and 12 to 14 rows of kernels. Rated fairly tolerant to southern rust and shows good root lodging resistance.

The following were developed by Agricultural Research Station, Maize Research Program, Rampur, Nepal. Donated by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 03/17/1995.

PI 586936. Zea mays L. ssp. mays
Cultivar. 7017; "ARUN-1".

PI 586937. Zea mays L. ssp. mays
Cultivar. 7018; "ARUN-2".

PI 586938. Zea mays L. ssp. mays
Cultivar. 7019; "ARUN-4".

PI 586939. Zea mays L. ssp. mays
Cultivar. 7020; "RAMPUR-1".

PI 586940. Zea mays L. ssp. mays
Cultivar. 7021; "RAMPUR COMPOSITE".

PI 586941. Zea mays L. ssp. mays
Cultivar. 7022; "MANAKAMANA-1".

The following were developed by Pakhribas Agricultural Centre, Zone Koshi, District Dhankuta, Nepal. Donated by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 03/17/1995.

PI 586942. Zea mays L. ssp. mays
Cultivar. "MANA 1"; 7035.

PI 586943. Zea mays L. ssp. mays
Cultivar. 7036; "PUL 9A".

PI 586944. Zea mays L. ssp. mays
Cultivar. 7037; "APARN-1".

The following were donated by Ned J. Garvey, USDA, ARS, National Germplasm Repository, U.S. National Arboretum, Washington, District of Columbia 20002, United States. Received 03/22/1995.

PI 586945. Camellia oleifera C. Abel
Cultivar. "LUSHAN SNOW". Excellent winterhardiness. Withstood minus 10
The following were collected by Aaron Contreras, Universidad de Guadalajara, Instituto de Botanica, Las Agujas, Nextipac, Zapopan, Jalisco, Mexico. Received 03/22/1995.


PI 586948. Solanum stoloniferum Schldl. & Bouche Wild. ROD 2527; Q 32528; BE 4893. Collected 08/14/1993 in Oaxaca, Mexico. Latitude 17 deg. 17' N. Longitude 96 deg. 57' W. Elevation 1940 m. Six Km W from 190 and 131 roads junction; Oaxaca-Huajuapan de Leon road, between La Carbonera and Santiago Tenango. Oak and pine forest. Plants 40cm tall. Corolla rotate outline with large acumens, purple. Fruit globose. Seeds and tubers collected.


The following were collected by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States; A.A. Vargas; G. Rivero. Donated by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 03/23/1995.


The following were developed by Darrell M. Wesenberg, USDA, ARS, National Small Grains Germplasm, Research Facility, Aberdeen, Idaho 83210, United States. Received 03/21/1995.

PI 586952. Avena sativa L. Breeding. 74Ab2608; NSGC 5595. Pedigree - Cayuse/Otana; Monida sib.
'Monida' type with better lodging resistance, good yield and test weight.

PI 586953. Avena sativa L.
Breeding. 90Ab163; NSGC 5596. Pedigree - Cayuse/82Ab1142. Excellent yield performance under irrigation at Aberdeen, Idaho (305.6 bu/A in 1993), with reduced height and good lodging resistance.

The following were developed by Joe Martin, Kansas State University, Agric. Experiment Station, Hays, Kansas 67601, United States. Received 03/08/1995.

PI 586954. Triticum aestivum L., nom. cons.
Breeding. Pureline. KS94WGRC29; KS94HW319. Pedigree - PI 220127/P5/TAM200/KS87H66. Hard white winter wheat resistant to Russian wheat aphid (Diuraphis noxia). Awned, white glumed, semidwarf. Head about 1 day earlier and has coleoptile length 18mm longer than Rio Blanco. Mixing strength about 1 minute longer than Larned. Resistant to leaf rust (Puccinia recondita) and stem rust (P. graminis). Susceptible to Hessian fly (Mayetiola destructor) and wheat streak mosaic virus.

PI 586955. Triticum aestivum L., nom. cons.
Breeding. Pureline. KS94WGRC30; KS94H830. Pedigree - PI 200127/P5/TAM 200/KS87H66. Hard red winter resistant to Russian wheat aphid (Diuraphis noxia). Awned, white glumed, semidwarf. Heads about 5 days later and has coleoptile length 5mm shorter than TAM 107. Mixing strength equal to Karl. Resistant to leaf rust (Puccinia recondita), stem rust (P. graminis), and is heterogeneous for the H3 gene for Hessian fly (Mayetiola destructor) resistance. Susceptible to wheat streak mosaic virus.

PI 586956. Triticum aestivum L., nom. cons.
Breeding. Pureline. KS94WGRC31; KS94H891. Pedigree - PI 220127/P5/TAM 200/KS87H66/3/KS87H325. Hard red winter resistant to Russian wheat aphid (Diuraphis noxia). Awned, white glumed, semidwarf. Heads about 5 days later and has coleoptile length equal to TAM 107. Mixing strength about 1 minute less than Karl. Resistant to leaf rust (Puccinia recondita), stem rust (P. graminis), and Hessian fly (Mayetiola destructor). Moderately susceptible to wheat streak mosaic virus.

The following were developed by T.W. Cox, USDA-ARS, Kansas State University, Dept. of Agronomy, Manhattan, Kansas 66506, United States. Received 03/14/1995.

PI 586957. Triticum aestivum L., nom. cons.
Breeding. Pureline. KS94WGRC32. Pedigree - TAM 107*2/KS8010-1.4.1/TAM 359. Seedlings resistant to culture PRTUS25 and other isolates of Puccinia recondita. Adult plants resistant under moderate to severe leaf rust epidemics at Manhattan and Hutchinson, Kansas in 1992, 1993, and 1994. The leaf rust-resistant donor parent, TA 359, is an accession of T. boeoticum, a wild, diploid wheat species. The infection type was mesothetic (23X) under heavy field infection in 1992-93, low (O1C) under moderate field infection in 1994, and consistently low (O1C) under seedling inoculation with PRTUS25. Resistance governed by a single, dominant gene that segregates independently of genes transferred previously.

The following were collected by Walter J. Kaiser, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 04/07/1995.

PI 586958. Zea mays L. ssp. mays

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The following were collected by David E. Williams, USDA, ARS, Natl. Germplasm Resources Laboratory, Building 003, Room 400, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 11/30/1994.

PI 586959. Tagetes lucida Cav.
Wild. pericon; 1304. Collected 11/16/1994 in Puebla, Mexico. Latitude 19 deg. 3' 0" N. Longitude 98 deg. 18' 0" W. Elevation 2250 m. Mpio. San Andres Cholula. San Andres Cholula. Purchased in Cholula market in dried bunches. Herb, 30-50cm tall. Flowers orange, anise-scented. Sold as a medicinal plant for use in healing baths, as well as a condiment added to the water used to boil corn-on-the-cob ("elotes").

PI 586960. Tagetes patula L.
Cultivated. 1306. Collected 11/16/1994 in Puebla, Mexico. Latitude 19 deg. 3' 0" N. Longitude 98 deg. 18' W. Elevation 2250 m. Mpio. San Andres Cholula. San Andres Cholula. Dooryard herb garden. Herb, 20-40cm tall. Disc flowers orange, ray flowers yellow with orange spots at base. Flowers of this species are utilized in the same way as T. erecta during the Day of the Dead festivities, except specifically used in the offerings for family members who died accidental deaths ("los accidentados").


PI 586961. Hordeum vulgare L. ssp. vulgare
Cultivar. Pureline. "GIZA 127". CV-258. Pedigree - WI 2291/Bags//Hamal-02. Two-rowed spring barley selected for high grain quality. Height medium tall, long rough awns, lax spikes. Juvenile plants intermediate growth habit. Leaves medium green color, narrow width. Basal leaf sheaths not glabrous, auricles white. Spikes parallel, medium density, erect. Awn length longer than that of spike. Rachilla medium long with medium length hairs. Glume length equal to that of grain. Stems slightly waxy with bluish-green color. High yield and stable performance. Partial resistance to powdery mildew about equal to Bonus and tolerant to other major diseases under field conditions. Head emergence 95 to 100 days from seeding and maturity 135 to 140 days depending upon the environment and moisture and soil fertility levels. Kernels midlong and plump with slightly wrinkled adhering hulls, prominent veins, narrow to broad crease and white aleurone. Relatively high 1000 kernel weight ranging from 47 to 49 g. Good malting quality relative to Bonus (the industry.

PI 586962. Hordeum vulgare L. ssp. vulgare
habit. Leaves medium green color, narrow width averaging 17mm. Spikes tappered, medium density, semi-erect. Awn length longer than that of spike. Rachilla length medium with medium length hairs. Glumes hairy and about one-half the kernel length. Stems slightly waxy with dark-green color. More stable in performance and higher in grain quality than check cv. Bonus. Moderately resistant to powdery mildew and tolerant to other major diseases under field conditions. Head emergence ranges between 90 to 95 days from seeding and maturity 135 to 140 days depending upon the environment, moisture and fertility levels. Relatively higher 1000 kernel weight ranging from 46 to 50 g.

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; S.A. Ghabrial, University of Kentucky, Dept. of Agronomy, Lexington, Kentucky 40546-0091, United States. Received 04/18/1995.

**PI 586963. Trifolium pratense L.**

The following were developed by Richard L. Fery, USDA, ARS, U.S. Vegetable Laboratory, 2875 Savannah Highway, Charleston, South Carolina 29414, United States; Philip D. Dukes, USDA, ARS, U.S. Vegetable Laboratory, 2875 Savannah Highway, Charleston, South Carolina 29414, United States. Received 04/18/1995.

**PI 586964. Vigna unguiculata ssp. sesquipedalis (L.) Verdc.**
Breeding. Pureline. US-568. GP-153. Pedigree - Single plant selection from a 1987 field planting of PI 468104 (Surinam). Average pod 56cm long, 15 seed. Seeds small, weighing 13.1g per 100 dry seed. Dried seeds kidney or reniform shape, smooth, reddish brown seed coat. Exceptionally high level of resistance to root-knot nematodes (Meloidogyne incognita). Resistance superior to the resistance conditioned by the Rk gene in 'Mississippi Silver'. The allele at the Rk locus may not be the Rk allele, but another allele that conditions a superior, dominant-type resistance.

The following were developed by Western Plant Breeders, Inc., United States. Received 04/18/1995.

**PI 586965. Hordeum vulgare L.**
Cultivar. "MERLIN". PVP 9500085.

The following were developed by Goldsmith Seeds, Inc., United States. Received 04/18/1995.

**PI 586966. Tagetes patula L.**
Cultivar. "1357-8-41". PVP 9500114.

The following were developed by Asgrow Seed Company, United States. Received 04/19/1995.
PI 586967. Lactuca sativa L.  
Cultivar. "SEEKER". PVP 9500115.

The following were developed by Sakata Seed America, Inc., United States. Received 04/19/1995.

PI 586968. Lactuca sativa L.  
Cultivar. "SLE4107". PVP 9500117.

The following were developed by Minnesota Agric. Experiment Station, University of Minnesota, St. Paul, Minnesota 55108, United States. Received 04/19/1995.

PI 586969. Avena sativa L.  
Cultivar. "MILTON". PVP 9500118.

The following were developed by Bakker Brothers of Idaho, Inc., Idaho, United States. Received 04/19/1995.

PI 586970. Phaseolus vulgaris L.  
Cultivar. "BB2117". PVP 9500119.

The following were developed by IMS Seeds, Division of International Marketing Service, Inc., United States. Received 04/19/1995.

PI 586971. Lolium perenne L.  
Cultivar. "DANCER". PVP 9500121.

The following were developed by Cargill, Inc., United States. Received 04/18/1995.

PI 586972. Brassica napus L.  
Cultivar. "IMC 137". PVP 9500122.

The following were developed by Del Monte Corporation, United States. Received 04/18/1995.

PI 586973. Phaseolus vulgaris L.  
Cultivar. "X3142F-B30". PVP 9500123.

The following were developed by Roberts Seed, United States. Received 04/18/1995.

PI 586974. Lolium perenne L.  
Cultivar. "PASSPORT". PVP 9500124.

The following were developed by C.H. Campbell; Raymond E. Bird, United States; David B. Ferguson, United States. Received 04/18/1995.

PI 586975. Gossypium hirsutum L.  
Cultivar. "BC 4". PVP 9500125.

The following were developed by Seed Research of Oregon, Inc., United States. Received 04/18/1995.
PI 586976. Festuca arundinacea Schreber
Cultivar. "GRANDE". PVP 9500126.

The following were developed by P&H Seeds Inc., United States. Received 04/18/1995.

PI 586977. Gossypium hirsutum L.

The following were developed by Lofts Seed, Inc., United States. Received 04/18/1995.

PI 586978. Puccinellia distans (Jacq.) Parl.
Cultivar. "SALTY". PVP 9500128.

PI 586979. Festuca arundinacea Schreber
Cultivar. "REBEL III". PVP 9500129.

The following were developed by Kansas Agr. Exp. Sta., Kansas, United States. Received 04/18/1995.

PI 586980. Glycine max (L.) Merr.
Cultivar. "KS 3494". PVP 9500130.

PI 586981. Glycine max (L.) Merr.
Cultivar. "KS 4694". PVP 9500131.

The following were developed by Seed Research of Oregon, Inc., United States. Received 04/18/1995.

PI 586982. Festuca arundinacea Schreber
Cultivar. "TITAN 2". PVP 9500132.

The following were developed by Del Monte Corporation, United States. Received 04/18/1995.

PI 586983. Phaseolus vulgaris L.
Cultivar. "DMC 04-02". PVP 9500133.

The following were developed by Idaho Seed Bean Co., Inc., Idaho, United States. Received 04/18/1995.

PI 586984. Phaseolus vulgaris L.
Cultivar. "APACHE". PVP 9500136.

The following were collected by L. Guarino, International Plant Genetic Resources Institute, Rome, Italy. Donated by Paul Quek, International Plant Genetics Resources Institute, Regional Office for Asia, the Pacific and Oceania, c/o IDRC, 7th Storey, RELC Building, Singapore. Received 04/20/1995.

PI 586985. Eleusine coracana (L.) Gaertner

The following were collected by Luigi Guarino, IBPGR, c/o Agric. Research Institute, P.O. Box 1616, Nicosia, Cyprus. Donated by Paul Quek, International Plant Genetics Resources Institute, Regional Office for Asia,
the Pacific and Oceania, c/o IDRC, 7th Storey, RELC Building, Singapore. Received 04/20/1995.

PI 586986. Eleusine coracana (L.) Gaertner

PI 586987. Eleusine coracana (L.) Gaertner

PI 586988. Eleusine coracana (L.) Gaertner

PI 586989. Eleusine coracana (L.) Gaertner

The following were collected by Luigi Guarino, IBPGR, c/o Agric. Research Institute, P.O. Box 2016, Nicosia, Cyprus. Received 04/20/1995.

PI 586990. Pennisetum glaucum (L.) R. Br.

The following were collected by Luigi Guarino, IBPGR, c/o Agric. Research Institute, P.O. Box 2016, Nicosia, Cyprus. Donated by Paul Quek, International Plant Genetics Resources Institute, Regional Office for Asia, the Pacific and Oceania, c/o IDRC, 7th Storey, RELC Building, Singapore. Received 04/20/1995.

PI 586991. Pennisetum glaucum (L.) R. Br.

PI 586992. Pennisetum glaucum (L.) R. Br.
Uncertain. 1017. Collected 1988 in Yemen.

PI 586993. Pennisetum glaucum (L.) R. Br.

PI 586994. Pennisetum glaucum (L.) R. Br.

PI 586995. Pennisetum glaucum (L.) R. Br.

PI 586996. Pennisetum glaucum (L.) R. Br.

PI 586997. Pennisetum glaucum (L.) R. Br.

PI 586998. Pennisetum glaucum (L.) R. Br.

PI 586999. Pennisetum glaucum (L.) R. Br.

PI 587000. Pennisetum glaucum (L.) R. Br.

PI 587001. Pennisetum glaucum (L.) R. Br.
PI 587002. *Pennisetum glaucum* (L.) R. Br.

PI 587003. *Pennisetum glaucum* (L.) R. Br.

PI 587004. *Pennisetum glaucum* (L.) R. Br.

PI 587005. *Pennisetum glaucum* (L.) R. Br.

PI 587006. *Pennisetum glaucum* (L.) R. Br.

PI 587007. *Pennisetum glaucum* (L.) R. Br.

PI 587008. *Pennisetum glaucum* (L.) R. Br.

PI 587009. *Pennisetum glaucum* (L.) R. Br.

PI 587010. *Pennisetum glaucum* (L.) R. Br.

PI 587011. *Pennisetum glaucum* (L.) R. Br.

PI 587012. *Pennisetum glaucum* (L.) R. Br.

PI 587013. *Pennisetum glaucum* (L.) R. Br.

PI 587014. *Pennisetum glaucum* (L.) R. Br.

PI 587015. *Pennisetum glaucum* (L.) R. Br.

PI 587016. *Pennisetum glaucum* (L.) R. Br.

PI 587017. *Pennisetum glaucum* (L.) R. Br.

PI 587018. *Pennisetum glaucum* (L.) R. Br.

PI 587019. *Pennisetum glaucum* (L.) R. Br.

PI 587020. *Pennisetum glaucum* (L.) R. Br.

PI 587021. *Pennisetum glaucum* (L.) R. Br.

PI 587022. *Pennisetum glaucum* (L.) R. Br.
PI 587023. Pennisetum glaucum (L.) R. Br.

PI 587024. Pennisetum glaucum (L.) R. Br.

PI 587025. Pennisetum glaucum (L.) R. Br.

The following were developed by Stephen Jones, USDA, ARS, Washington State University, 209 Johnson Hall, Pullman, Washington 99164-6402, United States. Received 04/17/1995.

PI 587026. Triticum aestivum L., nom. cons.

The following were developed by Mark 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 Univ. Agric. Res. & Ext. Ctr., 17360 Coit Road, Dallas, Texas 75252-6599, United States; Kenneth Porter, Texas A&M University Agric. Res. & Ext. Ctr., 6500 Amarillo Blvd., West, Amarillo, Texas 79106, United States; L.W. Rooney, Texas A&M University Agric. Res. & Ext. Ctr., 17360 Coit Road, Dallas, Texas 75252, United States; C.D. Salisbury, Texas A&M University Agric. Res. & Ext. Ctr., 6500 Amarillo Boulevard West, Amarillo, Texas 79106-176, United States. Received 04/17/1995.

PI 587027. Triticum aestivum L., nom. cons.
Breeding. TX84A18. GP-455. Pedigree - (TAM105*4/Amigo)*4/Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and biotypes C and E greenbug (Schizaphis graminum). Less tolerant of water stress than TAM 107, based upon grain yield in two years, with or without irrigation, at Bushland, Texas.

PI 587028. Triticum aestivum L., nom. cons.
Breeding. TX86A5606. GP-456. Pedigree - (TAM105*4/Amigo)*4/Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and biotypes C and E greenbug (Schizaphis graminum). Less tolerant of water stress than TAM 107, based upon grain yield in two years, with or without irrigation, at Bushland, Texas.

PI 587029. Triticum aestivum L., nom. cons.
Breeding. TX86A8072. GP-457. Pedigree - (TAM105*4/Amigo)*4/Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and
biotypes C and E greenbug (Schizaphis graminum). Possesses poor mixograph characteristics. More tolerant of water stress than TAM107, based upon grain yield in two years, with or without irrigation, at Bushland, Texas.

Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and biotypes C and E greenbug (Schizaphis graminum).

Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and biotypes C and E greenbug (Schizaphis graminum).

Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and biotypes C and E greenbug (Schizaphis graminium). More tolerant of water stress than TAM107, based upon grain yield in two years, with or without irrigation, at Bushland, Texas.

Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (Erisyphe graminis) and biotypes C and E greenbug (Schizaphis graminum). Possesses favorable mixograph characteristics.

The following were developed by Brent E. Zehr, Purdue University, Dept. of Agronomy, West Lafayette, Indiana 47907-1150, United States; G.F. Tragesser, Purdue University, Dept. of Agronomy, West Lafayette, Indiana 47907-1150, United States; B.R. Hamaker, Purdue University, Dept. of Food Science, West Lafayette, Indiana 47907-1160, United States; Don Scott, Purdue University, Dept. of Botany and Plt Path., 1155 Lilly Hall of Life Sciences, West Lafayette, Indiana 47907-1155, United States; J.E. Grogan, Purdue University, Dept. of Botany and Plant Pathology, West Lafayette, Indiana 47907, United States. Received 04/12/1995.

PI 587034. *Zea mays* L. ssp. *mays*
Breeding. Population. HWSA(FG)C1. GP-322. Pedigree - Inbred lines derived from populations H White Synthetic D, H Colus White, H Synthetic Lancaster/43 White, H Synthetic 99 White, and Mol7 White Composite; and inbred lines H124w and H126w. White endosperm dent population representing Cycle 1 of recurrent selection for improved grain hardness and agronomic characteristics in the heterotic breeding group 'A' (non-Stiff Stalk). Has undergone one generation of recurrent selection for increased endosperm density of grain (using a gas pycnometer), rind thickness (using a digital penetrometer), leaf blight tolerance, and hybrid grain yield. Average flowering date of 64 d (1305 GDD-base 50) and relative maturity classification of AES700-800. Kernel types variable in whiteness.

PI 587035. *Zea mays* L. ssp. *mays*
Breeding. Population. HWSB(FG)C1. GP-323. Pedigree - Inbred lines derived from populations H White Synthetic 73 White, HSSS White, and BS17 White; B89 white line conversions; and inbred line H122w. White endosperm dent population representing Cycle 1 of recurrent selection for improved grain hardness and agronomic characteristics in the heterotic breeding group 'B' (Stiff Stalk). Has undergone one generation
of recurrent selection for increased endosperm density of grain (using a
gas pycnometer), rind thickness (using a digital penetrometer), leaf
blight tolerance, and hybrid grain yield. Average flowering date of 65 d
(1331 GDD-base 50) and relative maturity classification of AES700-800.
Kernel types variable in whiteness.

PI 587036. Zea mays L. ssp. mays
Breeding. Population. HDSSS(FG)C1. GP-324. Pedigree - H Synthetic 73-derived inbred line/ 2*BSSS(R)C11. Cycle 1 of recurrent selection for improved grain hardness and agronomic characteristics in the Stiff Stalk heterotic breeding group. Has undergone one generation of recurrent selection for increased endosperm density of grain (using a gas pycnometer), rind thickness (using a digital penetrometer), leaf blight tolerance, and hybrid grain yield. Average flowering date of 63 d (1280 GDD-base 50) with relative maturity classification of AES700-800. Kernel types range from semi-flint to soft dent, and bright yellow to yellow-brown in color.

PI 587037. Zea mays L. ssp. mays
Breeding. Population. HDSCB(FG)Cl. GP-325. Pedigree - H Synthetic 99- and HCBSA-derived inbred lines/ 2*BSCB1(R)C11. Cycle 1 of recurrent selection for improved grain hardness and agronomic characteristics in the Lancaster heterotic breeding group. Has undergone one generation of recurrent selection for increased endosperm density of grain (using a gas pycnometer), rind thickness (using a digital penetrometer), leaf blight tolerance, and hybrid grain yield. Average flowering date of 63 d (1280 GDD-base 50) with relative maturity classification of AES700-800. Kernel types range from semi-flint to soft dent, and bright yellow to yellow-brown in color.

The following were developed by N. Govinden, Mauritius Sugar Industry Research Institute, Food Crop Agronomy Division, Reduit, Mauritius; K. Rummun, Mauritius Sugar Industry Research Institute, Food Crop Agronomy Division, Reduit, Mauritius. Received 04/20/1995.

PI 587038. Zea mays L. ssp. mays
Breeding. Population. MSIRI 3B; BE 7495. GP-328. Pedigree - Recurrent mass selection exclusively from maize ecotypes from the island of Rodrigues in the Republic of Mauritius. Parentage does not include any other previously-known source of resistance to MSV. Composite variety currently used as a cultivar on the island of Rodrigues in Mauritius. Adapted to tropical lowland conditions with a pronounced dry season. Plants short, early maturing. Seeds flint type, orange-yellow color. Resistant to Maize Streak Virus (MSV).

The following were collected by Ecoregado Programa de Garbanzo, Culiacan, Sinaloa, Mexico. Developed by K. B. Singh, Int. Center For Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; S. Weigand, Int. Center for Agricultural Research in the Dry Areas, Germplasm Program, P.O. Box 5466, Aleppo, Syria. Received 04/28/1995.

PI 587039. Cicer arietinum L.
Breeding. Pureline. L-1852; ILC 3800. GP-154. Collected in Sinaloa, Mexico. Winter sown at Tel Hadya, Syria, has the following characteristics. Days to 50% flowering 130. Flowering duration 35 days. Days to maturity 178. Plant height 48cm. Canopy width 45cm. Growth habit semi-spreading. Leaves compound, multipinnate, small size. 100-seed weight 13.3g. Seed color beige. Shape rams-head. Surface owl. Seed protein content 22.1%. Resistant to leaf miner (Liriomyza cicerina). Intermediate reaction to cold. Susceptible to ascochyta blight (Ascochyta rabiei), bruchids (Callosobruchus chinensis), and cyst nematode (Heterodera ciceri). Resistant to iron deficiency and pod
The following were developed by K. B. Singh, Int. Center For Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; S. Weigand, Int. Center for Agricultural Research in the Dry Areas, Germplasm Program, P.O. Box 5466, Aleppo, Syria. Donated by N.I. Vavilov Institute of Plant Industry, 44 Herzen Street, Leningrad, Russian Federation. Received 04/28/1995.

PI 587040. Cicer arietinum L.
Breeding. Pureline. K-1154; ILC 5901. GP-155. Winter sown at Tel Hadya, Syria, has the following characteristics. Days to 50% flowering 146. Flowering duration 17 days. Days to maturity 182. Plant height 50cm. Canopy width 35cm. Growth habit semi-erect. Leaves compound, multipinnate, small size. 100-seed weight 26.5g. Seed color beige. Shape rams-head. Surface oval. Seed protein content 23.1%. Resistant to leaf miner (Liriomyza cicerina). Susceptible to cold, ascochyta blight (Ascochyta rabiei), bruchids (Callosobruchus chinensis), and cyst nematode (Heterodera ciceri). Resistant to iron deficiency and pod dehiscence.

PI 587041. Cicer arietinum L.
Breeding. Pureline. ICC 12031; ILC 7738. GP-156. Collected in Mexico. Spring sown at Tel Hayda, Syria, has the following characteristics. Days to 50% flowering 60. Days to maturity 105 days. Plant height 24cm. Growth habit semi-spreading. Leaves compound, multipinnate, small size. 100-seed weight 14.0g. Seed color beige. Shape rams-head. Surface oval. Seed protein content 21.8%. Resistant to leaf miner (Liriomyza cicerina). Susceptible to ascochyta blight (Ascochyta rabiei). Resistant to iron deficiency and pod dehiscence.

PI 587042. Cicer arietinum L.
Breeding. Pureline. FLIP 87-59C. GP-157. Pedigree - ILC 3843 / FLIP 82-130C. Winter sown at Tel Hadya, Syria, has the following characteristics. Days to 50% flowering 130. Days to maturity 172. Plant height 40cm. Growth habit semi-erect. Leaves compound. 100-seed weight 34g. Seed color beige. Shape rams-head. Surface oval. Seed protein content 24.1%. Drought tolerant. Intermediate reaction to ascochyta blight (Ascochyta rabiei). Susceptible to leaf miner (Liriomyza cicerina), cold, bruchids (Callosobruchis chinensis), and cyst nematode (Heterodera ciceri). Resistant to iron deficiency and pod dehiscence.

The following were developed by Rafael M. Jimenez-Diaz, Universidad de Cordoba, Departamento de Agronomia - E.T.S.I.A., Apartado de Correos 3048, Cordoba, Spain; K. B. Singh, Int. Center For Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 04/28/1995.
PI 587043. Cicer arietinum L.
Breeding. Pureline. FLIP 86-93C. GP-162. Pedigree - ILC 195 / FLIP 82-78C. Winter sown at Tel Hadya, Syria, has the following characteristics. Days to 50% flowering 150. Days to maturity 192. Plant height 58cm. Growth habit semi-erect. Leaves compound. 100-seed weight 54g. Seed color beige. Shape rams-head. Surface owl. Seed protein content 21.0%. Resistant to fusarium wilt (Fusarium oxysporum). Tolerant to cold and ascochyta blight (Ascochyta rabiei). Susceptible to leaf miner (Liriomyza cicerina), bruchids (Callosobruchus chinensis), and cyst nematode (Heterodera ciceri). Resistant to iron deficiency and pod dehiscence.

PI 587044. Cicer arietinum L.
Breeding. Pureline. FLIP 87-33C. GP-163. Pedigree - FLIP 82-72C / FLIP 82-93C. Winter sown at Tel Hadya, Syria, has the following characteristics. Days to 50% flowering 153. Days to maturity 193. Plant height 54cm. Growth habit semi-erect. Leaves compound. 100-seed weight 33g. Seed color beige. Shape rams-head. Surface owl. Seed protein content 22.4%. Resistant to fusarium wilt (Fusarium oxysporum). Tolerant to cold and ascochyta blight (Ascochyta rabiei). Susceptible to leaf miner (Liriomyza cicerina), bruchids (Callosobruchus chinensis), and cyst nematode (Heterodera ciceri). Resistant to iron deficiency and pod dehiscence.

PI 587045. Cicer arietinum L.
Breeding. Pureline. FLIP 87-38C. GP-164. Pedigree - FLIP 81-S6W / FLIP 82-78C. Winter sown at Tel Hedya, Syria, has the following characteristics. Days to 50% flowering 140. Days to maturity 187. Plant height 57cm. Growth habit semi-erect. Leaves compound. 100-seed weight 24g. Seed color beige. Shape rams-head. Surface owl. Seed protein content 22.9%. Resistant to fusarium wilt (Fusarium oxysporum). Tolerant to cold and ascochyta blight (Ascochyta rabiei). Susceptible to leaf miner (Liriomyza cicerina), bruchids (Callosobruchus chinensis), and cyst nematode (Heterodera ciceri). Resistant to iron deficiency and pod dehiscence.

Unknown source. Received 12/23/1980.

PI 587046. Solanum tuberosum L.
Cultivar. "UKAMA"; C 05871; Q 22309. Collected in Netherlands.

The following were donated by I.P.C., Willemskade 14, 8901 RD, Lesumerden, Netherlands. Received 10/20/1987.

PI 587047. Solanum sp.
Cultivar. JAERLA; Q 26985.

The following were donated by Dept. of Agriculture Plant Breeding Sta., Manor House, Loughgall, Ireland. Received 03/02/1988.

PI 587048. Solanum tuberosum L.

Unknown source. Received 12/09/1988.
PI 587049. Solanum tuberosum L.
Cultivar. "MILA"; Q 27386. Collected in Poland.

Unknown source. Received 12/09/1988.

PI 587050. Solanum tuberosum L.
Cultivar. "URAN"; Q 27387. Collected in Poland.

Unknown source. Received 12/09/1988.

PI 587051. Solanum tuberosum L.

Unknown source. Received 12/09/1988.

PI 587052. Solanum tuberosum L.

Unknown source. Received 12/09/1988.

PI 587053. Solanum tuberosum L.

The following were developed by Instytut Ziemniak, Pracownia Molekaji,
75-016, Koszalin, Poland. Received 12/09/1988.

PI 587054. Solanum tuberosum L.
Cultivar. "ZAREWO"; BE-2099; C21443; Q 27573.

The following were developed by International Potato Center, Apartado 5969,
Lima, Lima, Peru. Donated by J. Bryan, International Potato Center, Apartado
5969, Lima, Peru. Received 03/03/1989.

PI 587055. Solanum tuberosum L.
Breeding. CIP 375333.1; 7XY; BE-2197; Q 27606; "7XY.1". Open pollinated
neo-tuberosum type. Susceptible to PLRV. Dry matter 18.3%. TGA
5.05mg/100gr fresh wt. Immune to PVY. Useable degree of hypersensitivity
to PVX.

The following were donated by J. Bryan, International Potato Center, Apartado
5969, Lima, Peru. Received 03/03/1989.

PI 587056. Solanum tuberosum L.
Breeding. CIP 573079; 1-1035; BE-2197; Q 27608; "MONTANOSA". Collected
in India. Named Dalisay in Philippines Hypersensitive to PVY.
Resistance to late blight (major genes).

PI 587057. Solanum tuberosum L.
Breeding. CIP 575049; CEW-69-1; BE-2197; Q 27609; "ICTA ALASKA".
Collected in Mexico. Pedigree - Alpha/Hol 32/3/Cus 133.3/2/Leona/3PD-23
. Susceptible to PVX and PLRV. Adapted to long and short days
Hypersensitive to PVY. Resistance to late blight (major genes).

The following were donated by Plant Breeding Institute, Maris Lane,
Trumpington, Cambridge, England, United Kingdom. Received 03/06/1989.
PI 587058. Solanum tuberosum L.
   Cultivar. "G 7010-1"; Q 27765.

The following were developed by Research Inst. for Plant Protection, Wageningen, Netherlands. Donated by L. G. Turkmenbeen, Research Inst. for Plant Protection, Wageningen, Netherlands; P. W. Tooley, USDA, ARS, Foreign Disease Weed Science Res. Unit, Fort Detrick, Bldg. 1301, Frederick, Maryland 21701, United States. Received 09/08/1989.

PI 587059. Solanum tuberosum L.
   Cultivar. "R6"; BE-2511; EEC/NL3015; Q 27820.

PI 587060. Solanum tuberosum L.
   Cultivar. "R11"; BE-2511; EEC/NL3015; BLACK 5008ab(6); Q 27822.

The following were developed by International Potato Center, Apartado 5969, Lima, Lima, Peru. Donated by J. Bryan, International Potato Center, Apartado 5969, Lima, Peru. Received 09/19/1989.

PI 587061. Solanum sp.
   Cultivar. "PERRICHOLI"; 374080.5; BE-2526; 1156-89-SDICA; Q 27824.

PI 587062. Solanum sp.
   Cultivar. "CCOMPIS"; 700921; BE-2526; 1156-89-SDICA; Q 27825.

The following were donated by Bons Dorozhkin, Siberian Research Inst. of Agriculture, Omsk, Russian Federation. Received 03/15/1991.

PI 587063. Solanum tuberosum L.
   Cultivar. "PREJEKULSK RANII"; Q 28377. Collected in Former Soviet Union.

PI 587064. Solanum tuberosum L.
   Cultivar. "NEVSKII"; Q 28383. Collected in Former Soviet Union.

The following were donated by International Potato Center, Apartado 5969, Lima, Lima, Peru. Received 01/08/1993.

PI 587065. Solanum tuberosum L.
   Cultivar. "ANETT"; CIP 800981; BE-4424; Q 29558.

PI 587066. Solanum tuberosum L.
   Cultivar. "BOLONA"; CIP 703268; BE-4424; Q 29559.

PI 587067. Solanum tuberosum L.
   Cultivar. "TOLLOCAN"; CIP 720054; BE-4424; Q 29560.

PI 587068. Solanum tuberosum L.
   Cultivar. "MARIA"; CIP 720077; BE-4424; Q 29561.

PI 587069. Solanum tuberosum L.
   Cultivar. "SANTA CATALINA"; CIP 720075; BE-4424; Q 29563.

PI 587070. Solanum tuberosum L.
   Cultivar. "CHOLA"; CIP 703257; BE-4424; Q 29566.

PI 587071. Solanum tuberosum L.
   Cultivar. "ROSLIN EBURU"; CIP 800979; BE-4424; Q 29567.

PI 587072. Solanum tuberosum L.
Cultivar. "KENYA BARAKA"; CIP 800978; BE-4424; Q 29568.

PI 587073. Solanum tuberosum L.
Cultivar. "GABRIELA"; CIP 720120; BE-4424; Q 29569.

PI 587074. Solanum tuberosum L.
Cultivar. "85.37.38"; 590006.38; BE-4758; Q 30893. Pedigree - 84.194.71/84.39.17.

PI 587075. Solanum tuberosum L.

PI 587076. Solanum tuberosum L.
Cultivar. "KWPTM29"; 590011.29; BE-4758; Q 30895. Pedigree - 2X(TS-2)5/PTM1.33.

PI 587077. Solanum tuberosum L.
Cultivar. "SPUNTA **"; 800923; BE-4758; Q 30896. Pedigree - BEA/USDA X 96.56.

PI 587078. Solanum tuberosum L.
Cultivar. "PI-1230502"; 760147.7; BE-4758; Q 30898.

PI 587079. Solanum tuberosum L.
Cultivar. "TM-3"; 382433.9; BE-4758; Q 30899.

PI 587080. Solanum tuberosum L.
Cultivar. "LT-8"; 379706.27; BE-5025; Q 32743; Q 27093. Pedigree - LT-1/(PVY x PVX bulk).

PI 587081. Solanum tuberosum L.
Cultivar. "LT-9"; 379706.34; BE-5025; Q 32744; Q 27095. Pedigree - LT-1/(PVY x PVX bulk).

PI 587082. Solanum tuberosum L.

PI 587083. Solanum tuberosum L.

The following were donated by Charles R. Brown, USDA-ARS, Irrigated Agric. & Research Center, Route 2 Box 2935A, Prosser, Washington 99350-9687, United States. Received 04/02/1993.

PI 587084. Solanum sp.
Cultivar. "NEVSKY-3RD"; CIS 4; BE-4620; Q 30443. Collected in Russian Federation.

PI 587085. Solanum sp.
Cultivar. "SOTKA-2ND"; CIS 5; BE-4620; Q 30444. Collected in Russian Federation.

The following were donated by John Ferrell, Department of Primary Industry, P.O. Box 303, Devonport, Tasmania 7310, Australia. Received 09/20/1993.

PI 587086. Solanum tuberosum L.
Cultivar. BE-4903; Q 32656; "A 8670-7".

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The following were developed by Norman L. Taylor, University of Kentucky, Department of Agronomy, N-122 Agric. Sci. Bldg. -N, Lexington, Kentucky 40546-0019, United States. Received 05/25/1995.

PI 587087. Trifolium cherleri L.
Genetic. Pureline. 31-S-12-1(4X). Pedigree - Diploid parental stock treated to produce tetraploid (designated 4X) was PI 200369. Tetraploid of T. cherleri produced by treatment of seedlings with a 0.5% aqueous colchicine solution. Plants classified as to ploidy by examination of seeds, pollen size, and shape and chromosome number.

PI 587088. Trifolium diffusum Ehrh.
Genetic. Pureline. 51-S-46-1(4X). Pedigree - Diploid parental stock treated to produce tetraploid (designated 4X) was PI 204517. Tetraploid of T. diffusum produced by treatment of seedlings with a 0.5% aqueous colchicine solution. Plants classified as to ploidy by examination of seeds, pollen size, and shape and chromosome number.

PI 587089. Trifolium hybridum L.
Genetic. 53-S-19-1 (4X). Pedigree - Diploid parental stocks treated to produce tetraploids (designated 4X) was PI 516330. Tetraploids of T. hybridum produced by treating seedlings with a 0.5% aqueous solution of colchicine. Plants classified as to ploidy by examination of seeds, and pollen shape and size, and chromosome number.

PI 587090. Trifolium pallidum Waldst. & Kit.
Genetic. Pureline. 53-S-29-15 (4X). Pedigree - Diploid parental stock treated to produce tetraploid (designated 4X) was PI 206766. Tetraploids of T. pallidum (cross pollinated) generated by treating cross pollinated flowers with nitrous oxide. Plants classified as to ploidy by examination of seed, pollen size, shape and chromosome number.

The following were developed by T.C. Helms, North Dakota State University, Crop & Weed Science Department, 333 Walster Hall, Fargo, North Dakota 58105-5051, United States; M.A. Halvorson, North Dakota State University, Dept. of Plant Sciences, Fargo, North Dakota 58105, United States. Received 04/24/1995.

PI 587091. Glycine max (L.) Merr.

The following were developed by B.E. Coulman, Agriculture and Agri-Food Canada, Research Center, 107 Science Place, Saskatoon, Saskatchewan S7N 0X2, Canada. Received 04/24/1995.

PI 587092. Phalaris arundinacea L.
Cultivar. Population. "BELLEVUE". CV-178. Pedigree - Fourteen clones mass selected from nurseries of 5 plant introductions for vigor and freedom from tryptamine and carboline alkaloids. Polycross progenies were planted and 23 additional clones selected for seed retention, seed yield, vigor and low concentrations of gramine. A sward-density polycross progeny test identified 5 high yielding clones which were polycrossed. Forage yield high. Adapted for production in eastern Canada. Seed black. Seed yields similar to other common varieties and some short-term retention of seed after ripening. Free of tryptamine and carboline alkaloids. Gramine concentration 0.15% of dry weight in regrowth material. Heads 2-3 days later than standard cultivars.
The following were developed by William D. Branch, University of Georgia, Coastal Plain Experiment Station, Department of Agronomy, Tifton, Georgia 31793-0748, United States. Received 04/24/1995.

PI 587093. *Arachis hypogaea* L. **ssp. hypogaea**
Pedigree - Southern Runner/Sunbelt Runner. Unique from many other runner-type cultivars in having distinctively darker green foliage, less vegetative canopy, and more decumbent spreading growth habit. Combines excellent yielding ability of Georgia Browne and seed size of Florunner. Five-year mean field performance in 37 tests at multilocations in the southeastern U.S. found >10% higher yield and dollar return over Florunner, and produced significantly higher grade than Florunner. Resistance to tomato-spotted wilt virus (TSWV) comparable to Georgia Browne and Southern Runner. No significant difference found for seed weight, percentage of extra large seed, and percentage of medium size seed compared to Florunner. Significantly more extra large seed and significantly fewer No.1 seed than Georgia Browne. Similar to Florunner in maturity, protein and oil content, iodine value, and flavor.

The following were developed by Robert D. Miller, University of Tennessee, Tobacco Experiment Station, Route 5, Box 113, Greenville, Tennessee 37743, United States; B.C. Eggett, Univ. of Tennessee Highland Rim Exp. Stn., Springfield, Tennessee 37172, United States; R.A. Hensley, Univ. of Tennessee Tobacco Exp. Stn., 2255 East Allen's Bridge Road, Greenville, Tennessee 37743, United States. Received 04/24/1995.

PI 587094. *Nicotiana tabacum* L.
Cultivar. Pureline. "TN D94". CV-111. Pedigree - DF 485/Certified Madole/DF300 F8. Dark fire-cured. Released for multiple disease resistance, high yield, and agronomic characteristics. Medium resistance to Race 0 and Race 1 black shank and high resistance to black root rot, wildfire, and tobacco mosaic virus. DF 485 and DF 300 provided the black shank resistance, which was derived from Florida 301. Resistance to black root rot, wildfire, and tobacco mosaic virus was provided by DF 485, and originated from *N. debneyi*, *N. longiflora*, and *N. glutinosa*, respectively.

The following were donated by RORS, Kadiri, Andhra Pradesh, India. Received 04/06/1995.

PI 587095. *Arachis hypogaea* ssp. *fastigiata* Waldron
ICG 1212; Grif 12455; AH 3228. Pedigree - From AH 70.

PI 587096. *Arachis hypogaea* ssp. *fastigiata* Waldron
ICG 1246; Grif 12456; AH 6742. Collected in Unknown.

The following were donated by Mahatma Phule Krishi Vidyapeth, Agricultural Research Station, Jalgãoon, Maharashtra, India. Received 04/06/1995.

PI 587097. *Arachis hypogaea* ssp. *fastigiata* Waldron
ICG 1886; VAR 154; EC 16660; Grif 12457. Collected in China.

The following were donated by Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 04/06/1995.

PI 587098. *Arachis hypogaea* ssp. *fastigiata* Waldron
ICG 3093; AH 3490; Grif 12458.
PI 587099. *Arachis hypogaea* ssp. *fastigiata* Waldron
ICG 4893; AH 7763; Grif 12459. There is no information to suggest that
Grif 12459 and PI 573020 are in any way related even though they both
have AH 7763 as a secondary identifier.

PI 587100. *Arachis hypogaea* ssp. *fastigiata* Waldron
ICG 7310; V 3; Grif 12460.

PI 587101. *Arachis hypogaea* L. ssp. *hypogaea*
ICG 7437; M 127-74 S; Grif 12461.

The following were donated by FONAIAP-CENIAP, Instituto de Investigaciones
Agronomicas, Apdo. Postal 4653, Maracay 2101, Venezuela. Received 05/05/1995.

PI 587102. *Zea mays* L. ssp. *mays*
Breeding. Population. BG-002; Compuesto Multiple.

PI 587103. *Zea mays* L. ssp. *mays*

PI 587104. *Zea mays* L. ssp. *mays*

PI 587105. *Zea mays* L. ssp. *mays*
Breeding. Population. BG-070422; Compuesto Indefinido.

PI 587106. *Zea mays* L. ssp. *mays*
Breeding. Population. BG-070809; Sintetico Iepac.. This accession has
kernel colors not found in PI 450097.

The following were donated by Andres Contreras, Universidad Austral de Chile,
Inst. Produccion y Sanidad Vegetal, Casilla 567, Valdivia, Chile. Received
05/24/1991.

PI 587107. *Solanum tuberosum* L. ssp. *tuberosum*
Wild. BE-3447; 1127; CPS 1127; Q 28437. Collected 03/05/1990 in Aisen,
Chile. Latitude 43 deg. 47' S. Longitude 74 deg. 1' W. Elevation 1 m.
Aisen. East side of Isla la Bolla, (not on map) a small island just N of
Isla Gran Guaiteca. Growing under thorny bushes in black sandy and
organic soils. 25 plants present. Tubers 3-5mm long, purple skin and
flesh. No flowers or fruits present.

PI 587108. *Solanum tuberosum* L. ssp. *tuberosum*
Wild. BE-3768; 90-CON-1139-TUB; CON 1139; CPS 1139; Q 28812. Collected
03/08/1990 in Aisen, Chile. Latitude 44 deg. 22' S. Longitude 74 deg.
28' W. Elevation 1 m. Aisen. Isla La Bolla, a small island (unnamed on
topog topographic map) of the Islas Broken Group, W of Isla Los
Mellenes. In coarse sand. Hundreds of plants present. Wild. Some
tubers with white skin and some with purple skin. Fruits mature.

PI 587109. *Solanum tuberosum* L. ssp. *tuberosum*
Wild. BE-3625; CON 1149; CPS 1149; Q 28676. Collected 03/17/1990 in
Aisen, Chile. Latitude 45 deg. 14' S. Longitude 73 deg. 41' W. Elevation
1 m. Aisen. Near beach on W side of Islota Verde, just E of Puerto
Playas Blancas on SE side of Isla Melchor. In organic sandy soil with
intermixed shells, growing among grasses. 30 plants present. Wild.
Tubers with purple skin and white flesh.

The following were collected by David Spooner, USDA, ARS, University of
Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin
PI 587110. Solanum tuberosum L. ssp. tuberosum

PI 587111. Solanum tuberosum L.
Wild. BE-3520; 5160; SCLp 5160; Q 28467. Collected 06/28/1991 in Pichincha, Ecuador. Latitude 0 deg. 0' S. Longitude 78 deg. 30' W. Elevation 2950 m. La Rinconada, a local place name at Hacienda Tilingon (not on map), just south of Calacali. The owners of Hda. Tilingon led us to a corn field where an indigenous wild potato persisted. Only tubers collected (deep purple skin, white flesh). Herbage dead. Said to be common and present in area with plants Jan.-Mar.

The following were donated by Instituto Nacional de Tecnologia Agropecuaria, Estacion Experimental Agropecuaria, Balcarce 7620, Buenos Aires, Argentina. Received 07/30/1991.

PI 587112. Solanum microdontum Bitter

PI 587113. Solanum microdontum Bitter
Wild. SCL 4583; Q 28537. Collected 04/05/1990 in La Rioja, Argentina. Latitude 29 deg. 8' S. Longitude 67 deg. 37' W. Elevation 1520 m. Chilecito. On road from Chilecito to El Vallecito, 10.2 km NW of town square of Chilecito, 2.2 km NW of Santa Florentina school yard. In sandy, mucky soil by drainage ditch on roadside, with Acacia caven, Nicotiana glauca, Stipa, Bidens. No flowers or fruits seen. Tubers white, not pink as in all other populations seen in area).

The following were collected by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 10/09/1992.

PI 587114. Solanum paramoense Bitter
Wild. 6321; BE-4266; SVRPV 6321; Q 29305. Collected 09/02/1992 in Merida, Venezuela. Latitude 8 deg. 47' N. Longitude 70 deg. 48' W. Elevation 3480 m. 50-200 m south of south end of Laguna Negra, 5.5 km ESE (by air) from road junction in Apartaderos. 1:100,000 Timotes (6042) quadrangle. Plants abundant in mucky soil of braided stream flowing through woods, growing in both full sun and semi-shade. Corolla rotate-pentagonal, dark pink. Tubers pink to purple inside and out. No fruits seen.

PI 587115. Solanum tuberosum L.
Wild. 6327; BE-4266; SVRPV 6327; Q 29307. Collected 09/04/1992 in Merida, Venezuela. Latitude 8 deg. 56' N. Longitude 70 deg. 48' W. Elevation 3500 m. Growing about 300 m W of road from El Aguila La Pinango, ca. 0.5 km N of El Hatico, in a narrow valley. Growing in organic soil in semi-shade. No fruits present.

PI 587116. Solanum paramoense Bitter
Wild. 6331; BE-4266; SVRPV 6331; Q 29309. Collected 09/07/1992 in Merida, Venezuela. Latitude 8 deg. 43' N. Longitude 70 deg. 50' W.
Elevation 3750 m. ca. 50 m to the east of Laguna Saisay, ca. 5.5 km (by air) south-east of San Rafael. Growing in organic soil, among shrubs and rocks.

PI 587117. Solanum colombianum Dunal
Wild. 6332; BE-4266; SVRPV 6332; Q 29310. Collected 09/07/1992 in Merida, Venezuela. Latitude 8° 43' N. Longitude 70° 50' W. Elevation 3750 m. ca. 50 m to the east of Laguna Saisay, ca. 5.5 km (by air) south-east of San Rafael. Growing in organic soil in semi-shade.

PI 587118. Solanum colombianum Dunal
Wild. 6339; BE-4266; SVRPV 6339; Q 29311. Collected 09/10/1992 in Merida, Venezuela. Latitude 8° 42' N. Longitude 70° 57' W. Elevation 3180 m. 10 plants seen on steep slope, 1.6 km west of school in Gavidia, on east side of Quebrada Gavidia, ca. 50 m up steep slope. 1:100,000 scale Timotes (6042) quadrangle. Plants growing among bushes in organic soil. Corolla blue. No fruits seen. 8 tubers collected.

The following were donated by Andres Contreras, Universidad Austral de Chile, Inst. Produccion y Sanidad Vegetal, Casilla 567, Valdivia, Chile. Received 12/19/1991.

PI 587119. Solanum tuberosum L.
Wild. BE-3768; 89-CON-882-TUB; CON 882; Q 28782. Collected in Chile.

PI 587120. Solanum tuberosum L.
Wild. BE-3768; 89-CON-886-TUB; CON 886; Q 28784. Collected in Chile.

PI 587121. Solanum tuberosum L.
Wild. BE-3768; 89-CON-889-TUB; CON 889; Q 28786. Collected in Chile.

PI 587122. Solanum tuberosum L.
Wild. BE-3768; 89-CON-890-TUB; CON 890; Q 28787. Collected in Chile.

The following were collected by T. Richard Tarn, Agriculture Canada, Research Center & Agric-Food, 850 Lincoln Road, Fredericton, New Brunswick E3B 4Z7, Canada. Received 12/08/1983.

PI 587123. Solanum brachistotrichum (Bitter) Rydb.
Wild. RTRH3; C 12914; TRHRG 3; Q 24017. Collected 09/21/1982 in Chihuahua, Mexico. Elevation 1640 m. 13 km along brecha to Sta Clara from km 92 on highway 45 from Chihuahua to pelicias. Under Quercus along arroyo, close to stony place. Vigorous plants, assumed to be one clone. Many new tubers.

The following were donated by Edward Coe, Jr., USDA,ARS,MWA, Curtis Hall Rm 210, University of Missouri, Columbia, Missouri 65211, United States. Received 05/06/1992.

PI 587124. Zea mays L. ssp. mays
Breeding. Inbred. CM105; Ames 19315; PGR 8347. Collected in Manitoba, Canada.

PI 587125. Zea mays L. ssp. mays
Breeding. Inbred. CO109; Ames 19317; PGR 2758. Collected in Ontario, Canada.

The following were donated by William F. Tracy, University of Wisconsin, Department of Agronomy, 1575 Linden Drive, Madison, Wisconsin 53706-1597, United States. Received 02/03/1993.
PI 587126. Zea mays L. ssp. mays

The following were donated by Brent Zehr, Purdue University, Department of Agronomy, West Lafayette, Indiana 47907-1150, United States. Received 01/25/1993.

PI 587127. Zea mays L. ssp. mays

The following were donated by Mark Anthony, Little Chicago Popcorn Co., 11010 S. 419E, Delaware County Road 419 E., Muncie, Indiana 47302, United States. Received 06/21/1991.

PI 587128. Zea mays L. ssp. mays
Inbred. H84; Ames 15930. Developed in United States.

PI 587129. Zea mays L. ssp. mays

The following were donated by Bruce Ashman, Purdue University, Dept of Botany & Plant Pathology, West Lafayette, Indiana 47907, United States. Received 11/09/1992.

PI 587130. Zea mays L. ssp. mays

PI 587131. Zea mays L. ssp. mays

PI 587132. Zea mays L. ssp. mays

The following were developed by Kentucky Agr. Exp. Sta., University of Kentucky, Department of Agronomy, 1575 Linden Drive, Madison, Wisconsin 53706-1597, United States. Received 02/03/1993.

PI 587133. Zea mays L. ssp. mays
P39; Ames 20145. Developed in United States.

PI 587134. Zea mays L. ssp. mays

PI 587135. Zea mays L. ssp. mays

The following were developed by Kentucky Agr. Exp. Sta., University of Kentucky, Department of Agronomy, Lexington, Kentucky 40506, United States. Donated by C.G. Poneleit, University of Kentucky, Dept. of Agronomy, N106 Ag. Science - North, Lexington, Kentucky 40546, United States. Received 01/19/1993.

PI 587136. Zea mays L. ssp. mays
The following were donated by Edward Coe, Jr., USDA,ARS,MWA, Curtis Hall Rm 210, University of Missouri, Columbia, Missouri 65211, United States. Received 05/06/1992.

PI 587137. Zea mays L. ssp. mays
Breeding. Inbred. Ms71; Ames 19320. Developed in United States.

PI 587138. Zea mays L. ssp. mays
Breeding. Inbred. A554; Ames 19305. Developed in United States.

PI 587139. Zea mays L. ssp. mays

PI 587140. Zea mays L. ssp. mays

PI 587141. Zea mays L. ssp. mays
Breeding. Inbred. A654; Ames 19312. Developed in United States.

The following were donated by Corn Breeding Project/Dept. of Agron., University of Minnesota, 1509 Gortner Avenue, St. Paul, Minnesota 55108, United States. Received 06/02/1993.

PI 587142. Zea mays L. ssp. mays

PI 587143. Zea mays L. ssp. mays
Breeding. Inbred. A682; Ames 21099. Developed in United States.

The following were developed by Larry Darrah, USDA-ARS, University of Missouri, Curtis Hall, Rm. 210, Columbia, Missouri 65211, United States; M.S. Zumber; J.R. Wallin. Donated by Larry Darrah, USDA-ARS, University of Missouri, Curtis Hall, Rm. 210, Columbia, Missouri 65211, United States. Received 01/04/1993.

PI 587144. Zea mays L. ssp. mays

The following were donated by Arnel Hallauer, Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States. Received 12/16/1992.

PI 587145. Zea mays L. ssp. mays

PI 587146. Zea mays L. ssp. mays

The following were donated by Edward Coe, Jr., USDA,ARS,MWA, Curtis Hall Rm 210, University of Missouri, Columbia, Missouri 65211, United States. Received 05/06/1992.

PI 587147. Zea mays L. ssp. mays
Breeding. Inbred. PA91; Ames 19325. Developed in United States.

The following were developed by M.S. Zumber. Donated by Larry Darrah,
PI 587148. *Zea mays* L. *ssp. mays*

The following were donated by Edward Coe, Jr., USDA-ARS, MWA, Curtis Hall Rm 210, University of Missouri, Columbia, Missouri 65211, United States. Received 05/06/1992.

PI 587149. *Zea mays* L. *ssp. mays*
Breeding. Inbred. VA26; Ames 19329. Developed in United States.

The following were donated by E.H. Coe, Jr., USDA-ARS, University of Missouri Columbia, 210 Curtis Hall, Columbia, Missouri 65211, United States. Received 02/12/1993.

PI 587150. *Zea mays* L. *ssp. mays*
Va35; Ames 20171. Developed in United States. Pedigree - (C103 x T8)T8.

The following were donated by Arnel Hallauer, Iowa State University, Department of Agronomy, Ames, Iowa 50011, United States. Received 12/16/1992.

PI 587151. *Zea mays* L. *ssp. mays*
Breeding. Inbred. VA102; Ames 20134. Developed in United States. Pedigree - Va59 x Va60.

The following were donated by Charlie A. Martinson, Iowa State University, Department of Plant Pathology, 425 Bessey Hall, Ames, Iowa 50011, United States. Received 03/18/1991.

PI 587152. *Zea mays* L. *ssp. mays*
Inbred. W64A; Ames 19291. Developed in United States.

The following were donated by E.H. Coe, Jr., USDA-ARS, University of Missouri Columbia, 210 Curtis Hall, Columbia, Missouri 65211, United States. Received 02/12/1993.

PI 587153. *Zea mays* L. *ssp. mays*
W117; Ames 20172. Developed in United States. Pedigree - (643 x Minn. 13).

The following were donated by James G. Coors, University of Wisconsin, Department of Agronomy, 1575 Linden Drive, Madison, Wisconsin 53706, United States. Received 01/19/1993.

PI 587154. *Zea mays* L. *ssp. mays*

PI 587155. *Zea mays* L. *ssp. mays*

The following were developed by Jacklin Seed Company, United States. Received 06/21/1994.

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PI 587156. Zoysia japonica Steudel
Cultivar. "J-37". PVP 9400052.

The following were developed by R. J. Lambert, University of Illinois, Dept. of Agronomy, W-203 Turner Hall, Urbana, Illinois 61801-4798, United States. Received 05/02/1995.

PI 587157. Zea mays L. ssp. mays
Breeding. RSSSCC(6). GP-326. Pedigree - Developed from RSSSCC(0) (Illinois version of Iowa stiff-stalk synthetic) using Reciprocal Recurrent selection with an inbred tester in a high yield environment plus mass selection for multiple disease resistance. Selection was in a high yield environment at plant densities of 79,813 plants ha-1. Multiple leaf disease resistance to Exserohilum turcicum, races 0 and 1, Bipolaris maydis, races 1, 2, and 3 Bipolaris zeicola, Colletotrichum graminicola, and Kabatiella zea. Multiple stalk rot resistance to Diploidia maydis, Colletotrichum graminicola, Gibberella zeae and Fusarium moniliforme. Plant and ear characteristics similar to RSSSC. Plant height ranges from 285 to 290cm, with grain moisture ranging from 20 to 22%. Relative maturity group 900. Leaf area infected with multiple leaf diseases will vary from 40-60%, and for multiple stalk rots the average internodes infected 1.2. Stalk lodging will vary around 10%. Should serve as good source of resistant genes for multiple leaf and stalk rot diseases.

The following were developed by Warren L. Smith, University of Wyoming, Research and Extension Center, Powell, Wyoming 82435, United States. Donated by Mike Killen, University of Wyoming, Wyoming Foundation Seed, P.O. Box 983, Powell, Wyoming 82435, United States. Received 05/04/1995.

PI 587159. Phaseolus vulgaris L.
Cultivar. "WYO 167". Pedigree - WYO 166 / UI 114. Large seeded pinto. 1000-1100 seeds per pound. Maturity 94 days, 1-2 days longer than the parent varieties. Extensive root system, semi-vining, and tends to out-yield both parents.

The following were developed by A. Mujeeb-Kazi, International Maize & Wheat Improvement Center, Apartado Postal 6-641, Mexico City, Federal District 06600, Mexico; S. Rajaram, International Maize and Wheat Improvement Center, Lisboa 27, Apdo. Postal 6-641, Mexico, Federal District 06600, Mexico; R.L. Villareal, International Maize and Wheat Improvement Center, Apdo. Postal 6-641, Deleg. Cuauhtemoc, Mexico, Federal District 06600, Mexico; G. Fuentes Davila, International Maize and Wheat Improvement Center, Apdo. Postal 6-641,
PI 587160. Triticum aestivum L., nom. cons.  
Breeding. Pureline. CIGM87.2768-1B-0Y-0M-0Y; WX-SYN B-92-52; NSGC 5117.  

PI 587161. Triticum aestivum L., nom. cons.  
Breeding. Pureline. WX-SYN B-92-81; CIGM86.953-1B-0Y-0M-0Y; NSGC 5118.  
GP-426. Pedigree - Duergard/T. tauschii (Acc.221). Karnal bunt resistant synthetic hexaploid. Flowering days 90. Days to maturity 120. Plant height 102cm. Grain color red. 1000-grain weight 36.7g.

PI 587162. Triticum aestivum L., nom. cons.  
Breeding. Pureline. WX-SYN B-92-87; CIGM87.2762-1B-0Y-0M-0Y; NSGC 5119.  

PI 587163. Triticum aestivum L., nom. cons.  
Breeding. Pureline. CIGM86.949-1B-0Y-0M-0Y; WX-SYN B-92-91; NSGC 5120.  
GP-428. Pedigree - Chen 'S'/T. tauschii (Acc.224). Karnal bunt resistant synthetic hexaploid. Flowering days 101. Days to maturity 136. Plant height 87cm. Grain color red. 1000-grain weight 64.6g.

The following were developed by A. Mujeeb-Kazi, International Maize & Wheat Improvement Center, Apartado Postal 6-641, Mexico City, Federal District 06600, Mexico; S. Rajaram, International Maize and Wheat Improvement Center, Lisboa 27, Apdo. Postal 6-641, Mexico, Federal District 06600, Mexico; R.L. Villareal, International Maize and Wheat Improvement Center, Apdo. Postal 6-641, Deleg. Cuauhtemoc, Mexico, Federal District 06600, Mexico; L.A. Gilchrist, International Maize and Wheat Improvement Center, Apdo. Postal 6-641, Deleg. Cuauhtemoc, Mexico, Federal District 06600, Mexico. Received 08/16/1994.

PI 587164. Triticum aestivum L., nom. cons.  

PI 587165. Triticum aestivum L., nom. cons.  

PI 587166. Triticum aestivum L., nom. cons.  

PI 587167. Triticum aestivum L., nom. cons.  

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PI 587168. Triticum aestivum L., nom. cons.

The following were donated by A. E. Kretschmer, Jr., Agricultural Research Center, 2199 South Rock Road, Fort Pierce, Florida 34945-3138, United States. Received 08/1994.

PI 587169. Leucaena leucocephala (Lam.) de Wit
Cultivated. 3144; IRI 3219. Collected 09/26/1978 in Sao Paulo, Brazil.

The following were collected by Robert Reid, Meredith College, Department of Biology & Health Sciences, 3800 Hillsborough Street, Raleigh, North Carolina 27607-5298, United States; A. E. Kretschmer, Jr., Agricultural Research Center, 2199 South Rock Road, Fort Pierce, Florida 34945-3138, United States. Received 08/1994.

PI 587170. Leucaena esculenta (Mocino & Sesse ex DC.) Benth.

The following were developed by Eugene A. Milus, University of Arkansas, Dept. of Plant Pathology, Fayetteville, Arkansas 72701, United States; Robert Bacon, University of Arkansas, Dept. of Agronomy, 115 Plant Science Bldg., Fayetteville, Arkansas 72701, United States; J.T. Kelly, University of Arkansas, Dept. of Agronomy, Fayetteville, Arkansas 72701, United States. Received 06/12/1995.

PI 587171. Triticum aestivum L., nom. cons.
Cultivar. Pureline. "HAZEN"; AR 26413A. CV-817. Pedigree - Doublecrop / Purdue 6559B5-6-6-6-1. Purdue 6559B5-6-6-6-1 was later released as Beau. Soft red winter. Compared to Wakefield, equal in yield, 15kg m-3 heavier test weight, and 1 day earlier in maturity. Plants similar to Florida 304, except approx. 4cm shorter with bluer leaves. Peduncles generally crooked. Spikes awned and white. Kernels red. Excellent straw strength. Moderately resistant to leaf rust (Puccinia recondita tritici), soilborne virus complex (soilborne mosaic and wheat spindle streak mosaic viruses), and bacterial streak (Xanthomonas campestris translucens). Contains resistance genes Lr 11 and Sr 10 plus unidentified genes for leaf and stem rust.

The following were developed by Agricultural Research Organization, The Volcani Center, Ministry of Agriculture, Israel. Received 06/15/1995.

PI 587172. Arachis hypogaea L.
Cultivar. "DAVID". PVP 9500120.

The following were donated by Guillermo Covas, Facultad de Agron. de la Univ. Nacional de La Pampa, Emilio Mitre 31, Santa Rosa, La Pampa 6300, Argentina. Received 10/29/1993.

PI 587173. Chenopodium quinoa Willd.
Latitude 23 deg. 34' S. Longitude 65 deg. 22' W. Quebrada de Humahuaca, near Tilara.

The following were collected by Pokhara Horticultural Station, District Kaski, Nepal. Donated by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 03/17/1995.

PI 587174. *Abelmoschus esculentus* (L.) Moench

The following were collected by Agricultural Research Station, Legume Research Program, Rampur, Nepal. Donated by David Spooner, USDA, ARS, University of Wisconsin - Dept of Hort, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 03/17/1995.

PI 587175. *Lens culinaris* Medikus

PI 587176. *Lens culinaris* Medikus

The following were donated by Don LaBonte, Louisiana State University, Department of Horticulture, Julian C. Miller Hall, Baton Rouge, Louisiana 70803, United States. Received 04/04/1995.

PI 587177. *Ipomoea hederifolia* L.

PI 587178. *Ipomoea purpurea* (L.) Roth

PI 587179. *Ipomoea obscura* (L.) Ker Gawler

PI 587180. *Ipomoea obscura* (L.) Ker Gawler
Wild. 16B. Collected in Papua New Guinea. Elevation 2 m. East New Ireland Province, near Kavieng. Putative identification based on similarity to 16A I. obscura.

PI 587181. *Ipomoea triloba* L.
Wild. 21A. Collected in Papua New Guinea. Elevation 2 m. East New Ireland Province, near Namatanai, 200m from beach.

The following were developed by USDA, ARS, University of Arkansas, Rice Research & Extension Center, Stuttgart, Arkansas, United States. Received 04/06/1995.

PI 587182. *Spinacia oleracea* L.
Cultivar. "F88-380". PVP 9500066.

The following were developed by Northrup King Company, United States. Received 04/06/1995.
PI 587183. Medicago sativa L.  
Cultivar. "RUSHMORE". PVP 9500077.

The following were developed by Pure-Seed Testing, Inc., United States. Received 04/06/1995.

PI 587184. Festuca arundinacea Schreber  
Cultivar. "CORONADO". PVP 9500078.

The following were developed by T. Scott Abney, Purdue University, Department of Botany and Plt. Path., Lilly Hall of Life Sciences Bldg., West Lafayette, Indiana 47907, United States; James R. Wilcox, USDA, ARS, Purdue University, Department of Agronomy, West Lafayette, Indiana 47907, United States. Received 04/06/1995.

PI 587185. Glycine max (L.) Merr.  

The following were developed by Petoseed Company, Inc., United States. Received 04/06/1995.

PI 587186. Apium graveolens var. dulce (Miller) Pers.  
Cultivar. "COMET". PVP 9500080.

The following were developed by Seed Source, Inc., United States. Received 04/06/1995.

PI 587187. Gossypium hirsutum L.  
Cultivar. "SS 100". PVP 9500081.

The following were developed by B. Keith Heuermann, United States. Received 04/06/1995.

PI 587188. Zea mays L. ssp. mays  
Cultivar. "583-2". PVP 9500082.

The following were developed by Zajac Performance Seeds. Received 04/06/1995.

PI 587189. Festuca arundinacea Schreber  
Cultivar. "COYOTE". PVP 9500083.

The following were developed by Vilmorin S.A., France. Received 04/06/1995.

PI 587190. Lactuca sativa L.  
Cultivar. "OPTIMA". PVP 9500084.

The following were developed by T. H. Jolliffe, Sharpes International Seeds Ltd., Plant Breeding Station, Boothby Graffoe, Lincoln, England LN5 0LF, United Kingdom. Received 04/06/1995.

PI 587191. Pisum sativum L.
Cultivar. "SANCHO". PVP 9500086.

The following were developed by Pratum Co-op Warehouse, United States. Received 04/06/1995.

PI 587192. Lolium perenne L.
Cultivar. "PAGEANT". PVP 9500087.

The following were developed by Ontozesi Kutato Intezet, (OKI), Hungary. Received 04/06/1995.

PI 587193. Phalaris arundinacea L.
Cultivar. "SZARVASI 50". PVP 9500088.

The following were developed by Pioneer Hi-Bred International, Inc., United States. Received 04/06/1995.

PI 587194. Medicago sativa L.
Cultivar. "5312". PVP 9500089.

The following were developed by Lofts Seed, Inc., United States. Received 04/06/1995.

PI 587195. Poa pratensis L.
Cultivar. "PREAKNESS". PVP 9500090.

The following were developed by Zajac Performance Seeds. Received 04/06/1995.

PI 587196. Festuca arundinacea Schreber
Cultivar. "GAZELLE". PVP 9500091.

The following were developed by Pure-Seed Testing, Inc., United States. Received 04/06/1995.

PI 587197. Poa pratensis L.
Cultivar. "OPTI-GREEN". PVP 9500092.

The following were developed by Western Plant Breeders, Inc., United States. Received 04/06/1995.

Cultivar. "FERGUS". PVP 9500093.

Cultivar. "VANNA". PVP 9500094.

PI 587200. Triticum aestivum L., nom. cons.
Cultivar. "WESTBRED 936". PVP 9500095.

The following were developed by Pflanzenzucht Oberlimpurg, Germany. Received 04/06/1995.

PI 587201. Triticum spelta L.
Cultivar. "FRANCKENKORN". PVP 9500096.

PI 587202. Triticum spelta L.
Cultivar. "ROUQUIN". PVP 9500097.

The following were developed by Resource Seeds, Inc., United States. Received 04/06/1995.

PI 587203. Lupinus albus L.
Cultivar. "LUPRO 2085". PVP 9500098.

The following were developed by Shades of Nature, International, United States. Received 04/06/1995.

PI 587204. Gossypium hirsutum L.
Cultivar. "SNI-15". PVP 9500099.

The following were developed by Dairyland Seed Company, United States. Received 04/06/1995.

PI 587205. Medicago sativa L.
Cultivar. "MAGNAGRAZE". PVP 9500100.

PI 587206. Medicago sativa L.
Cultivar. "MAGNUM IV". PVP 9500101.

The following were developed by Barenbrug Holland B.V., Netherlands. Received 04/06/1995.

PI 587207. Poa pratensis L.
Cultivar. "AARON". PVP 9500102.

The following were developed by L.N. Namken, Texas Agr. Exp. Sta., 2415 E. Hwy. 83, Weslaco, Texas 78596, United States. Received 04/06/1995.

PI 587208. Gossypium hirsutum L.
Cultivar. "UAPX-001". PVP 9500103.

PI 587209. Gossypium hirsutum L.
Cultivar. "UAPX-003". PVP 9500104.

PI 587210. Gossypium hirsutum L.
Cultivar. "UAPX-006". PVP 9500105.

The following were developed by Nick Degenhart, Cal/West Seeds, Route 1, Box 70, County Road M, West Salem, Wisconsin 54669, United States. Received 04/06/1995.

PI 587211. Carthamus tinctorius L.
Cultivar. "C/W 1221". PVP 9500106.

The following were developed by Olvey & Associates, Inc., United States. Received 04/06/1995.

PI 587212. Gossypium barbadense L.
Cultivar. "OA-304". PVP 9500107.

PI 587213. Gossypium barbadense L.
Cultivar. "CONQUISTADOR". PVP 9500108.
The following were developed by Delta & Pine Land Company, United States. Received 04/06/1995.

PI 587214. Gossypium hirsutum L.  
Cultivar. "NuCOTN 33". PVP 9500109.

PI 587215. Gossypium hirsutum L.  
Cultivar. "NuCOTN 35". PVP 9500110.

PI 587216. Gossypium hirsutum L.  
Cultivar. "NuCOTN 64". PVP 9500111.

PI 587217. Gossypium hirsutum L.  
Cultivar. "NuCOTN 66". PVP 9500112.

PI 587218. Gossypium hirsutum L.  
Cultivar. "NuCOTN 68". PVP 9500113.

The following were developed by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587219. X Triticosecale sp.  

PI 587220. X Triticosecale sp.  
Breeding. 6A580; NAT0023; NSGC 5598. Pedigree - Jori/UC90 C2.

PI 587221. X Triticosecale sp.  
Breeding. 6A1092; ROSNER 6R++; NSGC 5599; NAT0091.

PI 587222. X Triticosecale sp.  
Breeding. 6A1093; NAT0092; ROSNER 6R--; NSGC 5600.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587223. X Triticosecale sp.  
Cultivar. NAT0093; 6A1099; "AD 762-16"; NSGC 5601. Collected in Manitoba, Canada. Developed in Russian Federation.

PI 587224. X Triticosecale sp.  
Cultivar. 6A1131; "TF 3"; NAT0094; NSGC 5602. Collected in Manitoba, Canada. Developed in Romania.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by Plant Breeding Institute, University of Cambridge, Cambridge, England, United Kingdom. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587225. X Triticosecale sp.  
Cultivar. ROSNER ORIGINAL; NSGC 5603; 6A1138; CAMBRIDGE ROSNER; NAT0095.

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Collected in Manitoba, Canada.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by T. Wolinski, Posnanska Hodowlia Rosalin, Dzial-Hodowli w Chorynl, Warsaw, Poland. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587226. X Triticosecale sp.
Breeding. 6A1167; NAT0097; NSGC 5604. Collected in Manitoba, Canada.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by Institute for Wheat & Sunflower Research, General Toshevo, Bulgaria. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587227. X Triticosecale sp.
Cultivar. 6A1191; "T-M-AD-1160"; NSGC 5605; NAT0098. Collected in Manitoba, Canada.

PI 587228. X Triticosecale sp.
Cultivar. NAT0099; 6A1192; "T-M-AD-1171"; NSGC 5606. Collected in Manitoba, Canada.

PI 587229. X Triticosecale sp.
Cultivar. 6A1193; NAT0100; NSGC 5607; "T-M-AD-252". Collected in Manitoba, Canada.

PI 587230. X Triticosecale sp.
Cultivar. NAT0102; NSGC 5608; 6A1195; "T-M-AD-490". Collected in Manitoba, Canada.

PI 587231. X Triticosecale sp.
Cultivar. NAT0104; NSGC 5609; 6A1197; "T-M-AD-414". Collected in Manitoba, Canada.

PI 587232. X Triticosecale sp.
Cultivar. 6A1198; NAT0105; "MEXITOL 1"; NSGC 5610. Collected in Manitoba, Canada. Pedigree - selection from an F2 population of winter CIMMYT triticale.

The following were developed by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587233. X Triticosecale sp.
Breeding. 6A1200; NSGC 5611; NAT0106. Pedigree - Rosner Ditelo/1B1R subst.

PI 587234. X Triticosecale sp.
Breeding. 6A1215; DITELO 1BL ROSNER; NAT0107; NSGC 5612.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset,
University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587235. X Triticosecale sp.
Cultivated. NAT0108; NSGC 5613; 6A1217. Collected in Manitoba, Canada.

PI 587236. X Triticosecale sp.
Cultivated. NAT0109; 6A1230; NSGC 5614. Collected in Manitoba, Canada.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587237. X Triticosecale sp.
Cultivar. "TRIMONZIUM 1978"; NSGC 5615; 6A1260; NAT0110. Collected in Manitoba, Canada.

The following were developed by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587238. X Triticosecale sp.
Breeding. 6A1309; NAT0112; NSGC 5616. Pedigree - Cocorit/Snoopy 126.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587239. X Triticosecale sp.
Genetic. 6A1317; NAT0115; ISOGENIC: WWHH (WAXY, HAIRY); NSGC 5617. Collected in Manitoba, Canada.

PI 587240. X Triticosecale sp.
Genetic. 6A1318; ISOGENIC: WWhh (WAXY, HAIRLESS); NSGC 5618; NAT0116. Collected in Manitoba, Canada.

PI 587241. X Triticosecale sp.
Genetic. 6A1319; NAT0117; NSGC 5619; ISOGENIC: wWhH (NON-WAXY, HAIRY). Collected in Manitoba, Canada.

PI 587242. X Triticosecale sp.
Genetic. 6A1320; NAT0118; ISOGENIC: wWbh (NON-WAXY, HAIRLESS); NSGC 5620. Collected in Manitoba, Canada.

PI 587243. X Triticosecale sp.
Genetic. 6A1321; NAT0119; NSGC 5621; ISOGENIC: WWhh (HETERO WAXY, HAIRY). Collected in Manitoba, Canada.
PI 587244. X Triticosecale sp.
Breeding. NAT0123; 6A1330; NSGC 5622. Collected in Manitoba, Canada.
Pedigree - Glenlea/2D-53.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by T. Wolski, Posnanska Hodowla Rosalin, Dzial-Hodowli w Chorynl, Warsaw, Poland. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587245. X Triticosecale sp.
Breeding. NAT0124; NSGC 5623; 6A1337; "CT 122/77". Collected in Manitoba, Canada.

The following were developed by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587246. X Triticosecale sp.
Breeding. 6A1352; NSGC 5624; NAT0139. Pedigree - Cocorit 75/7.

PI 587247. X Triticosecale sp.
Breeding. 6A1353; NAT0140; NSGC 5625. Pedigree - Cocorit 75/S. dalmaticum.

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PI 587248. X Triticosecale sp.
Breeding. 6A1354; NSGC 5626; NAT0141. Collected in Manitoba, Canada.
Pedigree - Serval 's'/M2A Cal/4/Buey/BGL 's'/3/MSP 's'//IA/IRA.

PI 587249. X Triticosecale sp.
Breeding. 6A1355; NAT0142; NSGC 5627. Collected in Manitoba, Canada.
Pedigree - Serval 's'/M2A Cal/4/Buey/BGL 's'/3/MSP 's'//IA/IRA.

PI 587250. X Triticosecale sp.
Breeding. 6A1356; NSGC 5628; NAT0143; CBTC-598. Collected in Manitoba, Canada. Pedigree - Yogui 's'.

PI 587251. X Triticosecale sp.
Breeding. 6A1357; CBTC-662; NAT0144; NSGC 5629. Collected in Manitoba, Canada. Pedigree - BTO 's'/PTR 's'//49509-6Y-1Y-2M-0Y.

PI 587252. X Triticosecale sp.
Breeding. 6A1358; NSGC 5630; NAT0145. Collected in Manitoba, Canada. Pedigree - GPR 's'/PTR 's'//Bura/3/M2A-1A/4/62033-E-1M-2Y-0Y.

PI 587253. X Triticosecale sp.
Breeding. 6A1359; NAT0146; NSGC 5631. Collected in Manitoba, Canada.
PI 587254. X Triticosecale sp.
Breeding. NAT0147; 6A1361; CBTCL-529; NSGC 5632. Collected in Manitoba, Canada. Pedigree - Tesmo 's'/39860-7Y-1M-2Y-2Y-0H.

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PI 587255. X Triticosecale sp.

PI 587256. X Triticosecale sp.

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PI 587257. X Triticosecale sp.
Cultivated. NAT0150; NSGC 5635; 6A1364. Collected in Manitoba, Canada.

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PI 587258. X Triticosecale sp.
Cultivar. NAT0151; "CARMAN"; NSGC 5636; 6A1365. Pedigree - Beagle sib.

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PI 587259. X Triticosecale sp.
Breeding. NAT0152; II81-210; NSGC 5637; 8A1372. Collected in Manitoba, Canada. Developed in Australia. Pedigree - K875/Snoopy.

PI 587260. X Triticosecale sp.
Breeding. 8A1375; NAT0154; II81-216; NSGC 5638. Collected in Manitoba, Canada. Developed in Australia. Pedigree - Condor/Snoopy.

PI 587261. X Triticosecale sp.
Cultivated. NAT0155; NSGC 5639; 8A1376. Collected in Manitoba, Canada.

PI 587262. X Triticosecale sp.
Cultivated. 8A1377; NSGC 5640; NAT0156. Collected in Manitoba, Canada.

PI 587263. X Triticosecale sp.
Cultivated. NAT0157; 8A1378; NSGC 5641. Collected in Manitoba, Canada.
PI 587264. X Triticosecale sp.  
Cultivated. 8A1379; NSGC 5642; NAT0158. Collected in Manitoba, Canada.

PI 587265. X Triticosecale sp.  
Breeding. 6A1381; X78-5325-20; X76-145; NSGC 5643; NAT0159. Collected in Manitoba, Canada. Developed in Australia. Pedigree - T246/Cinnamon//1-ITSN-6.

PI 587266. X Triticosecale sp.  
Breeding. NAT0160; X76-150; NSGC 5644; 6A1382; X553-2. Collected in Manitoba, Canada. Developed in Australia. Pedigree - Navojoa/T697//tall sel. of Dwar.

PI 587267. X Triticosecale sp.  
Breeding. 6A1383; X78-5715-13; NSGC 5645; NAT0161; X76-217. Collected in Manitoba, Canada. Developed in Australia. Pedigree - 438/Leo//T702.

PI 587268. X Triticosecale sp.  
Breeding. NAT0162; X76-235; NSGC 5646; 6A1384; X78-5925-1. Collected in Manitoba, Canada. Developed in Australia. Pedigree - 72UM-2038/6-ITSN-3//Drira.

PI 587269. X Triticosecale sp.  
Breeding. X78-5983-3; NAT0163; X76-240; NSGC 5647; 6A1385. Collected in Manitoba, Canada. Developed in Australia. Pedigree - Dwarf Beagle/Drira//T702.

PI 587270. X Triticosecale sp.  
Breeding. NAT0164; X76-245; NSGC 5648; 6A1386; X78-605-3. Collected in Manitoba, Canada. Developed in Australia. Pedigree - Dwarf Beagle/Leo.

PI 587271. X Triticosecale sp.  
Breeding. NAT0167; NSGC 5649; 8A1389. Collected in Manitoba, Canada. Developed in Germany. Pedigree - CS/S. montanum.

PI 587272. X Triticosecale sp.  
Cultivated. 8A1394; NAT0172; NSGC 5650. Collected in Manitoba, Canada.

The following were developed by J. P. Gustafson, USDA, ARS, University of Missouri, Department of Agronomy, Columbia, Missouri 65201, United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587273. X Triticosecale sp.  
Breeding. NSGC 5651; NAT0178; 6A1419. Pedigree - Dol/UC902C3.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by Robert J. Metzger, USDA, ARS, Oregon State University, Dept. of Crop Science, Corvallis, Oregon 97331, United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587274. X Triticosecale sp.  
Breeding. 6A1423; NAT0179; NSGC 5652. Collected in Manitoba, Canada. Pedigree - ms Red Bobs//Daws/Snoopy.

PI 587275. X Triticosecale sp.  
Breeding. 8A1424; NAT0180; NSGC 5653. Collected in Manitoba, Canada.
PI 587276. X Triticosecale sp.  
Breeding. NAT0181; H79-42-1; 8A1430; NSGC 5654. Collected in Manitoba, Canada. Pedigree - Pitic 62/Kodiak.

PI 587277. X Triticosecale sp.  
Breeding. 8A1431; NAT0182; H78-7048-1; NSGC 5655. Collected in Manitoba, Canada. Pedigree - Pitic 62/73102.

PI 587278. X Triticosecale sp.  
Breeding. NAT0183; H79-68-3; NSGC 5656; 8A1432. Collected in Manitoba, Canada. Pedigree - Chinese Spring/Kodiak.

PI 587279. X Triticosecale sp.  
Breeding. 8A1435; NAT0184; NSGC 5657; H79-714-1. Collected in Manitoba, Canada. Pedigree - Twin/Caribou.

PI 587280. X Triticosecale sp.  
Breeding. 8A1436; H79-248-5; NAT0185; NSGC 5658. Collected in Manitoba, Canada. Pedigree - Daws/Snoopy.

PI 587281. X Triticosecale sp.  

PI 587282. X Triticosecale sp.  
Breeding. 8A1439; H79-211-2; NSGC 5660; NAT0188. Collected in Manitoba, Canada. Pedigree - Penjamo 62/R1003.

PI 587283. X Triticosecale sp.  
Breeding. 8A1442; M79-7225; NSGC 5661; NAT0189. Collected in Manitoba, Canada. Pedigree - Daws/Snoopy/Fullman-18.

PI 587284. X Triticosecale sp.  
Breeding. NAT0192; 6A1451; M79-8818-4; NSGC 5662. Collected in Manitoba, Canada. Pedigree - GT B219/6TA876.

PI 587285. X Triticosecale sp.  
Breeding. 6A1452; NAT0193; H79-212-9; NSGC 5663. Collected in Manitoba, Canada. Pedigree - Penjamo 62/R1003.

PI 587286. X Triticosecale sp.  
Breeding. 6A1456; H79-309-1; NAT0196; NSGC 5664. Collected in Manitoba, Canada. Pedigree - Crane/Snoopy.

PI 587287. X Triticosecale sp.  
Breeding. NSGC 5665; 6A1460; M79-7272; NAT0198. Collected in Manitoba, Canada. Pedigree - 6TA476/6TA876/VT75229.

PI 587288. X Triticosecale sp.  
Breeding. H79-1118-2; NAT0199; NSGC 5666; 6A1466. Collected in Manitoba, Canada. Pedigree - Tetra Prelude/OD289.

PI 587289. X Triticosecale sp.  
Breeding. NAT0200; M79-7733; NSGC 5667; 6A1467. Collected in Manitoba, Canada. Pedigree - 6TB164/6TB163.

PI 587290. X Triticosecale sp.  
Breeding. NAT0201; 6A1468; M79-7737-1; NSGC 5668. Collected in Manitoba, Canada. Pedigree - 6TB164/6TB163.

PI 587291. X Triticosecale sp.  
Breeding. 6A1474; M79-7215; NSGC 5669; NAT0203. Collected in Manitoba,
Canada. Pedigree - Daws/Snoopy//Pullman-11/3/6TB164A.

PI 587292. X Triticosecale sp.
Breeding. 6A1477; H79-405-3; NAT0204; NSGC 5670. Collected in Manitoba, Canada. Pedigree - Tetra Prelude/OD289//UT5229.

PI 587293. X Triticosecale sp.

PI 587294. X Triticosecale sp.
Breeding. 6A1479; NAT0206; NSGC 5672; M79-7847. Collected in Manitoba, Canada.

PI 587295. X Triticosecale sp.
Breeding. 6A1480; NAT0207; M81-8051; NSGC 5673. Collected in Manitoba, Canada.

PI 587296. X Triticosecale sp.
Breeding. 6A1482; NAT0208; NSGC 5674. Collected in Manitoba, Canada. Pedigree - M2A/CML.

PI 587297. X Triticosecale sp.
Breeding. 6A1483; NAT0209; NSGC 5675. Collected in Manitoba, Canada. Pedigree - M2A/IGA//IA/3/KLA.

PI 587298. X Triticosecale sp.
Breeding. 6A1484; NSGC 5676; NAT0210. Collected in Manitoba, Canada. Pedigree - BGL/BGL//ITA/3/LED.

PI 587299. X Triticosecale sp.
Breeding. 6A1485; NAT0211; NSGC 5677. Collected in Manitoba, Canada. Pedigree - M2A/ZA75.

PI 587300. X Triticosecale sp.
Cultivar. "BEAGLELITA"; NSGC 5678; NAT0212; 6A1486. Collected in Manitoba, Canada.

PI 587301. X Triticosecale sp.
Breeding. 6A1488; NSGC 5679; NAT0214. Collected in Manitoba, Canada. Pedigree - M2A/MIA.

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PI 587302. X Triticosecale sp.
Cultivar. NAT0215; NSGC 5680; 6A1489; "RAH-1002". Collected in Manitoba, Canada.

PI 587303. X Triticosecale sp.
Cultivar. 6A1490; "RAH-1003"; NAT0216; NSGC 5681. Collected in Manitoba, Canada.

PI 587304. X Triticosecale sp.
Cultivar. NAT0217; "RAH-1007"; NSGC 5682; 6A1491. Collected in Manitoba, Canada.

PI 587305. X Triticosecale sp.
Cultivar. NAT0218; 6A1492; "RAH-1010"; NSGC 5683. Collected in Manitoba, Canada.

PI 587306. X Triticosecale sp.
Cultivar. 6A1493; NSGC 5684; NAT0219; "RAH-1009". Collected in Manitoba, Canada.

PI 587307. X Triticosecale sp.
Cultivar. NAT0220; 6A1494; RAH-101/3; NSGC 5685. Collected in Manitoba, Canada.

PI 587308. X Triticosecale sp.
Cultivar. 6A1495; RAH-101/2; NAT0221; NSGC 5686. Collected in Manitoba, Canada.

PI 587309. X Triticosecale sp.
Cultivar. NAT0222; RAH-101/4; 6A1496; NSGC 5687. Collected in Manitoba, Canada.

PI 587310. X Triticosecale sp.
Cultivar. NAT0223; NSGC 5688; 6A1497; RAH-101/5. Collected in Manitoba, Canada.

PI 587311. X Triticosecale sp.
Cultivar. 6A1498; NSGC 5689; NAT0224; RAH-101/6. Collected in Manitoba, Canada.

PI 587312. X Triticosecale sp.
Cultivar. RAH-101/7; NAT0225; NSGC 5690; 6A1499. Collected in Manitoba, Canada.

PI 587313. X Triticosecale sp.
Cultivar. 6A1500; NAT0226; NSGC 5691; RAH-101/10. Collected in Manitoba, Canada.

PI 587314. X Triticosecale sp.
Cultivar. 6A1501; NAT0227; RAH-101/9; NSGC 5692. Collected in Manitoba, Canada.

PI 587315. X Triticosecale sp.
Cultivar. 6A1502; NAT0228; RAH-101/15; NSGC 5693. Collected in Manitoba, Canada.

PI 587316. X Triticosecale sp.
Cultivar. 6A1503; RAH-101/12; NAT0229; NSGC 5694. Collected in Manitoba, Canada.

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PI 587317. X Triticosecale sp.
Breeding. 6A1508; NSGC 5695; NAT0230. Pedigree - CIT/2D17//PND/MPE.
PI 587318. X Triticosecale sp.  
Breeding. 6A1510; NSGC 5696; NAT0232. Pedigree - CIT/2D17//OBB.

PI 587319. X Triticosecale sp.  
Breeding. NSGC 5697; NAT0233; 6A1511. Pedigree - CIT/2D17//OBB/PTR.

PI 587320. X Triticosecale sp.  
Breeding. 6A1513; NSGC 5698; NAT0234. Pedigree - BA206/DO1//Anza.

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PI 587321. X Triticosecale sp.  

PI 587322. X Triticosecale sp.  

PI 587323. X Triticosecale sp.  

PI 587324. X Triticosecale sp.  

PI 587325. X Triticosecale sp.  

PI 587326. X Triticosecale sp.  

PI 587327. X Triticosecale sp.  

PI 587328. X Triticosecale sp.  
Breeding. S-1059; 6A1624; TCL-23; NAT0243; NSGC 5706. Collected in Manitoba, Canada. Pedigree - Jupateco
Hexaploid with an 'octoploid' phenotype.

PI 587329. X Triticosecale sp.
Breeding. 6A1625; NAT0244; TCL-24; NSGC 5707; S-1061. Collected in Manitoba, Canada. Pedigree - Jupateco

PI 587330. X Triticosecale sp.
Breeding. 6A1626; NAT0245; TCL-26; S-1066; NSGC 5708. Collected in Manitoba, Canada. Pedigree - Jupateco

PI 587331. X Triticosecale sp.

PI 587332. X Triticosecale sp.

PI 587333. X Triticosecale sp.

PI 587334. X Triticosecale sp.
Breeding. NAT0249; S-1097; 6A1630; TCL-33; NSGC 5712. Collected in Manitoba, Canada. Pedigree - Fury/Siete Cerros//WRC31/3/Camel/Pato.

PI 587335. X Triticosecale sp.
Breeding. NAT0250; S-1100; NSGC 5713; 6A1631; TCL-34. Collected in Manitoba, Canada. Pedigree - Fury/Siete Cerros//WRC31/3/Camel/Pato.

PI 587336. X Triticosecale sp.
Breeding. 6A1632; TCL-40; NAT0251; S-1113; NSGC 5714. Collected in Manitoba, Canada. Pedigree - MN72130/Rye 4. Hexaploid with an 'octoploid' phenotype.

PI 587337. X Triticosecale sp.
Breeding. TCL-41; NSGC 5715; NAT0252; S-1115; 6A1633. Collected in Manitoba, Canada. Pedigree - MN72130/Rye 4. Hexaploid with an 'octoploid' phenotype.

PI 587338. X Triticosecale sp.
Breeding. 6A1634; TCL-45; NAT0253; S-1124; NSGC 5716. Collected in Manitoba, Canada. Pedigree - MN72130/Rye 5. Hexaploid with an 'octoploid' phenotype.

PI 587339. X Triticosecale sp.
Breeding. 6A1636; TCL-54; NAT0254; S-1139; NSGC 5717. Collected in Manitoba, Canada. Pedigree - Pavon F76/Latt Rye 23. Hexaploid with an 'octoploid' phenotype.

PI 587340. X Triticosecale sp.
Breeding. 6A1637; TCL-56; NAT0255; S-1142; NSGC 5718. Collected in Manitoba, Canada. Pedigree - Pavon F76/Latt Rye 23. Hexaploid with an 'octoploid' phenotype.

PI 587341. X Triticosecale sp.

PI 587342. X Triticosecale sp.

PI 587343. X Triticosecale sp.

PI 587344. X Triticosecale sp.

PI 587346. X Triticosecale sp.

PI 587347. X Triticosecale sp.

PI 587348. X Triticosecale sp.

PI 587349. X Triticosecale sp.

PI 587350. X Triticosecale sp.

PI 587351. X Triticosecale sp.

PI 587352. X Triticosecale sp.

PI 587353. X Triticosecale sp.

PI 587354. X Triticosecale sp.

PI 587355. X Triticosecale sp.

PI 587356. X Triticosecale sp.

PI 587357. X Triticosecale sp.
Breeding. 6A1658; TCL-100; S-1252; NSGC 5735; NAT0275. Collected in Manitoba, Canada. Pedigree - Era/Ciano//Gallo/3/Snoopy/4/Camel/Pato/5/Octo. Hexaploid with an 'octoploid' phenotype.

PI 587358. X Triticosecale sp.

PI 587359. X Triticosecale sp.

PI 587360. X Triticosecale sp.

PI 587361. X Triticosecale sp.
PI 587362. X Triticosecale sp.  

PI 587363. X Triticosecale sp.  
Breeding. 6A1663; TCL-105; NSGC 5741; NAT0281; S-1261. Collected in Manitoba, Canada. Pedigree - Chinese Spring/Angelon.8A.206///Tobari 66/3/Dominant. Hexaploid with an 'octoploid' phenotype.

PI 587364. X Triticosecale sp.  

PI 587365. X Triticosecale sp.  

PI 587366. X Triticosecale sp.  
Breeding. 6A1665; TCL-110; NSGC 5744; NAT0284; S-1271. Collected in Manitoba, Canada. Pedigree - Pavon F76/Latt Rye 23. Hexaploid with an 'octoploid' phenotype.

PI 587367. X Triticosecale sp.  
Breeding. 6A1666; TCL-113; NAT0285; S-1279; NSGC 5745. Collected in Manitoba, Canada. Pedigree - Chinese Spring/Angelon.8A.206///Tobari 66/3/Dominant. Hexaploid with an 'octoploid' phenotype.

PI 587368. X Triticosecale sp.  

PI 587369. X Triticosecale sp.  
Breeding. 6A1668; NAT0287; TCL-122; NSGC 5747; S-1299. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31///Drira/M1A. Hexaploid with an 'octoploid' phenotype.

PI 587370. X Triticosecale sp.  

PI 587371. X Triticosecale sp.  

PI 587372. X Triticosecale sp.  
Breeding. NAT0290; S-1319; NSGC 5750; 6A1672; TCL-130. Collected in Manitoba, Canada. Pedigree - Fury/Siete Cerros///WRC31/3/Camel/Pato. Hexaploid with an 'octoploid' phenotype.

PI 587373. X Triticosecale sp.

PI 587374. X Triticosecale sp.  

PI 587375. X Triticosecale sp.  
Breeding. 6A1675; NSGC 5753; NAT0293. Collected in Manitoba, Canada.

PI 587376. X Triticosecale sp.  
Breeding. 6A1676; TCL-140; NAT0294; S-1343; NSGC 5754. Collected in Manitoba, Canada. Pedigree - Fury/Siete Cerros//WRC31/3/Camel/Pato. Hexaploid with an 'octoploid' phenotype.

PI 587377. X Triticosecale sp.  
Breeding. 6A1677; TCL-141; NSGC 5755; NAT0295; S-1343. Collected in Manitoba, Canada. Pedigree - Fury/Siete Cerros//WRC31/3/Camel/Pato. Hexaploid with an 'octoploid' phenotype.

PI 587378. X Triticosecale sp.  
Breeding. 6A1679; NAT0297; S-1350; NSGC 5756; TCL-143. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Drira/M1A. Hexaploid with an 'octoploid' phenotype.

PI 587379. X Triticosecale sp.  

PI 587380. X Triticosecale sp.  
Breeding. 6A1681; NAT0299; TCL-151; S-1369; NSGC 5758. Collected in Manitoba, Canada. Pedigree - Octo/Merino. Hexaploid with an 'octoploid' phenotype.

PI 587381. X Triticosecale sp.  
Breeding. NAT0300; TCL-153; S-1369; NSGC 5759; 6A1682. Collected in Manitoba, Canada. Pedigree - Octo/Merino. Hexaploid with an 'octoploid' phenotype.

PI 587382. X Triticosecale sp.  

The following were developed by B.C. Jenkins, Jenkins Foundation for Research, Salinas, California, United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587383. X Triticosecale sp.  
Breeding. NAT0307; NSGC 5761; 6TB4V; 6TB227.

The following were collected by B.C. Jenkins, Jenkins Foundation for
PI 587384. *X Triticosecale sp.*  
Cultivar. 6TB4Y; NAT0311; NSGC 5762; "OAC WINTRI". Collected in California, United States.

The following were collected by B.C. Jenkins, Jenkins Foundation for Research, Salinas, California, United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587385. *X Triticosecale sp.*  
Breeding. NAT0312; NSGC 5763; 6TB4Z; N-239-6-1. Collected in California, United States.

PI 587386. *X Triticosecale sp.*  
Cultivar. 6TB5A; "NUTRI SEEDS I-18"; NAT0314; NSGC 5764. Collected in California, United States. Developed in United States.

The following were collected by B.C. Jenkins, Jenkins Foundation for Research, Salinas, California, United States. Developed by Terrel-Norris Seed Company, Inc., United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587387. *X Triticosecale sp.*  
Cultivar. NAT0321; NSGC 5765; 6TB5E; "TERRELL 10". Collected in California, United States.

PI 587388. *X Triticosecale sp.*  
Cultivar. 6TB5J-1; NAT0325; "TERRELLAND 22"; NSGC 5766. Collected in California, United States.

PI 587389. *X Triticosecale sp.*  
Cultivar. 6TB5K; "TERRELLAND 24"; NAT0327; NSGC 5767. Collected in California, United States.

The following were collected by Robert J. Metzger, USDA, ARS, Oregon State University, Dept. of Crop Science, Corvallis, Oregon 97331, United States. Developed by B.C. Jenkins, Jenkins Foundation for Research, Salinas, California, United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587390. *X Triticosecale sp.*  
Breeding. 6TB5Q; M83-6041; NSGC 5768; NAT0331. Collected in Oregon, United States.

PI 587391. *X Triticosecale sp.*  
Breeding. 8TA1W; NAT0332; NSGC 5769. Collected in Oregon, United States. Pedigree - Froid/Frontier.

PI 587392. *X Triticosecale sp.*  
Breeding. NAT0334; 8TA1P; NSGC 5770. Collected in Oregon, United States.
Pedigree - Bezostaya/Caribou.

PI 587393. X Triticeaele sp.
Breeding. NAT0337; NSGC 5771; 6TB5W; M83-8501. Collected in Oregon, United States.

PI 587394. X Triticeaele sp.
Breeding. 6TB5Y; M84-477; NAT0339; NSGC 5772. Collected in Oregon, United States.

PI 587395. X Triticeaele sp.
Breeding. NSGC 5773; 6TB6B; M84-6170; NAT0342. Collected in Oregon, United States.

PI 587396. X Triticeaele sp.
Breeding. 6TB6C; NAT0343; M84-6800; NSGC 5774. Collected in Oregon, United States.

PI 587397. X Triticeaele sp.
Breeding. 6TB6D; NAT0344; M84-6999; NSGC 5775. Collected in Oregon, United States.

PI 587398. X Triticeaele sp.
Breeding. 6TB6E; NAT0345; NSGC 5776; M85-6014. Collected in Oregon, United States.

PI 587399. X Triticeaele sp.
Breeding. 6TB6F; NAT0346; M85-6032; NSGC 5777. Collected in Oregon, United States.

PI 587400. X Triticeaele sp.
Breeding. 6TB6M; NAT0348; NSGC 5778; M85-7050. Collected in Oregon, United States.

PI 587401. X Triticeaele sp.
Breeding. 6TB6P; NAT0349; M83-6015; NSGC 5779. Collected in Oregon, United States.

PI 587402. X Triticeaele sp.
Breeding. 6TB6Q; NAT0350; M83-6016. Collected in Oregon, United States.

PI 587403. X Triticeaele sp.
Breeding. NAT0353; M84-440; 6TB6S-1; M83-6088; NSGC 5781. Collected in Oregon, United States.

PI 587404. X Triticeaele sp.
Breeding. NAT0357; NSGC 5782; 6TB6V; M84-6187. Collected in Oregon, United States.

PI 587405. X Triticeaele sp.
Breeding. NAT0358; M84-6188; NSGC 5783; 6TB6W. Collected in Oregon, United States.

PI 587406. X Triticeaele sp.
Breeding. 6TB7A; M84-6194; NSGC 5784; NAT0359. Collected in Oregon, United States.

PI 587407. X Triticeaele sp.
Breeding. NAT0360; 6TB7C; M84-6196; NSGC 5785. Collected in Oregon, United States.

PI 587408. X Triticeaele sp.
Breeding. 6TB7D; NSGC 5786; NAT0361; M84-6197. Collected in Oregon,
United States.

PI 587409. X Triticosecale sp.
Breeding. NAT0362; M84-6198; 6TB7E; NSGC 5787. Collected in Oregon, United States.

PI 587410. X Triticosecale sp.
Breeding. NAT0365; M85-6099; NSGC 5788; 6TB7G; M85-6589. Collected in Oregon, United States.

PI 587411. X Triticosecale sp.
Breeding. NAT0368; 6TB7J; M85-6801; NSGC 5789. Collected in Oregon, United States.

The following were developed by B.C. Jenkins, Jenkins Foundation for Research, Salinas, California, United States. Donated by Calvin O. Qualset, University of California, Genetic Resources Conservation Program, University Extension Building, Room 133, Davis, California 95616-8539, United States. Received 12/01/1992.

PI 587412. X Triticosecale sp.
Breeding. 6TA8A; NAT0374; NSGC 5790.

PI 587413. X Triticosecale sp.
Breeding. 6TA8B; NAT0375; NSGC 5791.

PI 587414. X Triticosecale sp.
Breeding. NAT0376; NSGC 5792; 6TA8C.

PI 587415. X Triticosecale sp.
Breeding. 6TA8D; NAT0377; NSGC 5793.

PI 587416. X Triticosecale sp.
Breeding. 6TA8D-1; NAT0378; NSGC 5794.

PI 587417. X Triticosecale sp.
Breeding. 6TA8E; NAT0379; NSGC 5795.

PI 587418. X Triticosecale sp.
Breeding. NAT0380; NSGC 5796; 6TA8F.

PI 587419. X Triticosecale sp.
Breeding. 6TA8G; NSGC 5797; NAT0381.

PI 587420. X Triticosecale sp.
Breeding. 6TA8G-1; NAT0382; NSGC 5798.

PI 587421. X Triticosecale sp.
Breeding. 6TA6B; NSGC 5799; NAT0383.

PI 587422. X Triticosecale sp.
Breeding. 6TA8H; NSGC 5800; NAT0384.

PI 587423. X Triticosecale sp.
Breeding. 6TA8J; NSGC 5801; NAT0385.

PI 587424. X Triticosecale sp.
Breeding. 6TA8K; NSGC 5802; NAT0386.

PI 587425. X Triticosecale sp.
Breeding. NAT0387; NSGC 5803; 6TA8L.

PI 587426. X Triticosecale sp.
Breeding. 6TA6F; NSGC 5804; NAT0388.

PI 587427. X Triticosecale sp.
Breeding. 6TA8M; NSGC 5805; NAT0389.

PI 587428. X Triticosecale sp.
Breeding. 6TA8N; NAT0390; NSGC 5806.

PI 587429. X Triticosecale sp.
Breeding. 6TA8P; NSGC 5807; NAT0391.

PI 587430. X Triticosecale sp.
Breeding. 6TA8Q; NAT0392; NSGC 5808.

PI 587431. X Triticosecale sp.
Breeding. 6TA8R; NAT0393; NSGC 5809.

PI 587432. X Triticosecale sp.
Breeding. 6TA8S; NSGC 5811; NAT0395; 6TA8T.

PI 587433. X Triticosecale sp.
Breeding. 6TA8U; NSGC 5812; NAT0396.

PI 587434. X Triticosecale sp.
Breeding. 6TA8V; NSGC 5813; NAT0397.

PI 587435. X Triticosecale sp.
Breeding. 6TA8W; NAT0398; NSGC 5814.

PI 587436. X Triticosecale sp.
Breeding. 6TB4X; NSGC 5815; NAT0399.

PI 587437. X Triticosecale sp.
Breeding. 6TA8X; NAT0400; NSGC 5816.

PI 587438. X Triticosecale sp.
Breeding. 6TA8Y; NSGC 5817; NAT0401.

PI 587439. X Triticosecale sp.
Breeding. NAT0402; NSGC 5818; 6TA8Z.

PI 587440. X Triticosecale sp.
Breeding. 6TA8Z-1; NAT0403; NSGC 5819.

PI 587441. X Triticosecale sp.
Breeding. NSGC 5820; 6TA9A; NAT0404.

PI 587442. X Triticosecale sp.
Breeding. 6TA9B; NAT0405; NSGC 5821.

PI 587443. X Triticosecale sp.
Breeding. 6TA9C; NAT0406; NSGC 5822.

PI 587444. X Triticosecale sp.
Breeding. 6TA9D; NAT0407; NSGC 5823.

PI 587445. X Triticosecale sp.
Breeding. NAT0408; 6TA9E; NSGC 5824.

PI 587446. X Triticosecale sp.
Breeding. NSGC 5825; 6TA9F; NAT0409.
PI 587448. X Triticosecale sp.
Breeding. NAT0410; 6TA9F-1; NSGC 5826.

PI 587449. X Triticosecale sp.
Breeding. NAT0411; 6TA6Q; NSGC 5827.

PI 587450. X Triticosecale sp.
Breeding. NAT0413; NSGC 5828; 6TA6R.

PI 587451. X Triticosecale sp.
Breeding. NAT0414; 6TA9H; NSGC 5829.

PI 587452. X Triticosecale sp.
Breeding. 6TA9K; NSGC 5830; NAT0417.

PI 587453. X Triticosecale sp.
Breeding. 6TA9L; NAT0418; NSGC 5831.

PI 587454. X Triticosecale sp.
Breeding. 6TA9L-1; NSGC 5832; NAT0419.

PI 587455. X Triticosecale sp.
Breeding. NAT0422; NSGC 5833; 6TA9N.

PI 587456. X Triticosecale sp.
Breeding. 6TA9P; NSGC 5834; NAT0423.

PI 587457. X Triticosecale sp.
Breeding. 6TA9S; NAT0426; NSGC 5835.

PI 587458. X Triticosecale sp.
Breeding. 6TA9U; NSGC 5836; NAT0428.

PI 587459. X Triticosecale sp.
Breeding. 6TA9V; NAT0429; NSGC 5837.

PI 587460. X Triticosecale sp.
Breeding. 6TA9V-1; NSGC 5838; NAT0430.

PI 587461. X Triticosecale sp.
Breeding. 6TA9W; NAT0431; NSGC 5839.

PI 587462. X Triticosecale sp.
Breeding. 6TA9X; NSGC 5840; NAT0434.

PI 587463. X Triticosecale sp.
Breeding. NAT0435; NSGC 5841; 6TA9Y.

PI 587464. X Triticosecale sp.
Breeding. 6TA9Z; NAT0436; NSGC 5842.

PI 587465. X Triticosecale sp.
Breeding. 6TB0A; NAT0437; NSGC 5843.

PI 587466. X Triticosecale sp.
Breeding. 6TB0B; NSGC 5844; NAT0438.

PI 587467. X Triticosecale sp.
Breeding. 6TB0C; NAT0439; NSGC 5845.

PI 587468. X Triticosecale sp.
Breeding. NAT0440; NSGC 5846; 6TB0E.
PI 587469. X Triticosecale sp.
Breeding. NAT0441; "WYCH"; NSGC 5847; 6TA0D.

PI 587470. X Triticosecale sp.
Breeding. 6TB0G; NAT0442; NSGC 5848.

PI 587471. X Triticosecale sp.
Breeding. 6TB0H; NAT0443; NSGC 5849.

PI 587472. X Triticosecale sp.
Breeding. NAT0444; NSGC 5850; 6TB0J.

PI 587473. X Triticosecale sp.
Breeding. NSGC 5851; 6TB0K; NAT0445.

PI 587474. X Triticosecale sp.
Breeding. NAT0446; NSGC 5852; 6TB0L.

PI 587475. X Triticosecale sp.
Breeding. NAT0447; NSGC 5853; 6TB0M.

PI 587476. X Triticosecale sp.
Breeding. NAT0448; NSGC 5854; 6TB0N.

PI 587477. X Triticosecale sp.
Breeding. 6TB0P; NAT0450; NSGC 5855.

PI 587478. X Triticosecale sp.
Breeding. 6TB0Q; NSGC 5856; NAT0451.

PI 587479. X Triticosecale sp.
Breeding. 6TB0R; NSGC 5857; NAT0452.

PI 587480. X Triticosecale sp.
Breeding. 6TB0R-1; NAT0453; NSGC 5858.

PI 587481. X Triticosecale sp.
Breeding. NSGC 5859; NAT0454; 6TB0R-2.

PI 587482. X Triticosecale sp.
Breeding. 6TB0S; NAT0455; NSGC 5860.

PI 587483. X Triticosecale sp.
Breeding. 6TB0T; NAT0456; NSGC 5861.

PI 587484. X Triticosecale sp.
Breeding. 6TB0U; NAT0457; NSGC 5862.

PI 587485. X Triticosecale sp.
Breeding. 6TB0V-1; NSGC 5863; NAT0458.

PI 587486. X Triticosecale sp.
Breeding. 6TB0V; NAT0459; NSGC 5864.

PI 587487. X Triticosecale sp.
Breeding. 6TB0W; NSGC 5865; NAT0460.

PI 587488. X Triticosecale sp.
Breeding. 6TB0X; NAT0461; NSGC 5866.

PI 587489. X Triticosecale sp.
Breeding. NSGC 5867; NAT0462; 6TB0Y.

PI 587490. X Triticosecale sp.
Breeding. 6TB0Z; NAT0463; NSGC 5868.

PI 587491. X Triticosecale sp.
Breeding. 6TB1A; NSGC 5869; NAT0464.

PI 587492. X Triticosecale sp.
Breeding. 6TB1B; NAT0465; NSGC 5870.

PI 587493. X Triticosecale sp.
Breeding. 6TA4V; NAT0466; NSGC 5871.

PI 587494. X Triticosecale sp.
Breeding. NSGC 5872; NAT0467; 6TA6V.

PI 587495. X Triticosecale sp.
Breeding. 6TB1C; NAT0468; NSGC 5873.

PI 587496. X Triticosecale sp.
Breeding. 6TB1D; NAT0469; NSGC 5874.

PI 587497. X Triticosecale sp.
Breeding. 6TB1E; NAT0470; NSGC 5875.

PI 587498. X Triticosecale sp.
Breeding. 6TB1F; NAT0471; NSGC 5876.

PI 587499. X Triticosecale sp.
Breeding. NSGC 5877; 6TB1G; NAT0472.

PI 587500. X Triticosecale sp.
Breeding. NAT0473; 6TA7A; NSGC 5878.

PI 587501. X Triticosecale sp.
Breeding. NAT0474; 6TB1H; NSGC 5879.

PI 587502. X Triticosecale sp.
Breeding. NAT0475; NSGC 5880; 6TB1J.

PI 587503. X Triticosecale sp.
Breeding. NAT0476; 6TB1K; NSGC 5881.

PI 587504. X Triticosecale sp.
Breeding. 6TB1L; NSGC 5882; NAT0477.

PI 587505. X Triticosecale sp.
Breeding. 6TB1M; NAT0478; NSGC 5883.

PI 587506. X Triticosecale sp.
Breeding. 6TB1M-1; NSGC 5884; NAT0479.

PI 587507. X Triticosecale sp.
Breeding. NAT0480; NSGC 5885; 6TB1M-2.

PI 587508. X Triticosecale sp.
Breeding. 6TA7C; NSGC 5886; NAT0481.

PI 587509. X Triticosecale sp.
Breeding. 6TA7C-1; NAT0482; NSGC 5887.

PI 587510. X Triticosecale sp.
Breeding. 6TA7C-2; NSGC 5888; NAT0483.

PI 587511. X Triticosecale sp.
Breeding. 6TA7C-3; NAT0484; NSGC 5889.
PI 587512. X Triticosecale sp.  
Breeding. 6TA7C-4; NSGC 5890; NAT0485.

PI 587513. X Triticosecale sp.  
Breeding. 6TB1N; NAT0486; NSGC 5891.

PI 587514. X Triticosecale sp.  
Breeding. 6TB1P-2; NSGC 5892; NAT0489.

PI 587515. X Triticosecale sp.  
Breeding. NAT0490; NSGC 5893; 6TB1Q.

PI 587516. X Triticosecale sp.  
Breeding. 6TB1Q-1; NAT0491; NSGC 5894.

PI 587517. X Triticosecale sp.  
Breeding. 6TB1Q-2; NAT0492; NSGC 5895.

PI 587518. X Triticosecale sp.  
Breeding. 6TB1T; NSGC 5896; NAT0496.

PI 587519. X Triticosecale sp.  
Breeding. 6TB1V; NAT0498; NSGC 5897.

PI 587520. X Triticosecale sp.  
Breeding. 6TB1W; NAT0499; NSGC 5898.

PI 587521. X Triticosecale sp.  
Breeding. 6TB2C; NAT0500; NSGC 5899.

PI 587522. X Triticosecale sp.  
Breeding. 6TB2D-1; NAT0501; NSGC 5900.

PI 587523. X Triticosecale sp.  
Breeding. 6TB2D; NAT0502; NSGC 5901.

PI 587524. X Triticosecale sp.  
Breeding. 6TB2E; NSGC 5902; NAT0503.

PI 587525. X Triticosecale sp.  
Breeding. 6TB2B; NSGC 5903; NAT0506.

PI 587526. X Triticosecale sp.  
Breeding. 6TB2F; NSGC 5904; NAT0509.

PI 587527. X Triticosecale sp.  
Breeding. 6TB2G; NSGC 5905; NAT0510.

PI 587528. X Triticosecale sp.  
Breeding. NSGC 5906; NAT0511; 6TB2H.

PI 587529. X Triticosecale sp.  
Breeding. 6TB2H-1; NSGC 5907; NAT0512.

PI 587530. X Triticosecale sp.  
Breeding. 6TB2J; NAT0513; NSGC 5908.

PI 587531. X Triticosecale sp.  
Breeding. 6TB2K; NAT0514; NSGC 5909.

PI 587532. X Triticosecale sp.  
Breeding. 6TB2L; NSGC 5910; NAT0515.
PI 587533. X Triticosecale sp.
Breeding. 6TB2N; NAT0517; NSGC 5911.

PI 587534. X Triticosecale sp.
Breeding. 6TB2N-1; NSGC 5912; NAT0518.

PI 587535. X Triticosecale sp.
Breeding. 6TB2P; NAT0519; NSGC 5913.

PI 587536. X Triticosecale sp.
Breeding. NSGC 5914; NAT0520; 6TB2Q.

PI 587537. X Triticosecale sp.
Breeding. 6TB2R; NAT0521; NSGC 5915.

PI 587538. X Triticosecale sp.
Cultivar. "PEACE"; NSGC 5916; NAT0523; 6TA7Z.

PI 587539. X Triticosecale sp.
Breeding. NAT0524; 6TB2T; NSGC 5917.

PI 587540. X Triticosecale sp.
Breeding. 6TB2U; NSGC 5918; NAT0525.

PI 587541. X Triticosecale sp.
Breeding. 6TB2V; NAT0526; NSGC 5919.

PI 587542. X Triticosecale sp.
Breeding. 6TB2W; NSGC 5920; NAT0527.

PI 587543. X Triticosecale sp.
Breeding. 6TB2Y; NAT0529; NSGC 5921.

PI 587544. X Triticosecale sp.
Breeding. 6TB2Z; NSGC 5922; NAT0530.

PI 587545. X Triticosecale sp.
Breeding. 6TB3B; NAT0531; NSGC 5923.

PI 587546. X Triticosecale sp.
Breeding. 6TB3D-1; NAT0533; NSGC 5924.

PI 587547. X Triticosecale sp.
Breeding. NAT0534; NSGC 5925; 6TB3D-2.

PI 587548. X Triticosecale sp.
Breeding. 6TB3H; NAT0537; NSGC 5926.

PI 587549. X Triticosecale sp.
Breeding. 6TB3H-1; NAT0538; NSGC 5927.

The following were donated by Ruzhen Chang, Chinese Academy of Agricultural Sciences, Institute of Crop Germplasm Resources, Beijing, China. Received 05/1994.

PI 587550. Glycine max (L.) Merr.
Pureline. ZDD04453; Nan jing da dai dou yi. Collected in Jiangsu, China.

PI 587551. Glycine max (L.) Merr.
Pureline. ZDD04454; Nan jing da li huang. Collected in Jiangsu, China.

PI 587552. Glycine max (L.) Merr.
Pureline. ZDD04458; Nan jing da ping ding huang yi. Collected in Jiangsu, China.

PI 587553. Glycine max (L.) Merr.
Pureline. ZDD04459; Nan jing da ping ding huang yi. Collected in Jiangsu, China.

PI 587554. Glycine max (L.) Merr.
Pureline. ZDD04461; Chun hua No. 5. Collected in Jiangsu, China.

PI 587555. Glycine max (L.) Merr.
Pureline. ZDD04468; Jiang ning lao shu pi yi. Collected in Jiangsu, China.

PI 587556. Glycine max (L.) Merr.
Pureline. ZDD04469; Jiang ning ai jiao huang. Collected in Jiangsu, China.

PI 587557. Glycine max (L.) Merr.
Pureline. ZDD04474; Li shui zhong zi huang do yi. Collected in Jiangsu, China.

PI 587558. Glycine max (L.) Merr.
Pureline. ZDD04478; Ju rong ziao zi huang. Collected in Jiangsu, China.

PI 587559. Glycine max (L.) Merr.
Pureline. ZDD04479; Dan tu he shang tou jia. Collected in Jiangsu, China.

PI 587560. Glycine max (L.) Merr.
Pureline. ZDD04481; Dan tu ba yue bai jia. Collected in Jiangsu, China.

PI 587561. Glycine max (L.) Merr.
Pureline. ZDD04482; Dan tu ba yue bai yi. Collected in Jiangsu, China.

PI 587562. Glycine max (L.) Merr.
Pureline. ZDD04484; Dan tu er huang pao. Collected in Jiangsu, China.

PI 587563. Glycine max (L.) Merr.
Pureline. ZDD04487; Dan yang huang xiang dou yi. Collected in Jiangsu, China.

PI 587564. Glycine max (L.) Merr.
Pureline. ZDD04493; Dan yang san san er. Collected in Jiangsu, China.

Pureline. ZDD04496; Dan yang da zi xi dou jia. Collected in Jiangsu, China.

PI 587566. Glycine max (L.) Merr.
Pureline. ZDD04504; Jin tan bai guo dou yi. Collected in Jiangsu, China.

PI 587567. Glycine max (L.) Merr.
Pureline. ZDD04516; Li yang su huang dou yi. Collected in Jiangsu, China.

PI 587568. Glycine max (L.) Merr.
Pureline. ZDD04517; Li yang xiao zi da dou. Collected in Jiangsu, China.

PI 587569. Glycine max (L.) Merr.
Pureline. ZDD04521; Li yang xiao zi huang. Collected in Jiangsu, China.
PI 587570. Glycine max (L.) Merr.
  Pureline. ZDD04526; Li yang dan yang zao 1. Collected in Jiangsu, China.

PI 587571. Glycine max (L.) Merr.
  Pureline. ZDD04533; Li yang zao shi ri. Collected in Jiangsu, China.

PI 587572. Glycine max (L.) Merr.
  Pureline. ZDD04545; Yi xing zhong ji huang dou yi. Collected in Jiangsu, China.

PI 587573. Glycine max (L.) Merr.
  Pureline. ZDD04548; Yi xing zhong zi dou yi. Collected in Jiangsu, China.

PI 587574. Glycine max (L.) Merr.
  Pureline. ZDD04553; Wu jin bai hua dou. Collected in Jiangsu, China.

PI 587575. Glycine max (L.) Merr.
  Pureline. ZDD04558; Sha zhou jie jie si. Collected in Jiangsu, China.

PI 587576. Glycine max (L.) Merr.
  Pureline. ZDD04571; Wu xian gui yuan huang. Collected in Jiangsu, China.

PI 587577. Glycine max (L.) Merr.
  Pureline. ZDD04572; Wu jiang wu yue niu mao huang. Collected in Jiangsu, China.

PI 587578. Glycine max (L.) Merr.
  Pureline. ZDD04573; Wu jiang ji tou zi. Collected in Jiangsu, China.

PI 587579. Glycine max (L.) Merr.
  Pureline. ZDD04578; Wu jiang wan shu dou. Collected in Jiangsu, China.

PI 587580. Glycine max (L.) Merr.
  Pureline. ZDD04585; Wu jiang dou fu dou 2. Collected in Jiangsu, China.

PI 587581. Glycine max (L.) Merr.
  Pureline. ZDD04590; Tai cang huang mao dou jia. Collected in Jiangsu, China.

PI 587582. Glycine max (L.) Merr.
  Pureline. ZDD04595; Jiang pu huang da dou jia. Collected in Jiangsu, China.

PI 587583. Glycine max (L.) Merr.
  Pureline. ZDD04596; Jiang pu huang da dou yi. Collected in Jiangsu, China.

PI 587584. Glycine max (L.) Merr.
  Pureline. ZDD04604; Yi zheng da li huang dou. Collected in Jiangsu, China.

PI 587585. Glycine max (L.) Merr.
  Pureline. ZDD04608; Kan jiang qiu dao huang jia. Collected in Jiangsu, China.

PI 587586. Glycine max (L.) Merr.
  Pureline. ZDD04612; Yang zhou huang ke. Collected in Jiangsu, China.

PI 587587. Glycine max (L.) Merr.
  Pureline. ZDD04619; Tai xian you dou. Collected in Jiangsu, China.
PI 587588. Glycine max (L.) Merr.
Pureline. ZDD04620; Tai xing niu mao huang yi. Collected in Jiangsu, China.

PI 587589. Glycine max (L.) Merr.
Pureline. ZDD04622; Tai xing guo yi 1. Collected in Jiangsu, China.

PI 587590. Glycine max (L.) Merr.
Pureline. ZDD04625; Tai xing da li wan. Collected in Jiangsu, China.

PI 587591. Glycine max (L.) Merr.
Pureline. ZDD04626; Tai xing han lu huang dou 1. Collected in Jiangsu, China.

PI 587592. Glycine max (L.) Merr.
Pureline. ZDD04629; Tai xing ba yue huang 2. Collected in Jiangsu, China.

PI 587593. Glycine max (L.) Merr.
Pureline. ZDD04632; Xing hua mao jia dou yi. Collected in Jiangsu, China.

PI 587594. Glycine max (L.) Merr.
Pureline. ZDD04638; Bao ying deng xi feng bing. Collected in Jiangsu, China.

PI 587595. Glycine max (L.) Merr.
Pureline. ZDD04639; Bao ying deng xi feng ding. Collected in Jiangsu, China.

PI 587596. Glycine max (L.) Merr.
Pureline. ZDD04642; Hai an wu zui dou jia 2. Collected in Jiangsu, China.

PI 587597. Glycine max (L.) Merr.

PI 587598. Glycine max (L.) Merr.
Pureline. ZDD04648; Ru gao xiao mang dou er. Collected in Jiangsu, China.

PI 587599. Glycine max (L.) Merr.
Pureline. ZDD04653; Ru gao ci yu tou er bing. Collected in Jiangsu, China.

PI 587600. Glycine max (L.) Merr.
Pureline. ZDD04654; Ru gao xiao huang dou. Collected in Jiangsu, China.

PI 587601. Glycine max (L.) Merr.
Pureline. ZDD04655; Ru gao ba yue bai jia. Collected in Jiangsu, China.

PI 587602. Glycine max (L.) Merr.
Pureline. ZDD04659; Ru gao dai xi feng yi. Collected in Jiangsu, China.

PI 587603. Glycine max (L.) Merr.
Pureline. ZDD04662; Nan tong ai jiao huang. Collected in Jiangsu, China.

PI 587604. Glycine max (L.) Merr.
Pureline. ZDD04671; Nan tong zhi ma hua yi. Collected in Jiangsu, China.

PI 587605. Glycine max (L.) Merr.
Pureline. ZDD04674; Nan tong yi peng song. Collected in Jiangsu, China.
PI 587606. Glycine max (L.) Merr.
Pureline. ZDD04675; Nan tong huang you guo zi. Collected in Jiangsu, China.

PI 587607. Glycine max (L.) Merr.
Pureline. ZDD04676; Hai men bai mao jia. Collected in Jiangsu, China.

PI 587608. Glycine max (L.) Merr.
Pureline. ZDD04677; Hai men jie jie si. Collected in Jiangsu, China.

PI 587609. Glycine max (L.) Merr.
Pureline. ZDD04697; Qi dong xian hao dou 1. Collected in Jiangsu, China.

PI 587610. Glycine max (L.) Merr.
Pureline. ZDD04699; Qi dong xiao an huang jia 1. Collected in Jiangsu, China.

PI 587611. Glycine max (L.) Merr.
Pureline. ZDD04700; Qi dong xiao an huang jia 2. Collected in Jiangsu, China.

PI 587612. Glycine max (L.) Merr.
Pureline. ZDD04708; Ru dong ba yue bai jia. Collected in Jiangsu, China.

PI 587613. Glycine max (L.) Merr.
Pureline. ZDD04709; Ru dong ba yue bai yi 1. Collected in Jiangsu, China.

PI 587614. Glycine max (L.) Merr.
Pureline. ZDD04712; Ru dong xiao huang ke. Collected in Jiangsu, China.

PI 587615. Glycine max (L.) Merr.
Pureline. ZDD04717; Dan yang wan huang dou yi 2. Collected in Jiangsu, China.

PI 587616. Glycine max (L.) Merr.
Pureline. ZDD04718; Jin tan qing zhong. Collected in Jiangsu, China.

PI 587617. Glycine max (L.) Merr.
Pureline. ZDD04723; Jin tan qing zi. Collected in Jiangsu, China.

PI 587618. Glycine max (L.) Merr.
Pureline. ZDD04730; Li yang ba yue huang yi. Collected in Jiangsu, China.

PI 587619. Glycine max (L.) Merr.
Pureline. ZDD04739; Yi xing zao huang dou. Collected in Jiangsu, China.

PI 587620. Glycine max (L.) Merr.
Pureline. ZDD04760; Wu jiang ba yue niu mao huang. Collected in Jiangsu, China.

PI 587621. Glycine max (L.) Merr.
Pureline. ZDD04761; Wu jiang zao wan dou. Collected in Jiangsu, China.

PI 587622. Glycine max (L.) Merr.
Pureline. ZDD04778; Liu he lu dou 2. Collected in Jiangsu, China.

PI 587623. Glycine max (L.) Merr.
Pureline. ZDD04787; Tai xing wan da qing dou 3. Collected in Jiangsu, China.
PI 587624. Glycine max (L.) Merr.
Pureline. ZDD04797; Nan tong gao jiao lu yi. Collected in Jiangsu, China.

PI 587625. Glycine max (L.) Merr.
Pureline. ZDD04798; Nan tong da yang qing. Collected in Jiangsu, China.

PI 587626. Glycine max (L.) Merr.
Pureline. ZDD04808; Hai men yang yan dou yi 1. Collected in Jiangsu, China.

PI 587627. Glycine max (L.) Merr.
Pureline. ZDD04817; Hai men guan qing dou. Collected in Jiangsu, China.

PI 587628. Glycine max (L.) Merr.
Pureline. ZDD04820; Hai men xi feng qing jia. Collected in Jiangsu, China.

PI 587629. Glycine max (L.) Merr.
Pureline. ZDD04826; Hai men xian hao lu. Collected in Jiangsu, China.

PI 587630. Glycine max (L.) Merr.
Pureline. ZDD04828; Qi dong sha lu dou yi. Collected in Jiangsu, China.

PI 587631. Glycine max (L.) Merr.
Pureline. ZDD04830; Qi dong deng long dou jia. Collected in Jiangsu, China.

PI 587632. Glycine max (L.) Merr.
Pureline. ZDD04832; Qi dong guan qing dou jia. Collected in Jiangsu, China.

PI 587633. Glycine max (L.) Merr.
Pureline. ZDD04835; Ru dong wan lu huan dou yi. Collected in Jiangsu, China.

PI 587634. Glycine max (L.) Merr.
Pureline. ZDD04842; Dan yang hei xiang dou. Collected in Jiangsu, China.

PI 587635. Glycine max (L.) Merr.
Pureline. ZDD04843; Dan yang da zi hei dou. Collected in Jiangsu, China.

PI 587636. Glycine max (L.) Merr.
Pureline. ZDD04855; Wu jin xi zi wan dou. Collected in Jiangsu, China.

PI 587637. Glycine max (L.) Merr.
Pureline. ZDD04856; Jiang yin hei dou. Collected in Jiangsu, China.

PI 587638. Glycine max (L.) Merr.
Pureline. ZDD04863; Ru dong hei wan huan dou. Collected in Jiangsu, China.

PI 587639. Glycine max (L.) Merr.
Pureline. ZDD04865; Dan tu he dou. Collected in Jiangsu, China.

PI 587640. Glycine max (L.) Merr.
Pureline. ZDD04872; Tai cang zi you dou. Collected in Jiangsu, China.

PI 587641. Glycine max (L.) Merr.
Pureline. ZDD04882; Ru gao tie ke ling. Collected in Jiangsu, China.
PI 587642. Glycine max (L.) Merr.
Pureline. ZDD04887; Ru dong zao jia hong. Collected in Jiangsu, China.

PI 587643. Glycine max (L.) Merr.
Pureline. ZDD04889; Nan tong hong pi xiang zi dou. Collected in Jiangsu, China.

PI 587644. Glycine max (L.) Merr.
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PI 587645. Glycine max (L.) Merr.
Pureline. ZDD04892; Nan tong jiang you dou. Collected in Jiangsu, China.

PI 587646. Glycine max (L.) Merr.
Pureline. ZDD04893; Nan tong zong se dou. Collected in Jiangsu, China.

PI 587647. Glycine max (L.) Merr.
Pureline. ZDD04894; Nan tong zhuang yang dou. Collected in Jiangsu, China.

PI 587648. Glycine max (L.) Merr.
Pureline. ZDD04896; Nan tong niu kou hong. Collected in Jiangsu, China.

PI 587649. Glycine max (L.) Merr.
Pureline. ZDD04897; Hai men po pi feng jia. Collected in Jiangsu, China.

PI 587650. Glycine max (L.) Merr.
Pureline. ZDD04900; Hai men hong huang dou jia. Collected in Jiangsu, China.

PI 587651. Glycine max (L.) Merr.
Pureline. ZDD04901; Hai men hong huang dou yi. Collected in Jiangsu, China.

PI 587652. Glycine max (L.) Merr.
Pureline. ZDD04902; Hai men bao pi dou. Collected in Jiangsu, China.

PI 587653. Glycine max (L.) Merr.
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PI 587654. Glycine max (L.) Merr.
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PI 587655. Glycine max (L.) Merr.
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PI 587656. Glycine max (L.) Merr.
Pureline. ZDD05384; Huang dou. Collected in Anhui, China.

PI 587657. Glycine max (L.) Merr.
Pureline. ZDD05385; Liu yue bao. Collected in Anhui, China.

PI 587658. Glycine max (L.) Merr.
Pureline. ZDD05386; Liu yue bao. Collected in Anhui, China.

PI 587659. Glycine max (L.) Merr.
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PI 587661. Glycine max (L.) Merr.
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Pureline. ZDD05393; Mi feng qiu. Collected in Anhui, China.

PI 587663. Glycine max (L.) Merr.
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PI 587668. Glycine max (L.) Merr.
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PI 587669. Glycine max (L.) Merr.
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PI 587670. Glycine max (L.) Merr.
Pureline. ZDD05406; Liu yue bao. Collected in Anhui, China.

PI 587671. Glycine max (L.) Merr.
Pureline. ZDD05407; Qing xiang dou. Collected in Anhui, China.

PI 587672. Glycine max (L.) Merr.
Pureline. ZDD05408; Ping tou huang. Collected in Anhui, China.

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PI 587674. Glycine max (L.) Merr.
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PI 587676. Glycine max (L.) Merr.
Pureline. ZDD05417; Qing ke dou. Collected in Anhui, China.

PI 587677. Glycine max (L.) Merr.
Pureline. ZDD05418; Xiao li huang. Collected in Anhui, China.

PI 587678. Glycine max (L.) Merr.
Pureline. ZDD05419; Jiu yue qing. Collected in Anhui, China.

PI 587679. Glycine max (L.) Merr.
Pureline. ZDD05421; Da li dou. Collected in Anhui, China.

PI 587680. Glycine max (L.) Merr.
Pureline. ZDD05422; Gao jiao huang. Collected in Anhui, China.

PI 587681. Glycine max (L.) Merr.
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PI 587707. Glycine max (L.) Merr.
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PI 587708. Glycine max (L.) Merr.
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PI 587713. Glycine max (L.) Merr.
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PI 587723. Glycine max (L.) Merr.
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Pureline. ZDD05542; Song zi yang huang dou. Collected in Hubei, China.

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PI 587754. Glycine max (L.) Merr.
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Pureline. ZDD05643; Jing huang 18. Collected in Hubei, China.

Pureline. ZDD05644; Jing huang 15. Collected in Hubei, China.

Pureline. ZDD05645; Jing huang No. 5. Collected in Hubei, China.

Pureline. ZDD05646; Jing huang 23. Collected in Hubei, China.

Pureline. ZDD05647; Jing huang 32. Collected in Hubei, China.

PI 587783. *Glycine max* (L.) Merr.
Pureline. ZDD05648; Ji mu wo. Collected in Hubei, China.

PI 587784. *Glycine max* (L.) Merr.
Pureline. ZDD05649. Collected in Hubei, China.
PI 587785. Glycine max (L.) Merr.
Pureline. ZDD05684; Wu chang ba yue pao. Collected in Hubei, China.

PI 587786. Glycine max (L.) Merr.
Pureline. ZDD05685; Xiang yang tian e dan. Collected in Hubei, China.

PI 587787. Glycine max (L.) Merr.
Pureline. ZDD05690; Yi chang bai mao dou. Collected in Hubei, China.

PI 587788. Glycine max (L.) Merr.
Pureline. ZDD05694; Nan zhang hei huang dou. Collected in Hubei, China.

PI 587789. Glycine max (L.) Merr.
Pureline. ZDD05702; Jing huang 494. Collected in Hubei, China.

PI 587790. Glycine max (L.) Merr.
Pureline. ZDD05703; Mian yang huang feng wo. Collected in Hubei, China.

PI 587791. Glycine max (L.) Merr.
Pureline. ZDD05704; Mian yang ya dong bai. Collected in Hubei, China.

PI 587792. Glycine max (L.) Merr.
Pureline. ZDD05705; Gong an xin lin da dou. Collected in Hubei, China.

PI 587793. Glycine max (L.) Merr.
Pureline. ZDD05710; Jing 654. Collected in Hubei, China.

PI 587794. Glycine max (L.) Merr.
Pureline. ZDD05708; Wu ming 18 jia. Collected in Hubei, China.

PI 587795. Glycine max (L.) Merr.
Pureline. ZDD05711; Xiao gan dou. Collected in Hubei, China.

PI 587796. Glycine max (L.) Merr.
Pureline. ZDD05717; Mian yang sai zhong qiu. Collected in Hubei, China.

PI 587797. Glycine max (L.) Merr.
Pureline. ZDD05719; Yang xin hei da dou. Collected in Hubei, China.

PI 587798. Glycine max (L.) Merr.
Pureline. ZDD05722; Jing huang. Collected in Hubei, China.

PI 587799. Glycine max (L.) Merr.
Pureline. ZDD05723; Wu chang zao huang dou. Collected in Hubei, China.

PI 587800. Glycine max (L.) Merr.
Pureline. ZDD05731; Ying shan da li huang. Collected in Hubei, China.

PI 587801. Glycine max (L.) Merr.
Pureline. ZDD05741; Wu chang wu huang dou. Collected in Hubei, China.

PI 587802. Glycine max (L.) Merr.
Pureline. ZDD05742; Da li huang. Collected in Hubei, China.

PI 587803. Glycine max (L.) Merr.
Pureline. ZDD05743; Jing 748. Collected in Hubei, China.

PI 587804. Glycine max (L.) Merr.
Pureline. ZDD05748; Jing 789. Collected in Hubei, China.

PI 587805. Glycine max (L.) Merr.
Pureline. ZDD05749; Tong shan san ji huang pi dou. Collected in Hubei, China.
PI 587806. Glycine max (L.) Merr.
Pureline. ZDD05753; Wu ming 24 yi. Collected in Hubei, China.

PI 587807. Glycine max (L.) Merr.
Pureline. ZDD05757; Wu chang bai hua dou. Collected in Hubei, China.

PI 587808. Glycine max (L.) Merr.
Pureline. ZDD05759; Wu chang jiu yue huang. Collected in Hubei, China.

PI 587809. Glycine max (L.) Merr.
Pureline. ZDD05775; Yuan yang dou. Collected in Hubei, China.

PI 587810. Glycine max (L.) Merr.
Pureline. ZDD05777; Ya lao ke. Collected in Hubei, China.

PI 587811. Glycine max (L.) Merr.
Pureline. ZDD05777; Tie jiao zi. Collected in Hubei, China.

PI 587812. Glycine max (L.) Merr.
Pureline. ZDD05779; Huang da dou. Collected in Hubei, China.

PI 587813. Glycine max (L.) Merr.
Pureline. ZDD05783; Yi duo yun. Collected in Hubei, China.

PI 587814. Glycine max (L.) Merr.
Pureline. ZDD05784; Ba yue dou. Collected in Hubei, China.

PI 587815. Glycine max (L.) Merr.
Pureline. ZDD05785; Hong mao za dou. Collected in Hubei, China.

PI 587816. Glycine max (L.) Merr.
Pureline. ZDD05786; Bai mao dou. Collected in Hubei, China.

PI 587817. Glycine max (L.) Merr.
Pureline. ZDD05794; Wu lu bai. Collected in Hubei, China.

PI 587818. Glycine max (L.) Merr.
Pureline. ZDD05799; Jiu yue han. Collected in Hubei, China.

PI 587819. Glycine max (L.) Merr.
Pureline. ZDD05807; En shi niu mao dou. Collected in Hubei, China.

PI 587820. Glycine max (L.) Merr.
Pureline. ZDD05811; En shi ji dan huang. Collected in Hubei, China.

PI 587821. Glycine max (L.) Merr.
Pureline. ZDD05812; Ben di zao huang dou. Collected in Hubei, China.

PI 587822. Glycine max (L.) Merr.
Pureline. ZDD05818; Wu chang qing pi dou. Collected in Hubei, China.

PI 587823. Glycine max (L.) Merr.
Pureline. ZDD05824; Jing shan qing da dou. Collected in Hubei, China.

PI 587824. Glycine max (L.) Merr.
Pureline. ZDD05829; Ying shan qing pi cao. Collected in Hubei, China.

PI 587825. Glycine max (L.) Merr.
Pureline. ZDD05833; E huang 13. Collected in Hubei, China.

PI 587826. Glycine max (L.) Merr.
Pureline. ZDD05834; Da wu qing pi dou 2. Collected in Hubei, China.
PI 587827. Glycine max (L.) Merr.
Pureline. ZDD05836; Nan zhang qing huang dou. Collected in Hubei, China.

PI 587828. Glycine max (L.) Merr.
Pureline. ZDD05838; Xiang Yang qing dou. Collected in Hubei, China.

PI 587829. Glycine max (L.) Merr.
Pureline. ZDD05840; E huang No. 9. Collected in Hubei, China.

PI 587830. Glycine max (L.) Merr.
Pureline. ZDD05841; An lu dong hua huang dou. Collected in Hubei, China.

PI 587831. Glycine max (L.) Merr.
Pureline. ZDD05842; Yun an qing huang dou. Collected in Hubei, China.

PI 587832. Glycine max (L.) Merr.
Pureline. ZDD05843; Zhong xiang qing do dou. Collected in Hubei, China.

PI 587833. Glycine max (L.) Merr.
Pureline. ZDD05845; Jing men shu hou zi. Collected in Hubei, China.

PI 587834. Glycine max (L.) Merr.
Pureline. ZDD05849; Yun an qing pi dou. Collected in Hubei, China.

PI 587835. Glycine max (L.) Merr.
Pureline. ZDD05850; Huang dou. Collected in Hubei, China.

PI 587836. Glycine max (L.) Merr.
Pureline. ZDD05852; Tong shan qi yue huang. Collected in Hubei, China.

PI 587837. Glycine max (L.) Merr.
Pureline. ZDD05853; Wu chang qing da dou. Collected in Hubei, China.

PI 587838. Glycine max (L.) Merr.
Pureline. ZDD05854; Mian yang ji mu dun. Collected in Hubei, China.

PI 587839. Glycine max (L.) Merr.
Pureline. ZDD05856; Han chuan fen qing huang dou. Collected in Hubei, China.

PI 587840. Glycine max (L.) Merr.
Pureline. ZDD05860; Du wo dou. Collected in Hubei, China.

PI 587841. Glycine max (L.) Merr.
Pureline. ZDD05871; Shan zi bai. Collected in Hubei, China.

PI 587842. Glycine max (L.) Merr.
Pureline. ZDD05872; Hei zui. Collected in Hubei, China.

PI 587843. Glycine max (L.) Merr.
Pureline. ZDD05875. Collected in Hubei, China.

PI 587844. Glycine max (L.) Merr.
Pureline. ZDD05882; Tong cheng hei se dou. Collected in Hubei, China.

PI 587845. Glycine max (L.) Merr.
Pureline. ZDD05895; Hei huang dou. Collected in Hubei, China.

PI 587846. Glycine max (L.) Merr.
Pureline. ZDD05908; An lu hong huang dou 2. Collected in Hubei, China.

PI 587847. Glycine max (L.) Merr.
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<th>Code</th>
<th>Name</th>
<th>Collection Location</th>
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<td>PI 587850</td>
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<td>ZDD06045; Zei mo xiao. Collected in Zhejiang, China.</td>
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<td>PI 587851</td>
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<td>ZDD06047; Wan huang dou. Collected in Zhejiang, China.</td>
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<td>ZDD06120; Ba yue bai. Collected in Zhejiang, China.</td>
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Glycine max (L.) Merr.
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Glycine max (L.) Merr.
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Glycine max (L.) Merr.
Pureline. ZDD06125; Huang pi dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06126; Bao mao dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06130; Ba yue bai. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06131; Feng wo dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06135; Ba yue dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06136; Huang pi dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06138; xi mao dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06141; Jiu yue zao. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06143; Shang tian huang. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06144; Shang tian huang. Collected in Zhejiang, China.

Glycine max (L.) Merr.
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Glycine max (L.) Merr.
Pureline. ZDD06149; Da dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06152; Ba yue ba. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06157; Jiu yue lao shu dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06158; Ba yue huang. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06166; Bai dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06177; Bai dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06181; Feng wo dou. Collected in Zhejiang, China.

Glycine max (L.) Merr.
Pureline. ZDD06185; Bao luo huang. Collected in Zhejiang, China.

Glycine max (L.) Merr.
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<th>Pureline. ZDD06188; Qing pi dou. Collected in Zhejiang, China.</th>
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<td>PI 587890. Glycine max (L.) Merr.</td>
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<td>Pureline. ZDD06190; Qi yue qing. Collected in Zhejiang, China.</td>
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<td>PI 587891. Glycine max (L.) Merr.</td>
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<td>Pureline. ZDD06191; Qi yue ba. Collected in Zhejiang, China.</td>
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<td>Pureline. ZDD06195; Dou qing. Collected in Zhejiang, China.</td>
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<td>Pureline. ZDD06199; Ba yue bai. Collected in Zhejiang, China.</td>
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<td>Pureline. ZDD06205; Qing pi dou. Collected in Zhejiang, China.</td>
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<td>Pureline. ZDD06249; Xiao huang dou. Collected in Zhejiang, China.</td>
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<td>Pureline. ZDD06270; Hei da dou. Collected in Zhejiang, China.</td>
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<td>Pureline. ZDD06288; Bai mao dou. Collected in Zhejiang, China.</td>
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PI 587911. *Glycine max* (L.) Merr.
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Pureline. ZDD06298; Da li qing. Collected in Zhejiang, China.

Pureline. ZDD06300; You dou. Collected in Zhejiang, China.

Pureline. ZDD06305; You qing dou. Collected in Zhejiang, China.

Pureline. ZDD06308; Bai mao jian. Collected in Zhejiang, China.

Pureline. ZDD06316; Da qing dou. Collected in Zhejiang, China.

Pureline. ZDD06318; Da qing dou. Collected in Zhejiang, China.

Pureline. ZDD06319; Da qing dou. Collected in Zhejiang, China.

Pureline. ZDD06321; Xiao qing dou. Collected in Zhejiang, China.

Pureline. ZDD06325; Jiu yue huang. Collected in Zhejiang, China.

PI 587921. *Glycine max* (L.) Merr.
Pureline. ZDD06326; Da dou. Collected in Zhejiang, China.

Pureline. ZDD06327; Tian qing dou. Collected in Zhejiang, China.

Pureline. ZDD06328; Tian qing dou. Collected in Zhejiang, China.

Pureline. ZDD06332; Mao peng qing. Collected in Zhejiang, China.

Pureline. ZDD06333; Tian dou. Collected in Zhejiang, China.

PI 587926. *Glycine max* (L.) Merr.
Pureline. ZDD06334; Da li qing dou. Collected in Zhejiang, China.

Pureline. ZDD06337; Xiao li qing. Collected in Zhejiang, China.

Pureline. ZDD06337; Xiao li qing. Collected in Zhejiang, China.

Pureline. ZDD06338; Qiu dou. Collected in Zhejiang, China.

Pureline. ZDD06342; Qiu dou. Collected in Zhejiang, China.

Pureline. ZDD06343; Qiu dou. Collected in Zhejiang, China.
PI 587932. Glycine max (L.) Merr.
Pureline. ZDD06345; Yuan qing. Collected in Zhejiang, China.

PI 587933. Glycine max (L.) Merr.
Pureline. ZDD06346; Qiu hei dou. Collected in Zhejiang, China.

PI 587934. Glycine max (L.) Merr.
Pureline. ZDD06347; Tian geng dou. Collected in Zhejiang, China.

PI 587935. Glycine max (L.) Merr.
Pureline. ZDD06348; Yi chi. Collected in Zhejiang, China.

PI 587936. Glycine max (L.) Merr.
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PI 587937. Glycine max (L.) Merr.
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PI 587938. Glycine max (L.) Merr.
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PI 587939. Glycine max (L.) Merr.
Pureline. ZDD06391; Tai ning huang pi dou. Collected in Fujian, China.

PI 587940. Glycine max (L.) Merr.
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PI 587941. Glycine max (L.) Merr.
Pureline. ZDD06395; Chang ting xi dou. Collected in Fujian, China.

PI 587942. Glycine max (L.) Merr.
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PI 587943. Glycine max (L.) Merr.
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PI 587944. Glycine max (L.) Merr.
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PI 587945. Glycine max (L.) Merr.
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PI 587946. Glycine max (L.) Merr.
Pureline. ZDD06406; Ping nan qiu da dou. Collected in Fujian, China.

PI 587947. Glycine max (L.) Merr.
Pureline. ZDD06407; Song xi ma liao zi. Collected in Fujian, China.

PI 587948. Glycine max (L.) Merr.
Pureline. ZDD06410; Zhao an qiu da dou. Collected in Fujian, China.

PI 587949. Glycine max (L.) Merr.
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PI 587950. Glycine max (L.) Merr.
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PI 587951. Glycine max (L.) Merr.
Pureline. ZDD06439; Jiang le wu dou. Collected in Fujian, China.

PI 587952. Glycine max (L.) Merr.
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PI 587953. Glycine max (L.) Merr.
Pureline. ZDD06441; Chang ting da wu dou. Collected in Fujian, China.

PI 587954. Glycine max (L.) Merr.
Pureline. ZDD06442; Chang ting xiao wu dou. Collected in Fujian, China.

PI 587955. Glycine max (L.) Merr.
Pureline. ZDD06446; Jian yang chi an dou. Collected in Fujian, China.

PI 587956. Glycine max (L.) Merr.
Pureline. ZDD06527; Wu ke huang. Collected in Hunan, China.

PI 587957. Glycine max (L.) Merr.
Pureline. ZDD06532; Bai mao dou. Collected in Hunan, China.

PI 587958. Glycine max (L.) Merr.
Pureline. ZDD06534; Qiu dou No. 1. Collected in Hunan, China.

PI 587959. Glycine max (L.) Merr.
Pureline. ZDD06535; Heng yang qing dou. Collected in Hunan, China.

PI 587960. Glycine max (L.) Merr.
Pureline. ZDD06536; Yi yan lu dou. Collected in Hunan, China.

PI 587961. Glycine max (L.) Merr.
Pureline. ZDD06537; Yang qing dou. Collected in Hunan, China.

PI 587962. Glycine max (L.) Merr.
Pureline. ZDD06538; Chang sha qing dou. Collected in Hunan, China.

PI 587963. Glycine max (L.) Merr.
Pureline. ZDD06539; Yao dou. Collected in Hunan, China.

PI 587964. Glycine max (L.) Merr.
Pureline. ZDD06541; Heng shan hong dou. Collected in Hunan, China.

PI 587965. Glycine max (L.) Merr.
Pureline. ZDD06542; An ren hong dou. Collected in Hunan, China.

PI 587966. Glycine max (L.) Merr.
Pureline. ZDD13229; Gan gu huang -2. Collected in Sichuan, China.

PI 587967. Glycine max (L.) Merr.
Pureline. ZDD13239; Liu yue bao. Collected in Sichuan, China.

PI 587968. Glycine max (L.) Merr.
Pureline. ZDD13242; Bai jiao dou. Collected in Sichuan, China.

PI 587969. Glycine max (L.) Merr.
Pureline. ZDD13246; Pu le lu lan zi -3. Collected in Sichuan, China.

PI 587970. Glycine max (L.) Merr.
Pureline. ZDD13247; Da huang dou. Collected in Sichuan, China.

PI 587971. Glycine max (L.) Merr.
Pureline. ZDD13248; Da zao huang. Collected in Sichuan, China.

PI 587972. Glycine max (L.) Merr.
Pureline. ZDD13257; Chang zi dou. Collected in Sichuan, China.

PI 587973. Glycine max (L.) Merr.
Pureline. ZDD13258; Ji mu dou. Collected in Sichuan, China.
PI 587974. Glycine max (L.) Merr.
Pureline. ZDD13259; Gan gu huang. Collected in Sichuan, China.

PI 587975. Glycine max (L.) Merr.
Pureline. ZDD13260; Jie huang dou -1. Collected in Sichuan, China.

PI 587976. Glycine max (L.) Merr.
Pureline. ZDD13270; Huang dou. Collected in Sichuan, China.

PI 587977. Glycine max (L.) Merr.
Pureline. ZDD13275; Xiao huang dou. Collected in Sichuan, China.

PI 587978. Glycine max (L.) Merr.
Pureline. ZDD13282; Dong dou. Collected in Sichuan, China.

PI 587979. Glycine max (L.) Merr.
Pureline. ZDD13283; Wu zhu huang. Collected in Sichuan, China.

PI 587980. Glycine max (L.) Merr.
Pureline. ZDD13284; Liu yue huang -1. Collected in Sichuan, China.

PI 587981. Glycine max (L.) Merr.
Pureline. ZDD13285; Da huang dou. Collected in Sichuan, China.

PI 587982. Glycine max (L.) Merr.
Pureline. ZDD13287; Huang mao bai shui dou. Collected in Sichuan, China.

PI 587983. Glycine max (L.) Merr.
Pureline. ZDD13295; Zhuang zhuang dou. Collected in Sichuan, China.

PI 587984. Glycine max (L.) Merr.
Pureline. ZDD13296; Bai shui dou. Collected in Sichuan, China.

PI 587985. Glycine max (L.) Merr.
Pureline. ZDD13297; Bao mao dou -2. Collected in Sichuan, China.

PI 587986. Glycine max (L.) Merr.
Pureline. ZDD13317; Da bai dou. Collected in Sichuan, China.

PI 587987. Glycine max (L.) Merr.
Pureline. ZDD13320; Da li dong dou. Collected in Sichuan, China.

PI 587988. Glycine max (L.) Merr.
Pureline. ZDD13335; Bai mao dou. Collected in Sichuan, China.

PI 587989. Glycine max (L.) Merr.
Pureline. ZDD13336; Shuang hua huang jiao dou. Collected in Sichuan, China.

PI 587990. Glycine max (L.) Merr.
Pureline. ZDD13338; Shui bai dou. Collected in Sichuan, China.

PI 587991. Glycine max (L.) Merr.
Pureline. ZDD13340; Liu yue huang. Collected in Sichuan, China.

PI 587992. Glycine max (L.) Merr.
Pureline. ZDD13344; Jiu yue huang. Collected in Sichuan, China.

PI 587993. Glycine max (L.) Merr.
Pureline. ZDD13359; Bai huang dou. Collected in Sichuan, China.

PI 587994. Glycine max (L.) Merr.
Pureline. ZDD13360; Huang dou. Collected in Sichuan, China.


PI 588036. *Glycine max* (L.) Merr. Pureline. ZDD16858; Nan xiong ba yue huang. Collected in Guangdong,
PI 588037. Glycine max (L.) Merr.
Pureline. ZDD16860; Qu jiang shi yue huang. Collected in Guangdong, China.

PI 588038. Glycine max (L.) Merr.
Pureline. ZDD16861; Ru lin huang dou. Collected in Guangdong, China.

PI 588039. Glycine max (L.) Merr.
Pureline. ZDD16862; Ying de nian dou. Collected in Guangdong, China.

PI 588040. Glycine max (L.) Merr.
Pureline. ZDD16863; Shan xing dou. Collected in Guangdong, China.

PI 588041. Glycine max (L.) Merr.
Pureline. ZDD16864; Lian ping ba yue huang. Collected in Guangdong, China.

PI 588042. Glycine max (L.) Merr.
Pureline. ZDD16866; Hua zhou da huang dou. Collected in Guangdong, China.

PI 588043. Glycine max (L.) Merr.
Pureline. ZDD16867; Xu wen huang dou. Collected in Guangdong, China.

PI 588044. Glycine max (L.) Merr.
Pureline. ZDD16869; Yi gong bao. Collected in Guangdong, China.

PI 588045. Glycine max (L.) Merr.
Pureline. ZDD16870; Le chang da qing dou. Collected in Guangdong, China.

PI 588046. Glycine max (L.) Merr.
Pureline. ZDD16871; Feng shun xiao hei dou. Collected in Guangdong, China.

PI 588047. Glycine max (L.) Merr.
Pureline. ZDD16875; Huang ke wu dou. Collected in Guangdong, China.

PI 588048. Glycine max (L.) Merr.
Pureline. ZDD16879; Dong xing hei dou. Collected in Guangdong, China.

PI 588049. Glycine max (L.) Merr.
Pureline. ZDD16880; Bai sha hei dou. Collected in Guangdong, China.

PI 588050. Glycine max (L.) Merr.

PI 588051. Glycine max (L.) Merr.

PI 588052. Glycine max (L.) Merr.

PI 588053. Glycine max (L.) Merr.

The following were donated by Otto Jahn, USDA/ARS, NCGR-Corvallis, 33447 Peoria Road, Corvallis, Oregon 97333, United States. Received 07/06/1985.

PI 588054. Vitis sp.
Collected 06/1981 in Iowa, United States. Near Fort Dodge, Iowa. South
PI 588055. **Vitis thunbergii** Siebold & Zucc.
Collected in Korea.

The following were collected by Fred G. Meyer, USDA-ARS, National Arboretum, 3501 New York Avenue Northeast, Washington, District of Columbia 20002, United States; Skip March, USDA, ARS, U.S. National Arboretum, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; D.C. Nielson; Makoto Kawase, Shikoku National Agri. Exp. Station, 3-1, Sen yu-cho 1, Zentsuji, Kagawa 765, Japan. Donated by Plant Introduction Office, Germplasm Services Laboratory, Building 001, BARC-West, Beltsville, Maryland 20705, United States. Received 06/25/1985.

PI 588056. **Vitis coignetiae** Pulliat ex Planchon

PI 588057. **Vitis coignetiae** Pulliat ex Planchon

PI 588058. **Vitis coignetiae** Pulliat ex Planchon

PI 588059. **Vitis coignetiae** Pulliat ex Planchon

PI 588060. **Vitis coignetiae** Pulliat ex Planchon

PI 588061. **Vitis coignetiae** Pulliat ex Planchon
The following were developed by Albert Serbel, Ardeche, France. 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 588062. Vitis hybrid**


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 588063. Vitis hybrid**


The following were developed by Albert Seibel. 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 588064. Vitis hybrid**


The following were developed by Richard Wellington. 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 588065. Vitis hybrid**

New York Muscat. Pedigree - Muscat Hamburg X Hubbard Crossed in 1926. Fruit: cluster size medium, loose to well filled; berry oval skin reddish-black with heavy bloom; muscat flavor; ripens early, in Delaware season. Vine: moderately vigorous and productive; may suffer winter injury below -15 F. Promising as a var. for sweet red wine and possibly for dessert use.

The following were developed by Agriculture Canada, Vineland Horticultural Experiment Station, Vineland, 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 588066. Vitis hybrid**

wine. Vine: vigorous, hardy and very productive; tolerant to mildew.

The following were developed by Virginia Polytechnic Institute and State University, Virginia Agr. Exp. Sta., Blacksburg, Virginia 24061, 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 588067. Vitis hybrid  
Moored. Pedigree - Fredonia X Athens Crossed in 1949. Selected in 1955. Named by R.C. Moore in 1969. Fruit: cluster above average in size, well-filled, compact. Berry: above average in size; round; skin red, medium bloom which disappears rapidly after berry matures; flesh like la-brusca in texture, slight acid near seeds, flavor foxy; ripens about with Fredonia or 3 weeks before Concord; for fresh fruit; most nearly resembles Lucile. Vine: above average in vigor, productivity and hardiness; no difficulty in controlling black rot, downy mildew, powdery mildew and anthracnose.

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 588068. Vitis hybrid  
Landot 4511. Pedigree - Landot 244 X Seyve Villard 12-375 -- V. aestival, V. berlandieri, V. cinerea, V. labrusca, V. lincecumii, V. riparia, V. rupestris, V. vinifera. Blue berry; Medium-large loose cluster; Vigorous vine but unproductive. Late budbreak and early maturity. Very resistant to downy mildew. Susceptible to anthracnose and drought.

The following were developed by NYS Agricultural Experiment Sta., 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 588069. Vitis hybrid  
Horizon. Pedigree - Seyval X Schuyler Sister seedling of Cayuga White. Cluster: medium-sized; moderately compact; cylindrical in shape; 2 clusters per shoot. Berry: medium-sized; spherical; skin light green; flesh produces a white wine that is fruity with good body and balance; ripens midseason, Sept. 20-30 at Geneva. Vine: hardy; vigorous; productive; flower perfect with upright stamens; less resistant to powdery mildew than Concord.

The following were developed by J. Adlum. 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 588070. Vitis hybrid  
Catawba. Collected in North Carolina, United States. Introduced by John Adlum from vineyard of Mrs. Scholl in Montgomery County, MD. Thought to have originated in NC. Pedigree - Labrusca X aestivalis reported by Lonis Ravaz and Millardet Labrusca X vinifera reported by T.V. Munson and U.P. Hedrick. Berries round, large, black, pulpy and foxy. Cluster medium conical winged, compact, sensitive to downy mildew and phylloxera. Vigorous vine. Occasional downy mildew. Good storage quality.
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 588071. Vitis hybrid**

The following were developed by Finger Lakes Wine Growers, Aubenas, Ardeche, France. 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 588072. Vitis hybrid**

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 588073. Vitis hybrid**
McCampbell. Pedigree - Fredonia Bud Sport received by NYSAES, Geneva, NY in 1950. Berries: large and blue. Very large clusters, 3-4 times as large as Fredonia, otherwise identical; maximum of 1200 flowers as compared to maximum of 200 on inflorescence of Fredonia.

**PI 588074. Vitis hybrid**

**PI 588075. Vitis hybrid**

The following were developed by R.D. Anthony, 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 588076. Vitis hybrid**
Seneca. Pedigree - Lignan Blanc X Ontario. Fruit: cluster size medium, loose, tapering, medium compact; berry size small to medium; oval; skin thin, tender, yellow-ish-green becoming a translucent golden; flesh greenish, translucent, firm, tender, juicy, very sweet, melting; flavor rich; aromatic; quality very good to best; ripens early to mid-season, with Ontario, shortly after Perle de Csaba; almost vinifera type; hang well on vine until end of season. Vine: vigorous, productive, hardy, canes long, flower upright.

The following were collected by Ephraim W. Bull. Developed by Ephraim W. Bull. 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.

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PI 588077. *Vitis hybrid*
Concord. Collected in Massachusetts, United States. Ephraim W. Bull planted seeds of a wild grape fall 1843 in Concord, MA. Plants 1st. fruit in 1849. One was called Concord. Pedigree - Seedling of wild *V. labrusca*. Possibly some *V. vinifera*. Berries round, blue, large, pulpy, foxy and slip skin. Cluster medium sometimes winged. Vigorous vine, productive, susceptible to Black rot and Dead Arm. Cluster medium sometimes winged. Vigorous vine, productive. Susceptible to Black rot and Dead Arm.

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 588078. *Vitis hybrid*

The following were developed by John Einset; W.B. Robinson. 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 588079. *Vitis hybrid*
Cayuga White. Pedigree - Seyval X Schuyler Crossed in 1945. Selected 1952. Cluster medium-large, medium compact, long and slightly tapering. Berry medium-large, roundish to ellipsoidal; skin white, resistant to cracking; flesh meaty, somewhat astrin- gent; ripens Sept. 24-29 (Concord season) with soluble solids from 17.0 - 19.0; recommended for a quality dry white wine resembling White Riesling. Vine: vigorous; highly productive flower perfect with upright stamens.

The following were developed by Richard Wellington. 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 588080. *Vitis hybrid*

The following were developed by R.C. Moore. 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 588081. *Vitis hybrid*
compact, cylindrical to tapering, often shouldered; berry size medium; skin blue-black, heavy waxy bloom; slipskin medium thick and medium tough, not subject to cracking; flesh sweet, moderately foxy, compares in flavor to Worden or Concord, quality good; ripens a few days after Fredonia of about 2 1/2 weeks before Concord; ripens uniformly. Vine: vigorous med.; cane internodes short giving a compact or bushy growth; productive; hardy; tolerance to ...

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 588082. Vitis hybrid**

**PI 588083. Vitis hybrid**

The following were developed by Millardet. 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 588084. Vitis hybrid**

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 588085. Vitis hybrid**

The following were developed by L.G. Denby, Canada Department of Agriculture, Summerland Research Station, Pomology Department, Summerland, British Columbia, 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 588086. Vitis hybrid**

The following were developed by George Couderc. 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 588087. *Vitis hybrid*

PI 588088. *Vitis hybrid*

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 588089. *Vitis hybrid*
Lady Patricia. Pedigree - Seibel 14664 X Seyve Villard 20-365 Crossed in 1951. Selected in 1956. Cluster large, loose, long-tapering, compound, long peduncle berry large; very elongate, pointed, "lady finger" shape; flesh tender, sweet, slightly astringent, firm; skin golden yellow at maturity, attractive, thin but tough, adheres to flesh, no cracking, ripens approx. mid-Sept. Vine: vigorous, very productive, overbearing should be prevented by cluster thinning and pruning; bud burst after winter dormancy late; tolerant to downy mildew; moderately winter hardy.

The following were developed by N.E. Hansen, Agricultural College of South Dakota, Brookings, South Dakota, 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 588090. *Vitis hybrid*

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 588091. *Vitis hybrid*
Cosmo 10. Small. Late maturity. Green berries.

The following were developed by V. Ganzin. 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 588092. *Vitis hybrid*
A X R (Ganzin #1). Pedigree - Aramon (vinifera) X *V.* rupestris Ganzin No.1. Male - rootstock. Insufficient phylloxera resistance, heavy leaf galls. Some lime resistance. Mother vines susceptible to downy mildew. Often used in crosses by Seibel, Castel, etc. Roots and grafts well.
Vine is vigorous.

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 588093. Vitis hybrid**

Vinired. Collected in Ontario, Canada. Pedigree - Brocton X Self Crossed in 1929. Fruit: cluster large to very large, medium compactness; berry slightly larger than Catawba; skin tender, an attractive red when well matured; ripens shortly before Catawba, requiring a lengthy growing season to produce best quality; flesh with a pleasant vinous flavor, slightly higher sugar and lower acid content than Catawba; a promising dessert type; probably wine use, for blending as it produces a large amount of juice with a neutral flavor; Vine, vigorous, productive.

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 588094. Vitis hybrid**


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 588095. Vitis hybrid**

Himrod. Pedigree - Ontario X Sultanina Crossed in 1928. Selected 1935. Fruit: cluster large, very long, poorly filled; berry small, oval, greenish-yellow, translucent; small soft seeds; flesh tender, juicy, melting, vinous flavored, quality good; season early, 1 week before Fredonia; resembles Interlaken Seedless. Vine: vigorous; low productivity, winter 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 588096. Vitis hybrid**

Canadice. Pedigree - Bath X Himrod Crossed in 1954. Selected in 1962. Fruit: med.; borne on compact, large clusters; ripens early, usually fully mature at Geneva by Sept.1; flavor is labrusca comparable to Delaware; slip-skin, tender and edible; stores well; tolerant of post harvest fumigation with SO2. Vines: strong growing; resistant to phylloxera; winter hardy enduring temp. to -29C; a seedless cultivar adapted to northeast North America; not immune to downy or powdery mildew and black rot, but resistance is high enough that a spray pro...
PI 588097. *Vitis hybrid*

Couderc 3309. Collected in France. Seeds planted in 1881 in row 33 of nursery where he had deliberately raised soil lime content. All showed symptoms of... Pedigree - *V. riparia tomentose* × *V. rupestris 'Martin'*. Male rootstock but may set fruit on vigorous vine. Vigorous in deep fresh soils. Adopted to Eastern USA. Excellent phylloxera resistance, medium lime tolerance. Intolerant of drought or poorly drained soils. Roots and grafts well. Some compatibility problems with *vinifera* and HDP varieties.

The following were developed by G.D. Oberle; R.C. Moore. 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 588098. *Vitis hybrid*

Monticello. Pedigree - USDA 4606-5 (*Fredonia* × *Niagara*) × VPI 5-32 (*Fredonia* × *Athens*) Crossed in 1959. Selected in 1964. Cluster above average in size; long cylindrical to tapering; single or double shouldered. Berry medium to small; spherical; skin blue black, heavy, waxy bloom, uniform ripening, moderately thick; flesh moderately stringy, separates readily from seeds, flavor sweet, spicy, more fruity than foxy, quality very good; resembles Steuben; ripens 5 days after *Fredonia*, 2 weeks before Concord. Vine: moderately vigorous; productive; tolerant to black rot, mildew, anthracnose with.

The following were developed by Richard Wellington. 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 588099. *Vitis hybrid*

Schuyler. Pedigree - *Zinfandel* × *Ontario* Selected in 1932. Fruit: cluster size medium, long, shouldered, well-filled; berry has much of the flavor and flesh characteristics of *vinifera*; berry juicy, soft; skin blue-black, tough, astringent; ripens in midseason; resembles *Zinfandel* more than it does *Ontario*. Vine: appears to be sufficiently hardy and disease resistant to be adapted to the climate of eastern United States; vigor moderate; productive.

The following were developed by Albert Seibel, Finger Lakes Wine Growers, Aubenas, Ardeche, France. 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 588100. *Vitis hybrid*


The following were donated by Bruce I. Reisch, Cornell University, New York
PI 588101. *Vitis hybrid*

The following were developed by Richard Wellington. 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 588102. *Vitis hybrid*

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 588103. *Vitis hybrid*
Sori. Small, blue berries. Small compact clusters.

The following were developed by Maleque. 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 588104. *Vitis hybrid*

The following were developed by R.C. Moore. 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 588105. *Vitis hybrid*
Price. Pedigree - VPI 4 (Hector X Seibel 13035) X VPI 5-7 (Fredonia X Athens) Crossed in 1959. Selected in 1964. Cluster size medium, well-filled. Berry medium; spherical; skin blue black, heavy waxy bloom, uniform coloring; flesh firm, somewhat stringy, slightly acid near seeds, labrusca in texture and flavor, sweet, moderately foxy, quality comparable to Worden or Concord; ripens early with Van Buren or 4 weeks before Concord. Vine: moderately vigorous and productive; tolerant to black rot and powdery mildew.

The following were developed by C.L. Hoag; B.W. Clark. 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 588106. Vitis hybrid

The following were developed by Eugene Kuhlman. 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 588107. Vitis hybrid

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 588108. Vitis hybrid
Vincent. Collected in Ontario, Canada. Pedigree - V 370628 (Lomanto X Seneca) X Chelois (Seibel 10878) Selected in 1958. Fruit: cluster medium to large, compact to very compact; berry size medium; skin dark blue to black; juice very dark; wine var.; ripens during Concord season. Vine: vigorous; productive. Moderately winter hardy.

The following were developed by A.J. Caywood. 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 588109. Vitis hybrid

The following were developed by H. Ives. 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 588110. Vitis hybrid

The following were developed by R.D. Anthony, 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 588111. Vitis hybrid
Golden Muscat. Pedigree - Muscat Hamburg X Diamond Crossed in 1915. Fruit: cluster large, tapering, compact; berry large, oval; flesh juicy,
soft, sweet, aromatic; resembles Diamond in golden color; some aroma of European Muscat, subject to cluster spoilage; ripens 2 weeks later than Concord; for home use. Vine: vigorous; productive, not as hardy as Concord.

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 588112. Vitis hybrid

The following were developed by Richard Wellington; G.D. Oberle. 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 588113. Vitis hybrid
Steuben. Pedigree - Wayne X Sheridan Selected in 1937. Fruit: cluster size medium, cylindrical, compact, resembles Sheridan; berry resembles Wayne, size medium; skin bluish-black, slightly tough; flesh with higher sugar content, aromatic flavor of Ruelman; good keeping quality; ripens in Concord season. Vine: very productive, hardy, vigorous, tolerant to downy mildew and black rot. Makes and aromatic white wine of American type.

The following were developed by Richard Wellington. 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 588114. Vitis hybrid
Yates. Pedigree - Mills X Ontario Crossed in 1923. Selected in 1928. Fruit: cluster size medium, conical compact; berry spherical to 19 mm in diam.; slipskin, pulp mealy; skin dark red, very tough, adherence good; excellent keeping quality; ripens late, 1 week after Concord. Vine: vigorous, hardy, productive.

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 588115. Vitis hybrid

PI 588116. Vitis hybrid

The following were developed by A.W. Pearson. Donated by Bruce I. Reisch, 272
PI 588117. Vitis hybrid

The following were developed by George Couderc. 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 588118. Vitis hybrid

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 588119. Vitis hybrid
Cosmo 2. Small, blue berries.

The following were developed by J. Moore, 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 588120. Vitis hybrid

The following were developed by Joe Weinberger, 4901 Buena Vista Road, Ione, California 95640, United States; F.N. Harmon. 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 588121. Vitis hybrid
Harmony. Pedigree - Sdlg.No.39(Couderc 1613 o.p.) X Sdlg.No.5 (Dog Ridge o.p) Cross made in 1955. Tested as US 16-154. Female rootstock. Small blue berries. Vine: more vigorous than Couderc 1613, but less so than Dog Ridge or Salt Creek; greater resistance to phylloxera and rootknot nematode than Couderc 1613. Thompson Seedless tends to overbear on this stock, Emperor has been vigorous and productive. Propagates readily from cuttings and bench grafts. Recommended as a rootstock for Thompson Seedless for wine or raisin production in soils where nematode or phylloxera are a problem.
The following were developed by G.S. Jasselyn, 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 588122. Vitis hybrid

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 588123. Vitis sp.

The following were developed by Richard Wellington. 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 588124. Vitis hybrid
Keuka. Pedigree - Chasselas Rose X Mills Crossed in 1913. Selected in 1919. Fruit: cluster medium sized, compact; berry dark red; flesh crisp and hardly slip-skin; vinifera type flavor; ripens about 1 week before Catawba; resembles Delaware in appearance. Moderate winter hardiness.

The following were developed by T.V. Munson. 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 588125. Vitis hybrid
Wine King. Pedigree - Winona X America. Hermaphrodite. Very vigorous, prolific, healthy; stamens erect; cluster large, compact; berry medium, black with blue bloom; very little pulp, tender, very juicy, vinous, rich and sprightly; good. Good disease resistance.

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 588126. Vitis hybrid
Bronx Seedless. Pedigree - NY 8536 (Goff X Iona) X Sultanina Crossed made in 1925. Selected in 1931. Named in 1937. Fruit: cluster large, long conical, loose; berry small, oval red, with soft rudimentary seeds; flesh juicy, mild, soft, quality good; cracks easily during wet weather; ripens 1 week before Concord. Vine: fairly hardy, productive, vigorous; susceptible to anthracnose and downy mildew, cluster spoilage. Recommended where cracking is not prevalent.

The following were developed by Herb C. Barrett, USDA, ARS, US Horticultural Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States.
PI 588127. *Vitis* hybrid

The following were developed by W.E. Greene. 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 588128. *Vitis* hybrid

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 588129. *Vitis* hybrid
USDA 4801. Large red berries.

The following were developed by J.M. Clough, Vermont, 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 588130. *Vitis* hybrid

The following were developed by NYS Agricultural Expt. Sta., 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 588131. *Vitis* hybrid
Westfield. Pedigree - Herbert X Concord Seedless. Fruit: cluster 100-300 gm, cylindrical, compact; labrusca type; skin blue, pigment content high, considered valuable for use in blending in the making of wines and unfermented juices; season with Concord. Vine: hardy; moderately productive.

The following were developed by MO State Fruit Exp. Sta., Mountain Grove, Missouri, 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 588132. *Vitis* hybrid
Blue Eye. Pedigree - Ellen Scott X American Selected in 1947. Tested as G-794. Fruit: cluster compact, larger than Concord; berry large, round; skin black, tough; flesh sweet, firm; handles and keeps well; ripens about 10 days after Concord; berry larger than Concord; produces an attractive red juice. Vine: vigorous; flowers fertile.
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 588133. Vitis vulpina L.


PI 588134. Vitis cinerea (Engelm.) Engelm. ex Millardet


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 588135. Vitis hybrid


PI 588136. Vitis hybrid


The following were developed by University of Illinois, Urbana, Illinois, 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 588137. Vitis hybrid


The following were donated by N.E. Hansen, Agricultural College of South Dakota, Brookings, South Dakota, 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 588138. Vitis labrusca L.

Male.

PI 588139. Vitis hybrid

PI 588140. *Vitis hybrid*

Sonoma. Pedigree - Lady X V. riparia from Bismarck, North Dakota. Female. White to pinkish, 1.6 cm diameter berry. Seeds separate, sweet, slightly wild but good - very productive. Medium size loose cluster. Vigorous vine. Loose cluster.

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.

Female. Blooms very early. Small blue berries.

PI 588142. *Vitis vulpina* L.


The following were donated 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 588143. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

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 588144. *Vitis sp.*
Pedigree - hybrid between V. riparia, V. rupestris, V. candicans. Female. Small, blue berries.

PI 588145. *Vitis aestivalis var. argentifolia* (Munson) Fern.


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 588146. *Vitis rupestris* Scheele

PI 588147. *Vitis rupestris* Scheele
bloom. Weak vine. Downy mildew resistance.

The following were developed by L. Suelter. 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 588148. *Vitis hybrid*

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 588149. *Vitis x doaniana* Munson ex Viala
Pedigree - Related to *V. candicans* or hybrid with *V. vulpina*. Female. Blooms very early. Small blue berry. Small loose cluster.

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 588150. *Vitis hybrid*

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 588151. *Vitis hybrid*

PI 588152. *Vitis sp.*

The following were developed by University of Illinois, Urbana, Illinois, 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 588153. *Vitis hybrid*

found. Used extensively in breeding. Very late bloom. Excellent disease
resistance.

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 588155. Vitis sp.
Ru-66-10. Collected in Illinois, United States. Hamilton County,
Very late bloom.

The following were developed by J. Moore, 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 588156. Vitis hybrid
Moore Early. Pedigree - Concord x Unknown. Early Concord type.
Berries medium-larger, round, dark purplish-black. Clusters average,
cylindrical, loose. Vine medium vigor, poor production. Ripens 2-3 weeks
before Concord.

The following were developed by S. Miller, Bluffton, Missouri, 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 588157. Vitis hybrid
Triumph. Pedigree - Concord x Chasselas Musque. Used by Munson in
breeding. Berries medium-large, oval, pale green-yellow, glossy, skin
thin and cracks. Clusters large-medium, long, conical, single
shouldered, compact. Vine vigorous, medium productivity. Marginally
hardy.

The following were developed by NYS Agricultural Experiment Sta., 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 588158. Vitis hybrid
Athens. Pedigree - Hubbard x Portland Cross made in 1925. Selected in
1932. Named in 1938. Cluster larger than Concord, to 300 gm, conical
with large shoulders, loose; berry medium, ellipsoidal; skin reddish-
black, cracks easily; fair adherence; flavor foxy; ripens 3 weeks
earlier than Concord; does not hold or ship well. Vine: vigorous; bears
heavy crops, often only in alternate years; labrusca type.

The following were developed by T.V. Munson. 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 588159. Vitis hybrid
Captivator. Pedigree - Herbert x Meladel (Delago x Brilliant).
Berries large to very large, round, translucent red, excellent quality.
Hermaphrodite. Early maturity. Very attractive. Clusters large,
cylindrical, shouldered, moderately compact.

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 588160. *Vitis rupestris* Scheele

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 588161. *Vitis hybrid*

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 588162. *Vitis hybrid*

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 588163. *Vitis hybrid*
   Urbana. Pedigree - Governor Ross X Mills Crossed in 1899. Fruit: skin red; flesh crisp, quality good; keeps well; matures late; resembles Catawba. Cluster; medium size, medium compact. Vine: subject to mildew.

The following were developed by J.A. Place, Oswego, 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 588164. *Vitis hybrid*

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 588165. *Vitis labrusca* L.

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 588166. Vitis hybrid

The following were developed by Konstantin Frank. 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 588167. Vitis riparia Michaux

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 588168. Vitis hybrid

PI 588169. Vitis hybrid

PI 588170. Vitis hybrid

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 588171. Vitis hybrid
   Sheridan. Pedigree - Herbert X Worden Crossed in 1903. Fruit: cluster compact, large; berries large, round, with good quality; skin black, tough; stores exceptionally well; matures late, about 1 week after Concord. Vine: hardy; fairly productive; vigor moderate.

The following were developed by T.V. Munson. 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 588172. Vitis hybrid

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 588173. Vitis labrusca L.
GBC 2.

PI 588174. Vitis rupestris Scheele Pillans.

PI 588175. Vitis hybrid
Ill 547-X (probably 547-3).

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 588176. Vitis hybrid
Seibel 10868. Collected in France.

PI 588177. Vitis hybrid
Rkatsiteli.

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 588178. Vitis hybrid
Ill 873-1.

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 588179. Vitis hybrid
Seibel 5455. Collected in France.

PI 588180. Vitis hybrid
Millardet et DeGrasset. Collected in France.

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 588181. Vitis rupestris Scheele
R-66-3.

PI 588182. Vitis aestivalis var. argentifolia (Munson) Fern.
GBC 17.

PI 588183. Vitis hybrid
Remailly 64-68-1.

PI 588184. Vitis hybrid
Oconee.

PI 588185. Vitis vulpina L.
B 15.

PI 588186. Vitis cinerea (Engelm.) Engelm. ex Millardet
Ill 58.

PI 588187. Vitis hybrid
Ill 880-2.

PI 588188. Vitis rupestris Scheele

PI 588189. Vitis hybrid
Remairy 64-68-4.

PI 588190. Vitis riparia Michaux
Pulliat.

PI 588191. Vitis hybrid
Ill 547-3.

PI 588192. Vitis hybrid
Ill 559-2.

PI 588193. Vitis hybrid
Iona.

PI 588194. Vitis labrusca L.
Dunkel #1.

PI 588195. Vitis hybrid
Campbell.

PI 588196. Vitis hybrid
Mills. Collected in Ontario, Canada.

PI 588197. Vitis cinerea (Engelm.) Engelm. ex Millardet
Ill 49.

PI 588198. Vitis cinerea (Engelm.) Engelm. ex Millardet
Ill 46.

PI 588199. Vitis cinerea (Engelm.) Engelm. ex Millardet
C-66-14.

PI 588200. Vitis hybrid
Ill 55.

PI 588201. Vitis sp.

PI 588202. Vitis hybrid
Ill 473-1.

PI 588203. Vitis hybrid
Ellen Scott.

PI 588204. Vitis riparia Michaux

PI 588205. Vitis cinerea var. helleri (L. Bailey) M. Moore
PI 588206. Vitis hybrid
Ill 559-1.

PI 588207. Vitis hybrid
Isabella.

PI 588208. Vitis cinerea (Engelm.) Engelm. ex Millardet
Ill 65.

PI 588209. Vitis hybrid
Ill 559-5.

PI 588210. Vitis cinerea var. helleri (L. Bailey) M. Moore
B 65-7.

PI 588211. Vitis hybrid
Agawam.

PI 588212. Vitis hybrid
Azita.

PI 588213. Vitis hybrid
Couderc 3306. Collected in France.

PI 588214. Vitis riparia Michaux
Gloire.

PI 588215. Vitis hybrid
Richter 110.

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 588216. Vitis cinerea var. helleri (L. Bailey) M. Moore
Resseguier no.2.

PI 588217. Vitis cinerea (Engelm.) Engelm. ex Millardet
B 27.

PI 588218. Vitis cinerea (Engelm.) Engelm. ex Millardet
B 47.

PI 588219. Vitis cinerea (Engelm.) Engelm. ex Millardet
B 49.

PI 588220. Vitis cinerea (Engelm.) Engelm. ex Millardet
B 55.

PI 588221. Vitis cinerea (Engelm.) Engelm. ex Millardet
B 58.

PI 588222. Vitis cinerea (Engelm.) Engelm. ex Millardet
C-66-7.

PI 588223. Vitis rupestris Scheele
R-65-43.

PI 588224. Vitis rupestris Scheele
R-65-44.

PI 588225. Vitis rupestris Scheele
R-65-47.
 PI 588226. *Vitis rupestris* Scheele
 R-66-4.
 PI 588227. *Vitis rupestris* Scheele
 R-66-12.
 PI 588228. *Vitis rupestris* Scheele
 PI 588229. *Vitis rupestris* Scheele
 PI 588230. *Vitis rupestris* Scheele
 PI 588231. *Vitis rupestris* Scheele
 Alphonse de Serres.
 PI 588232. *Vitis rupestris* Scheele
 Ganzin.
 PI 588233. *Vitis sp.*
 Cache 8.
 PI 588234. *Vitis hybrid*
 Jaeger 70.
 PI 588235. *Vitis hybrid*
 Sweet Blue.
 PI 588236. *Vitis vinifera* L.
 B7-7 (Thompson mutant).

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 588237. *Vitis hybrid*
 Seibel 128. Collected in France.
 PI 588238. *Vitis hybrid*
 Seibel 4995. Collected in France.
 PI 588239. *Vitis hybrid*
 PI 588240. *Vitis hybrid*
 Seibel 2653. Collected in France.
 PI 588241. *Vitis hybrid*
 Couderc 299-35. Collected in France.
 PI 588242. *Vitis hybrid*
 Couderc 13. Collected in France.
 PI 588243. *Vitis hybrid*
 Galibert 1286. Collected in France.
 PI 588244. *Vitis hybrid*
 Bertille Seyve 2667. Collected in France.
PI 588245. Vitis hybrid
    Seibel 13047. Collected in France.

PI 588246. Vitis hybrid
    Seyve Villard 14-287. Collected in France.

PI 588247. Vitis hybrid
    Ravat 34. Collected in France.

PI 588248. Vitis hybrid
    Couderc 28-112. Collected in France.

PI 588249. Vitis hybrid
    Rudelin 6-96. Collected in France.

PI 588250. Vitis hybrid
    Rudelin 60. Collected in France.

PI 588251. Vitis hybrid
    Rudelin 15. Collected in France.

PI 588252. Vitis hybrid
    Ravat 262. Collected in France.

PI 588253. Vitis hybrid
    Burdin 7575. Collected in France.

PI 588254. Vitis hybrid
    Joffre.

The following were donated by James Luby, University of Minnesota, Department of Horticultural Sciences, 254 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 01/12/1987.

PI 588255. Vitis hybrid
    Mandan.

PI 588256. Vitis hybrid
    Suelter.

PI 588257. Vitis x novae-angliae Fern.

PI 588258. Vitis riparia Michaux
    No.14.

PI 588259. Vitis riparia Michaux
    No.37. Collected in Manitoba, Canada.

PI 588260. Vitis riparia Michaux
    No.64. Collected in Manitoba, Canada.

PI 588261. Vitis riparia Michaux
    No.74.

PI 588262. Vitis riparia Michaux
    No.89.

The following were donated by R.M. Peterson, South Dakota State University, Dept. of Horticulture, Brookings, South Dakota 57006, United States. Received 01/14/1987.
PI 588263. Vitis hybrid
Chontay.

PI 588264. Vitis hybrid
Atkan.

PI 588265. Vitis hybrid
Toscha.

PI 588266. Vitis hybrid
Valiant.

PI 588267. Vitis hybrid
Wecota.

PI 588268. Vitis hybrid
Wachepa.

PI 588269. Vitis riparia Michaux
62-8-160.

PI 588270. Vitis riparia Michaux
62-9-44.

PI 588271. Vitis riparia Michaux
HP-1.

PI 588272. Vitis riparia Michaux

PI 588273. Vitis riparia Michaux
62-7-2.

PI 588274. Vitis riparia Michaux
62-11-42.

PI 588275. Vitis riparia Michaux
HP-2.

PI 588276. Vitis riparia Michaux
62-8-138.

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 588277. Vitis hybrid
Jersey Muscat.

PI 588278. Vitis hybrid
Hercules.

PI 588279. Vitis hybrid
Goethe.

PI 588280. Vitis hybrid
Eidelweiss.

PI 588281. Vitis hybrid
Swenson Red.

PI 588282. Vitis vulpina L.
PI 588283. Vitis hybrid
   Lucille.

PI 588284. Vitis hybrid
   Couderc 17. Collected in France.

PI 588285. Vitis hybrid
   Missouri Reisling.

PI 588286. Vitis hybrid
   Remaily Seedless.

PI 588287. Vitis hybrid
   Festivee. Collected in Ontario, Canada.

PI 588288. Vitis hybrid
   Vanessa Seedless. Collected in Ontario, Canada.

PI 588289. Vitis hybrid
   Ravat 578. Collected in France.

PI 588290. Vitis hybrid
   Rosette. Collected in France.

PI 588291. Vitis hybrid
   Seyve Villard 18-315. Collected in France.

PI 588292. Vitis hybrid
   Burdin 7360. Collected in France.

PI 588293. Vitis hybrid

PI 588294. Vitis hybrid
   Rudelin 17-5. Collected in France.

PI 588295. Vitis hybrid
   Ill 281-1.

PI 588296. Vitis hybrid
   Red Amber.

PI 588297. Vitis hybrid
   Bacchus.

PI 588298. Vitis hybrid
   Elvira.

PI 588299. Vitis hybrid
   Eaton.

PI 588300. Vitis hybrid
   Seibel 6905. Collected in France.

PI 588301. Vitis hybrid
   Caco.

PI 588302. Vitis hybrid
   Manito.

PI 588303. Vitis hybrid
   Clinton.
PI 588304. Vitis riparia Michaux

PI 588305. Vitis hybrid
   Ruby.

PI 588306. Vitis hybrid
   Aminia.

PI 588307. Vitis labrusca L.
   Champagne.

PI 588308. Vitis hybrid
   G 1245.

PI 588309. Vitis hybrid
   Seyval Blanc. Collected in France.

PI 588310. Vitis hybrid
   Othello. Collected in Ontario, Canada.

PI 588311. Vitis hybrid
   Seyve Villard 12-354. Collected in France.

PI 588312. Vitis hybrid
   Delicatessen.

PI 588313. Vitis hybrid
   Carman.

PI 588314. Vitis hybrid
   Seibel 880. Collected in France.

PI 588315. Vitis hybrid
   Noah.

PI 588316. Vitis hybrid

PI 588317. Vitis hybrid
   Gaillard No. 2. Collected in France.

PI 588318. Vitis hybrid
   Xenia.

PI 588319. Vitis hybrid
   Diana.

PI 588320. Vitis hybrid
   Henryetta.

PI 588321. Vitis hybrid
   Early Daisy.

PI 588322. Vitis hybrid
   Green Mountain.

PI 588323. Vitis hybrid
   Headlight.

PI 588324. Vitis acerifolia Raf.

PI 588325. Vitis sp.
PI 588326. Vitis hybrid
Baroque.

PI 588327. Vitis hybrid
Ill 547-1.

PI 588328. Vitis cinerea (Engelm.) Engelm. ex Millardet
Ill 66.

PI 588329. Vitis cinerea (Engelm.) Engelm. ex Millardet
Ill 24.

PI 588330. Vitis rupestris Scheele
R-67-3.

PI 588331. Vitis rupestris Scheele
St. George. Collected in France.

PI 588332. Vitis hybrid
Remaill 66-54-2. Collected in France.

PI 588333. Vitis rupestris Scheele
R-67-2.

PI 588334. Vitis hybrid
Remaill 66-54-3. Collected in France.

PI 588335. Vitis hybrid

PI 588336. Vitis hybrid
Millardet 219A. Collected in France.

PI 588337. Vitis hybrid
Remaill 66-54-5. Collected in France.

PI 588338. Vitis hybrid
Remaill 6-54-4. Collected in France.

PI 588339. Vitis hybrid
Remaill 66-54-6. Collected in France.

PI 588340. Vitis hybrid

PI 588341. Vitis hybrid
Millardet 125-1. Collected in France.

PI 588342. Vitis hybrid
Ill 547-2.

PI 588343. Vitis hybrid
Castel 18-15.

PI 588344. Vitis riparia Michaux
RA-66-3.

PI 588345. Vitis riparia Michaux
Quebec. Collected in Ontario, Canada.

PI 588346. Vitis riparia Michaux
RA-66-12.
PI 588347. *Vitis riparia* Michaux
   B 50.

PI 588348. *Vitis hybrid*
   I11 878-2.

PI 588349. *Vitis riparia* Michaux
   RA-66-10.

PI 588350. *Vitis riparia* Michaux
   RA-66-5.

PI 588351. *Vitis hybrid*
   Remaily 63-35-2.

PI 588352. *Vitis cinerea* (Engelm.) Engelm. ex Millardet
   C-66-6.

PI 588353. *Vitis riparia* Michaux
   RA-66-7.

PI 588354. *Vitis riparia* Michaux
   B 75.

PI 588355. *Vitis rupestris* Scheele
   R-66-2.

PI 588356. *Vitis vulpina* L.

PI 588357. *Vitis hybrid*
   Bicane.

PI 588358. *Vitis hybrid*
   I11 191-1.

PI 588359. *Vitis hybrid*
   I11 251-1.

PI 588360. *Vitis hybrid*
   I11 815A-2.

PI 588361. *Vitis hybrid*
   Bailey Alicante.

PI 588362. *Vitis hybrid*
   I11 199-6.

PI 588363. *Vitis hybrid*
   I11 892-1.

PI 588364. *Vitis hybrid*
   I11 762-1.

PI 588365. *Vitis hybrid*
   I11 204-2.

PI 588366. *Vitis hybrid*
   Tajoznyt Izumrud.

PI 588367. *Vitis hybrid*
   I11 14-1.
PI 588368. Vitis hybrid
   Ill 172-1.

PI 588369. Vitis riparia Michaux
   Dyson.

PI 588370. Vitis hybrid
   Freedom.

PI 588371. Vitis sp.

The following were donated by Herb C. Barrett, USDA, ARS, US Horticultural
Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States.
Received 02/26/1987.

PI 588372. Vitis cinerea (Engelm.) Engelm. ex Millardet
   Ill 194-1.

PI 588373. Vitis riparia Michaux
   RA-66-6.

PI 588374. Vitis riparia Michaux
   RA-66-11.

The following were donated by USDA, ARS, University of California, National
Germplasm Repository, Davis, California 95616, United States. Received
03/18/1987.

PI 588375. Vitis hybrid
   Richter 57.

PI 588376. Vitis hybrid
   Buffalo.

PI 588377. Vitis hybrid
   Ortega.

PI 588378. Vitis sp.

PI 588379. Vitis hybrid
   Teleki 5C.

PI 588380. Vitis sp.
   Barnes.

PI 588381. Vitis hybrid
   Teleki 8B. Collected in Hungary.

PI 588382. Vitis amurensis Rupr.

PI 588383. Vitis hybrid
   Lakemont.

PI 588384. Vitis hybrid

PI 588385. Vitis amurensis Rupr.
PI 588386. Vitis hybrid
Van Buren.

PI 588387. Vitis hybrid

PI 588388. Vitis hybrid

PI 588389. Vitis hybrid

PI 588390. Vitis hybrid

PI 588391. Vitis sp.

PI 588392. Vitis x andersonii Rehder

PI 588393. Vitis acerifolia Raf.

PI 588394. Vitis hybrid

PI 588395. Vitis rupestris Scheele

PI 588396. Vitis hybrid

PI 588397. Vitis hybrid

PI 588398. Vitis cinerea (Engelm.) Engelm. ex Millardet
Barrett no.1.

PI 588399. Vitis amurensis Rupr.
150-44.

PI 588400. Vitis riparia Michaux

PI 588401. Vitis sp.
RU-66-2.

PI 588402. Vitis hybrid
Elvicand.

PI 588403. Vitis hybrid
Seibel 5760. Collected in France.

PI 588404. Vitis riparia Michaux
Witchita.

PI 588405. Vitis hybrid

PI 588406. Vitis riparia Michaux
Meissner 13.

PI 588407. Vitis hybrid
The following were donated by Austin C. Goheen, USDA, ARS, University of California, Department of Plant Pathology, Davis, California 95616, United States. Received 03/24/1987.

PI 588420. Vitis amurensis Rupr.
Collected in China.

PI 588421. Vitis sp.
Collected in China.

PI 588422. Vitis sp.
Collected in China.

PI 588423. Vitis thunbergii Siebold & Zucc.
Collected in China.

The following were donated by Lon Rombough, 13113 Ehlen Road, Aurora, Oregon 97002, United States. Received 03/30/1987.

PI 588424. Vitis hybrid
Hidalgo.

PI 588425. Vitis hybrid
Morio Muscat.
PI 588426. Vitis hybrid
Halsey.

PI 588427. Vitis hybrid
Golden Drop.

PI 588428. Vitis hybrid
Greek Perfume. Collected in Greece.

PI 588429. Vitis hybrid
Lampheare.

PI 588430. Vitis hybrid
Wapanuka.

PI 588431. Vitis hybrid
Xlnta.

PI 588432. Vitis hybrid
Osbu.

PI 588433. Vitis hybrid
Long John.

PI 588434. Vitis hybrid
Liberty.

PI 588435. Vitis riparia Michaux
2F.

PI 588436. Vitis riparia Michaux

PI 588437. Vitis riparia Michaux
1F.

The following were donated by Timothy Dennehy, NYS Agricultural Experiment
Station, Plant Pathology, Barton Laboratory, Geneva, New York 14456-0462,
United States. Received 04/17/1987.

PI 588438. Vitis sp.

PI 588439. Vitis sp.

PI 588440. Vitis sp.

PI 588441. Vitis sp.

PI 588442. Vitis sp.

The following were donated by Barry Comeaux, Galveston College, 4015 Avenue
Q, Galveston, Texas 77550, United States. Received 05/1987.

PI 588443. Vitis cinerea var. helleri (L. Bailey) M. Moore
PI 588444. Vitis cinerea var. helleri (L. Bailey) M. Moore

PI 588445. Vitis cinerea var. helleri (L. Bailey) M. Moore

PI 588446. Vitis cinerea (Engelm.) Engelm. ex Millardet

PI 588447. Vitis cinerea (Engelm.) Engelm. ex Millardet

PI 588448. Vitis acerifolia Raf.

PI 588449. Vitis acerifolia Raf.

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 06/15/1987.

PI 588450. Vitis betulifolia Diels & Gilg ex Diels

PI 588451. Vitis coignetiae Pulliat ex Planchon

PI 588452. Vitis thunbergii Siebold & Zucc.

PI 588453. Vitis flexuosa Thunb.

PI 588454. Vitis monticola Buckley

The following were donated by Timothy Dennehy, NYS Agricultural Experiment Station, Plant Pathology, Barton Laboratory, Geneva, New York 14456-0462, United States. Received 08/18/1987.

PI 588455. Vitis sp.

PI 588456. Vitis sp.

PI 588457. Vitis sp.

PI 588458. Vitis sp.

PI 588459. Vitis sp.

PI 588460. Vitis sp.

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 588461. Vitis hybrid
Ill 770-1.

PI 588462. Vitis hybrid
B-4-139-19.

PI 588463. Vitis hybrid
Himrod 4X.

PI 588464. Vitis hybrid
NY 65.483.2.

PI 588465. Vitis piasezkii var. piasezkii Maxim.
Collected in China.

The following were donated by Herb C. Barrett, USDA, ARS, US Horticultural Research Laboratory, 2120 Camden Road, Orlando, Florida 32803, United States. Received 01/12/1988.

PI 588466. Vitis cinerea var. helleri (L. Bailey) M. Moore Mazade.

PI 588467. Vitis sp.
RU-66-8.

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 01/25/1988.

PI 588468. Vitis hybrid
Sovereign Tiara. Collected in British Columbia, Canada.

PI 588469. Vitis hybrid
Sovereign Charter.

PI 588470. Vitis hybrid
Sovereign Rose. Collected in British Columbia, Canada.

PI 588471. Vitis hybrid
Sovereign Noir.

PI 588472. Vitis hybrid
NY 66.804.1.

PI 588473. Vitis hybrid
Ill 760-3.

PI 588474. Vitis hybrid
NY 66.760.2.

PI 588475. Vitis hybrid
NY 66.773.1.

PI 588476. Vitis sp.
Remairy 25-77.

PI 588477. Vitis hybrid
NY 65.556.1.

PI 588478. Vitis hybrid
NY 65.585.1.
PI 588479. Vitis hybrid
Chausch.

PI 588480. Vitis hybrid
Ill 794-5.

PI 588481. Vitis hybrid
Ill 300-3.

PI 588482. Vitis hybrid
NY 65.589.1.

PI 588483. Vitis sp.
Remaily NE 21.

PI 588484. Vitis hybrid
NY 65.591.1.

PI 588485. Vitis hybrid
Westfield Original.

PI 588486. Vitis hybrid
Ill 788-1.

PI 588487. Vitis hybrid
Ill 794-3.

PI 588488. Vitis hybrid
NY 65.592.1.

PI 588489. Vitis hybrid
NY 65.550.8.

PI 588490. Vitis hybrid
NY 65.551.1.

PI 588491. Vitis hybrid
Geisenheim 1.

PI 588492. Vitis hybrid
Ill 928-1.

PI 588493. Vitis hybrid
NY 65.586.1.

PI 588494. Vitis hybrid
NY 66.791.1.

PI 588495. Vitis hybrid
NY 66.783.1.

PI 588496. Vitis hybrid
NY 66.792.1.

PI 588497. Vitis hybrid
NY 65.552.2.

PI 588498. Vitis hybrid
NY 66.778.1.

PI 588499. Vitis hybrid
NY 66.774.1.
PI 588500. Vitis hybrid
   NY 65.551.5.

PI 588501. Vitis sp.
   D-2.

PI 588502. Vitis hybrid
   NY 65.587.1.

PI 588503. Vitis hybrid
   NY 65.574.1.

PI 588504. Vitis hybrid
   NY 65.546.3.

PI 588505. Vitis hybrid
   NY 65.562.2.

PI 588506. Vitis hybrid
   NY 65.584.1.

PI 588507. Vitis hybrid
   Ill 39-1.

PI 588508. Vitis sp.
   Remaily 68-76.

PI 588509. Vitis hybrid
   NY 65.565.1.

PI 588510. Vitis riparia Michaux
   RA-66-8.

PI 588511. Vitis hybrid
   Chambaudiere 1391. Collected in France.

PI 588512. Vitis hybrid
   NY 66.794.1.

PI 588513. Vitis hybrid
   NY 65.562.3.

PI 588514. Vitis hybrid
   NY 65.563.1.

PI 588515. Vitis hybrid
   Pseudo Seneca.

PI 588516. Vitis hybrid
   Chambaudiere 1337. Collected in France.

PI 588517. Vitis hybrid
   Ill 487-1.

PI 588518. Vitis hybrid
   NY 65.547.1.

PI 588519. Vitis hybrid
   NY 65.575.1.

PI 588520. Vitis hybrid
   Excellente.
PI 588521. Vitis hybrid
   NY 65.548.3.
PI 588522. Vitis hybrid
   Ravat 6. Collected in France.
PI 588523. Vitis hybrid
   NY 66.793.1.
PI 588524. Vitis hybrid
   Ill 803-2.
PI 588525. Vitis hybrid
   Ill 760-2.
PI 588526. Vitis hybrid
   NY 65.550.4.
PI 588527. Vitis hybrid
   NY 65.004.1.
PI 588528. Vitis hybrid
   Damoth No. 1.
PI 588529. Vitis sp.
   Remaily NE 2.
PI 588530. Vitis hybrid
   NY 65.556.5.
PI 588531. Vitis hybrid
   Ill 547 X 5A.
PI 588532. Vitis hybrid
PI 588533. Vitis hybrid
   GBC 8.
PI 588534. Vitis hybrid
   NY 65.573.1.
PI 588535. Vitis hybrid
   NY 65.552.4.
PI 588536. Vitis hybrid
   NY 66.795.1.
PI 588537. Vitis hybrid
   NY 65.536.1.
PI 588538. Vitis hybrid
   Paoli.
PI 588539. Vitis hybrid
   Christmas B.
PI 588540. Vitis rupestris Scheele
   GBC 11.
PI 588541. Vitis hybrid
   Christmas A.
PI 588542. Vitis hybrid
Hybrid Blanc-Pouget (7489).

PI 588543. *Vitis hybrid*
Siegfried. Collected in Germany.

PI 588544. *Vitis hybrid*
Burdin 8753. Collected in France.

PI 588545. *Vitis hybrid*
NY 65.562.1.

PI 588546. *Vitis hybrid*
Ill 683-1.

PI 588547. *Vitis hybrid*
Madeline Sylvaner.

PI 588548. *Vitis hybrid*
NY 65.561.2.

PI 588549. *Vitis sp.*
Remailly 17-77.

The following were donated by Lon Rombough, 13113 Ehlen Road, Aurora, Oregon 97002, United States. Received 01/29/1988.

PI 588550. *Vitis hybrid*
Reinhohli.

The following were donated by Jack Dempsey, Grayson County College, T.V. Munson Viticulture & Enology Center, 6101 Grayson Drive, Denison, Texas, United States. Received 02/16/1988.

PI 588551. *Vitis hybrid*
Atoka.

PI 588552. *Vitis hybrid*
Fern Munson.

PI 588553. *Vitis hybrid*
Dr. Collier.

PI 588554. *Vitis hybrid*
Last Rose.

PI 588555. *Vitis hybrid*
Blue Lake.

PI 588556. *Vitis hybrid*
Mathilda.

PI 588557. *Vitis hybrid*
Rommel.

PI 588558. *Vitis hybrid*
R. W. Munson.

PI 588559. *Vitis hybrid*
Volney.

PI 588560. *Vitis hybrid*
Wetumka.
PI 588561. Vitis hybrid
Mericadel.

The following were donated by Elmer Swenson, Rt. 2, Osceola, Wisconsin 54020, United States. Received 02/19/1988.

PI 588562. Vitis riparia Michaux
Wisconsin No.2.

PI 588563. Vitis hybrid
Minn 78.

The following were donated by Lon Rombough, 13113 Ehlen Road, Aurora, Oregon 97002, United States. Received 02/22/1988.

PI 588564. Vitis riparia Michaux
John Viola.

PI 588565. Vitis riparia Michaux
Grem.

PI 588566. Vitis hybrid
Brandis.

PI 588567. Vitis hybrid
Extra.

PI 588568. Vitis riparia Michaux
Crosby rootstock.

The following were donated by Robert L. Wample, Washington State University, Irrigated Agriculture Research and Extension Center, Prosser, Washington 99350-0030, United States. Received 04/14/1988.

PI 588569. Vitis hybrid
Chindo Early Red. Collected in China.

The following were donated by USDA, ARS, University of California, National Germplasm Repository, Davis, California 95616, United States. Received 04/25/1988.

PI 588570. Vitis hybrid

The following were donated by Robert L. Wample, Washington State University, Irrigated Agriculture Research and Extension Center, Prosser, Washington 99350-0030, United States. Received 04/14/1988.

PI 588571. Vitis hybrid

The following were donated by USDA, ARS, University of California, National Germplasm Repository, Davis, California 95616, United States. Received 04/25/1988.

PI 588572. Vitis hybrid
PI 588573. *Vitis hybrid*  
D-1-30.

PI 588574. *Vitis rupestris* Scheele  
Wichita Refuge.

PI 588575. *Vitis cinerea* (Engelm.) Engelm. ex Millardet  
C-65-21.

PI 588576. *Vitis hybrid*  
Cottage.

PI 588577. *Vitis hybrid*  
Seibel 13047. Collected in France.

PI 588578. *Vitis hybrid*  
Pione.

PI 588579. *Vitis vinifera* L.  
Bailey Alicante A.

The following were donated by Mark P. Widrlechner, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011, United States. Received 04/25/1988.

PI 588580. *Vitis riparia* Michaux

PI 588581. *Vitis riparia* Michaux

PI 588582. *Vitis riparia* Michaux

The following were donated by Richard Grem, RD #2, Box 264, Terryville, Connecticut 06786, United States. Received 04/29/1988.

PI 588583. *Vitis labrusca* L.  
Grem-4.

PI 588584. *Vitis labrusca* L.  
Grem-5.

PI 588585. *Vitis labrusca* L.  
Wild-red-2.

The following were donated by Barry Comeaux, Galveston College, 4015 Avenue Q, Galveston, Texas 77550, United States. Received 06/09/1988.

PI 588586. *Vitis riparia* Michaux  
Collected in Ontario, Canada.

PI 588587. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

The following were donated by Elizabeth Dickson, NYS Agricultural Experiment Station, Horticultural Sciences, Hedrick Hall, Geneva, New York 14456-0462, United States. Received 09/22/1988.
PI 588588. *Vitis* sp.

PI 588589. *Vitis* sp.

PI 588590. *Vitis* sp.

PI 588591. *Vitis* sp.

The following were donated by Juergen Hansen, Agriculture Canada, Research Station, Summerland, British Columbia V0H 1Z0, Canada. Received 12/22/1988.

PI 588592. *Vitis* sp.
   Collected in Shandong, China.

PI 588593. *Vitis* hybrid
   Blue Grape. Collected in Shandong, China.

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 588594. *Vitis* hybrid
   BR 16.

PI 588595. *Vitis* hybrid
   BR 7.

PI 588596. *Vitis* hybrid
   BR 11.

PI 588597. *Vitis* hybrid
   BR 17.

PI 588598. *Vitis* hybrid
   BR 12.

PI 588599. *Vitis* hybrid
   BR 14.

PI 588600. *Vitis* hybrid
   BR 20.

PI 588601. *Vitis* hybrid
   BR 5.

PI 588602. *Vitis* hybrid
   BR 9.

PI 588603. *Vitis* hybrid
   BR 13.

PI 588604. *Vitis* hybrid
   BR 8.

PI 588605. *Vitis* hybrid
   BR 23.
PI 588606. Vitis hybrid
   BR 21.

PI 588607. Vitis hybrid
   BR 3.

PI 588608. Vitis hybrid
   BR 15.

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 588609. Vitis hybrid
   Beacon.

PI 588610. Vitis hybrid
   America.

PI 588611. Vitis hybrid
   Bailey.

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 588612. Vitis hybrid
   Ravat 263. Collected in France.

PI 588613. Vitis hybrid
   Worden C.

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 588614. Vitis hybrid
   Baco Noir. Collected in France.

The following were donated by Robert L. Wample, Washington State University,
   Irrigated Agriculture Research and, Extension Center, Prosser, Washington
   99350-0030, United States. Received 03/15/1989.

PI 588615. Vitis hybrid
   Bei Hong. Collected in China.

PI 588616. Vitis hybrid
   Bei Chun. Collected in China.

The following were donated by Byron T. Johnson, 7934 State Road, Cincinnati,
   Ohio 45255, United States. Received 03/20/1989.

PI 588617. Vitis hybrid
   Beaumont.

PI 588618. Vitis hybrid
   Beaufort.
PI 588619. Vitis hybrid
Kee-wah-din.

PI 588620. Vitis hybrid
Joyous.

The following were donated by USDA, ARS, University of California, National
Germplasm Repository, Davis, California 95616, United States. Received
03/22/1989.

PI 588621. Vitis hybrid
Seibel 5813. Collected in France.

PI 588622. Vitis hybrid
Kyoho. Collected in Japan.

PI 588623. Vitis hybrid
Taylor.

PI 588624. Vitis hybrid
Athens C.

PI 588625. Vitis cinerea var. helleri (L. Bailey) M. Moore
B 65-20.

PI 588626. Vitis aestivalis Michaux

PI 588627. Vitis monticola Buckley
No. 7623.

PI 588628. Vitis sp.
CH 65-2.

PI 588629. Vitis amurensis Rupr.

PI 588630. Vitis amurensis Rupr.

PI 588631. Vitis amurensis Rupr.

PI 588632. Vitis amurensis Rupr.

PI 588633. Vitis amurensis Rupr.

PI 588634. Vitis amurensis Rupr.

PI 588635. Vitis amurensis Rupr.

PI 588636. Vitis amurensis Rupr.

PI 588637. Vitis amurensis Rupr.

PI 588638. Vitis amurensis Rupr.


The following were donated by Richard Grem, RD #2, Box 264, Terryville, Connecticut 06786, United States. Received 04/10/1989.


PI 588647. *Vitis labrusca* L.

PI 588648. *Vitis labrusca* L.

The following were donated by Dennis Gonsalves, NYS Agricultural Experiment Station, Plant Pathology, Barton Laboratory, Geneva, New York 14456-0462, United States. Received 06/02/1989.

PI 588649. *Vitis rupestris* Scheele
St. George (Corky Bark Pos.).

The following were donated by David Cain, Sun World, 16350 Driver Road, P.O. Box 80298, Bakersfield, California 93380-0298, United States. Received 06/20/1989.

PI 588650. *Vitis sp.*

The following were donated by Charles Putensen, 1906 350th Street, Spencer, Iowa 51301-7456, United States. Received 11/28/1989.

PI 588651. *Vitis hybrid*
Blue Jay.

PI 588652. *Vitis hybrid*
Sipaska.

PI 588653. *Vitis riparia* Michaux
Okoboji.
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 01/12/1990.

PI 588654. *Vitis hybrid*
ILL 820-2.

PI 588655. *Vitis hybrid*
NY 65.0032.1.

PI 588656. *Vitis hybrid*
NY 65.112.1.

PI 588657. *Vitis hybrid*
NY 65.577.1.

The following were donated by James N. Moor, University of Arkansas, 316 Plant Science Building, Fayetteville, Arkansas 72701, United States. Received 02/02/1990.

PI 588658. *Vitis hybrid*
Lutie.

PI 588659. *Vitis hybrid*
Loretto.

PI 588660. *Vitis hybrid*
Galibert 256-28.

The following were donated by James Luby, University of Minnesota, Department of Horticultural Sciences, 254 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 02/13/1990.

PI 588661. *Vitis hybrid*
Bei Chun. Collected in China.

PI 588662. *Vitis hybrid*
Presly.

PI 588663. *Vitis hybrid*
Michurnitz.

PI 588664. *Vitis hybrid*
Triumph d' Alsace.

The following were donated by Philip Wagner, Boordy Nursery, Box 38, Riderwood, Maryland 21139, United States. Received 02/28/1990.

PI 588665. *Vitis hybrid*
Seyve Villard 18-315. Collected in France.

PI 588666. *Vitis hybrid*
Burdin 11042.

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 588667. *Vitis hybrid*
Brant.

PI 588668. Vitis hybrid
    Zengo.

PI 588669. Vitis hybrid
    Pslanka.

PI 588670. Vitis hybrid
    Agria.

PI 588671. Vitis hybrid
    Sev Lernatu PGR 2223.

PI 588672. Vitis hybrid
    Zalagyongye.

PI 588673. Vitis hybrid
    White Riesling.

PI 588674. Vitis hybrid
    Koret.

PI 588675. Vitis hybrid
    Shimek.

PI 588676. Vitis hybrid
    Norakert PGR 2224.

The following were donated by John Grinstead, Rt. 2, Box 151, Waynesville, Missouri 65583, United States. Received 04/17/1990.

PI 588677. Vitis aestivalis Michaux

PI 588678. Vitis cinerea (Engelm.) Engelm. ex Millardet

PI 588679. Vitis vulpina L.

PI 588680. Vitis vulpina L.

PI 588681. Vitis hybrid

PI 588682. Vitis hybrid

PI 588683. Vitis rupestris Scheele

PI 588684. Vitis rupestris Scheele

PI 588685. Vitis cinerea (Engelm.) Engelm. ex Millardet

The following were donated by Barry Comeaux, Galveston College, 4015 Avenue Q, Galveston, Texas 77550, United States. Received 04/17/1990.
PI 588686. *Vitis tiliifolia* Humb. & Bonpl. ex Schultes
Collected in Mexico.

PI 588687. *Vitis rupestris* Scheele

PI 588688. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

PI 588689. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

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 588690. *Vitis hybrid* Brant.


PI 588692. *Vitis hybrid* Dupont #1.


PI 588701. *Vitis hybrid* Challenger.

PI 588702. *Vitis hybrid* SV 34-211. Collected in France.


PI 588705. *Vitis hybrid* Bryant.
The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 03/22/1991.

PI 588706. Vitis hybrid
Siewiernyj. Collected in Poland.

PI 588707. Vitis hybrid
Early Wonder. Collected in Norway.

PI 588708. Vitis hybrid
West Freesia. Collected in Netherlands.

PI 588709. Vitis hybrid
Ehrenfelser. Collected in Germany.

The following were donated by Roger Hybner, University of Wyoming, Sheridan, Wyoming 82801, United States. Received 10/08/1991.

PI 588710. Vitis riparia Michaux

The following were donated by Charles Putensen, 1906 350th Street, Spencer, Iowa 51301-7456, United States. Received 12/16/1991.

PI 588711. Vitis riparia Michaux
Bougher. Collected in Manitoba, Canada.

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 12/17/1991.

PI 588712. Vitis hybrid
Galea.

PI 588713. Vitis hybrid
SV 12-364.

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 588714. Vitis sp.
B-166-021. Collected in China.

PI 588715. Vitis sp.
B-166-019. Collected in China.

PI 588716. Vitis sp.
A-166-014. Collected in China.

The following were donated by Dan Harmon, USDA, ARS, Natl. Germplasm Resources Laboratory, 4th Floor, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 03/13/1992.

PI 588717. Vitis hybrid
St. Pepin. Collected in Minnesota, United States.
The following were donated by Peter Hemstad, Hort. Research Center, Excelsior, Minnesota 55331, United States. Received 03/23/1992.

PI 588718. Vitis riparia Michaux L505.

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 588719. Vitis hybrid B4-2220-8.

The following were donated by Dan Harmon, USDA, ARS, Natl. Germplasm Resources Laboratory, 4th Floor, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 03/19/1993.

PI 588720. Vitis hybrid Itchkimar.
PI 588721. Vitis hybrid Ranny Vira.
PI 588722. Vitis hybrid S04-Germany.
PI 588723. Vitis hybrid S04-California.
PI 588724. Vitis hybrid S04-France.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States. Donated by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; Gaylord Mink, Washington State University, Irrigated Agricultural Res. & Ext. Ctr., Route 2, Box 2953-A, Prosser, Washington 99350, United States; Aimak Djangaliev, Academy of Science Rep. Kazakhstan, Main Botanical Garden, 187 Tulebaev st., apt. 11, Alma-Ata, Kazakhstan. Received 11/05/1993.

PI 588725. Vitis amurensis Rupr.
Collected 09/17/1993 in Kazakhstan. Elevation 690 m. Kazakhstan, Aktogai Village, Issyk Arboretum, flat slope. Pedigree - Wild. Comments: Fruit: 1.0 cm, 2 " cluster, 20 berries per cluster, black with white seeds, flavor acidic; juice clear, not dark. Collected among 60 species of Crataegus and many other Kazakh species, lots of buckthorn.

PI 588726. Vitis sp.
Collected 09/17/1993 in Kazakhstan. Elevation 690 m. Kazakhstan, Aktogai Village, Issyk Arboretum, flat slope. Pedigree - Wild. Comments: Fruit: .7 cm, black, acidic; two inch cluster, fifteen berries per cluster. Collected among 60 species of Cragaegus and many other Kazakh species; lots of buckthorn.

PI 588727. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 925 m. Kazakhstan, near the City of Chimkent,
Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing, 1 km NE campsite. Pedigree - Wild. Comments: Fruit: 1 cm diameter, round, black, very sweet, clear juice; 30 berries per cluster; height 4 m, climbing in Crataegus, dry rocky soil; 40-45 deg. C, -30 deg. C in winter. Rainfall 350 mm. Disease leaf roll (?), likely is natural coloration.

PI 588728. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 925 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing, 1 km NE campsite. Pedigree - Wild. Comments: Fruit: 1.0 - 1.25 cm diam, round, black, clear juice. Flavor: sweet, excellent taste and blend of acid; skin tough; excellent for table grape; 30 berries per cluster; height 4 m, climbing. Rainfall 350 mm.

PI 588729. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 925 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing, 20 ft from stream. Pedigree - Wild. Comments: Fruit: red, unripe (?), juicy, not sweet; height 4 m, climb- Crataegus turkestanica, sandy soil; rainfall 350 mm.

PI 588730. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 930 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing slope. Pedigree - Wild. Comments: Fruit: 1 cm diameter, round, white or amber, very sweet, probably overmature; 50 berries per cluster; height 8 m, climbing on Crataegus turkestanica, Rubus, Sophora, rocky, sandy soil; rainfall 350 mm.

PI 588731. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 930 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing slope. Pedigree - Wild. Comments: Fruit: 0.5 cm diameter, black; tight small cluster; flavor good, crisp; 1 foot long cluster; leaf shape more lobed than white form; rainfall 350 mm.

PI 588732. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 930 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing slope. Pedigree - Wild. Comments: Fruit: 1 cm diameter, black; tight small cluster; height 6 m, climbing on Crataegus; disease mildew; rainfall 350 mm.

PI 588733. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 930 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 40 m from stream, along NW facing cliff. Pedigree - Wild. Comments: Fruit: 1 cm diameter, oval (?), black; medium cluster; flavor good, crisp; climbing on Celtis caucasica; disease mildew; rainfall 350 mm.

PI 588734. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 54' E. Elevation 930 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m up-hill from stream, soil 60% SE facing. Pedigree - Wild. Comments:: Fruit: large, black; 8 inch clusters; flavor good, acidic, somewhat crisp; climbing habit; leaf shape large; disease free, clean.

PI 588735. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 55' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, near City of Chimkent, upstream, well exposed, flat low plateau, 3-4 m above stream. Pedigree - Wild. Comments:: Fruit: black; very tight cluster; flavor sweet, edible skins water, not firm; height 5 m, climbing on Crataegus, rocky sandy soil, Clematis orientalis; rainfall 350 mm.

PI 588736. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 55' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, near City of Chimkent, upstream, well exposed, flat, low plateau, 3-4 m above stream. Pedigree - Wild. Comments:: Fruit: 0.5 - 0.75 cm diameter, black; straggly clusters; flavor mild, sweet, not much acid; maybe a mixture of two vines, SW facing slope, Rahmnus; disease mildew.

PI 588737. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 55' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, near City of Chimkent, upstream, well exposed, flat, low plateau, 3-4 m above stream. Pedigree - Wild. Comments:: Fruit: small, 0.5 - 1 cm diameter, white; long uneven cluster flavor good, watery; leaf large; climbing on Crataegus; 1.5 m above stream on 2nd tier of plateau.

PI 588738. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 55' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, near City of Chimkent, upstream, well exposed, flat, low plateau, 3-4 m above stream. Pedigree - Wild. Comments:: Fruit: red; long loose clusters; climbing on Crataegus near stream, Fraxinus.

PI 588740. Vitis vinifera L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 55' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, near City of Chimkent, upstream, well exposed, flat, low plateau, 3-4 m above stream. Pedigree - Wild. Comments:: Fruit: red; long loose clusters; climbing on Crataegus, near stream, Fraxinus.
69 deg. 55' E. Elevation 940 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, near City of Chimkent, at spring, 5 m from stream. Pedigree - Wild. Comments:: Fruit: 0.8 diameter, black; scraggly cluster, 25 berries per cluster; flavor good; Eleagnus, soil river bottom; rainfall 350 mm.

PI 588742. *Vitis vinifera* L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 53' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, near the City of Chimkent, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, 20 m uphill from stream, soil 60% SE facing slope. Pedigree - Wild. Comments:: Fruit: black; 5 inch cluster, very loose, 40-50 berries per cluster; flavor good, crisp, tender skin. Low sprawling bush, rocky slope, SE exposure, Cerasus; rainfall 350 mm.

PI 588743. *Vitis vinifera* L.
Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 52' N. Longitude 69 deg. 55' E. Elevation 930 m. Kazakhstan, Boraldy Forest Region, Buldergen Gorge, Boraldy Mountain, Khrebet Karatau, upstream, well exposed, flat, low plateau, 3-4 above stream. Pedigree - Wild. Comments:: Fruit: large, black; flavor very sweet, acidic; height 6 m, climbing on Crataegus, close to stream; Astragalus neolypsianus; rainfall 350 m.

The following were donated by Rutgers Fruit Research Center, Cream Ridge, New Jersey 08514, United States. Received 04/05/1984.

Cestra Belferkitaika.

Pohorka.

Mislimka.

The following were donated by I.N.R.A./Station de Recherches, d'Arboriculture Fruitiere, Beaucouze, Angers, France. Received 03/20/1979.

Florine; Q 21640; GMAL 26; BE4269; C 02049.

The following were donated by Miklos Faust, USDA, ARS, Fruit Laboratory, Building 004, BARC-West, Beltsville, Maryland 20705, United States. Received 08/09/1984.

BII Umbrella, Low Vigor.

PI 588749. *Malus domestica* Borkh.
BII Wide Angle Branching, Low Vigor.

BII Upright, Low Vigor.

BII Upright, Side Branching, Low Vigor.

The following were donated by Curator, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97330, United States. Received
PI 588752. Malus × platycarpa Rehder
IRA 38-1.

PI 588753. Malus mandshurica (Maxim.) V. Komarov

PI 588754. Malus mandshurica (Maxim.) V. Komarov
Gloriosa.

PI 588755. Malus hybrid
William Sim.

PI 588756. Malus hybrid
Ming Shing.

PI 588757. Malus × hartwigii Koehne

PI 588758. Malus prunifolia (Willd.) Borkh.
Vinti Sdlg. 101D.

The following were developed by Dan Millikan, University of Missouri, Dept. Plant Pathology, Columbia, Missouri 65211, United States. Donated by Curator, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97330, United States. Received 08/20/1984.

PI 588759. Malus ioensis (Alph. Wood) Britton

PI 588760. Malus hupehensis (Pampan.) Rehder

PI 588761. Malus sargentii Rehder

PI 588762. Malus yunnanensis (Franchet) C. Schneider
Collected in China.

PI 588763. Malus hybrid
Pyramidal.

PI 588764. Malus fusca (Raf.) C. Schneider

PI 588765. Malus baccata (L.) Borkh.
Korea Wild Apple. Collected in Korea.

PI 588766. Malus hybrid
Striped Beauty.

PI 588767. Malus hybrid
Crimson Brilliant.

PI 588768. Malus hybrid
Manchu.

PI 588770. Malus sargentii Rehder Rosea.

PI 588771. Malus baccata (L.) Borkh.

The following were developed by Richard Wellington. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.


The following were developed by Estate of Gershom Moore, Newtown/Long Island, New York, United States. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588773. Malus domestica Borkh. Yellow Newtown. Pedigree - Well known in 1759. Green and yellow first differentiated in 1817. Comments:: Very variable in size and color according to location. Size medium to large. (Green turning yellow, light dots; yellow- bright yellow with pink flush); flesh firm, crisp, tender, fairly fine. (GREEN - yellowish or tinged green; YELLOW - distinctly tinged yellow. Flavour: (GREEN - subacid, aromatic; YELLOW - less acid, more aromatic); season late to very late.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588774. Malus hybrid Strathmore.


The following were developed by W.F. Connell. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

tender, crisp, mildly acid; quality high; ships and stores well until April and May. Tree: very hardy, very productive.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588777. Malus domestica Borkh.

The following were developed by G.D. Oberle; R.C. Moore. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588778. Malus domestica Borkh.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588779. Malus domestica Borkh.
Wealthy Double Red PC-310.

PI 588780. Malus domestica Borkh.
Yarlington Mill.

PI 588781. Malus domestica Borkh.
MM.104. Collected in England, United Kingdom.

PI 588782. Malus sargentii Rehder

PI 588783. Malus domestica Borkh.
Earliest. Comments: Trademark variety is STARK.

PI 588784. Malus domestica Borkh.
Antonovka. Pedigree - Recorded in 1826. Comments: Size medium to large 65-85:50-75 mm; shape variable, flat to intermediate or tall, rectangular to truncate-conic, convex, prominently ribbed at eye and on body; skin pale yellow, russet in stalk cavity, smooth; flesh soft, coarse, cream- white; flavour acid; season mid-October.

PI 588785. Malus domestica Borkh.
Esopus Spitzenburg. Pedigree - Known before 1790. Parent of Jonathan. Comments: Size large; shape intermediate rectangular to truncate - conic, convex to straight, slightly ribbed on body, skin deep yellow almost completely covered bright red, dotted; flesh moderately fine,

The following were developed by George M. Reed, University of Missouri, Department of Botany, Columbia, Missouri, United States. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588786. Malus hybrid

The following were developed by Cole Nursery Co., Painesville, Ohio, United States. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588787. Malus hybrid

The following were developed by P.M. Gideon. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588788. Malus domestica Borkh.
Wealthy. Pedigree - Cherry crab x Recorded 1860 when seedling received from Albert Emerson Bangor, Maine [Additional Lit. Citation, Bultitude, J. 1983. Apples p.310]. Comments:: Size medium to large 64-76; 57-74 mm; shape intermediate to flat, rectangular to truncate; conic, convex, slightly ribbed; skin pale yellow, carmine stripes, sometimes carmine flush, a little greasy, thick, tough; flesh rather soft, coarse, greenish white tinged pink near skin; flavor sweet subacid; season mid to late. Tends to be biennial. Tree: rather weak, upright-spreading; produces spurs moderately well. Resistant to crab, fire blight and cedar-apple rust. Excellent juice apple; good for dessert & cooking. Add. LIT. CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Cat. p. 32.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588789. Malus domestica Borkh.
Antonovka Shafran. Pedigree - Antonovka x Reinette d'Orleans Cross made to improve storage in 1902. Comments:: Medium, yellow with red blush and stripes with lacy russet. Late season. Flesh; pale yellow, crisp, juicy, spicy, vigorous, large leaves. Very good keeper, self-fertile.
PI 588790. Malus domestica Borkh.

The following were developed by Thomas Grimes. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588791. Malus domestica Borkh.

PI 588792. Malus domestica Borkh.

PI 588793. Malus domestica Borkh.
Snow. Collected in Unknown. Thought to be Canadian; seed may have been brought from France by early settlers. Planted on Lake Champlain at Chimney Point between Vermont and New York State. Pedigree - Planted in US in 1730. Probable parent of McIntosh. Comments:: Size medium 63:50 mm; shape intermediate, rectangular to truncate-conic, convex, not ribbed; skin pale yellow flushed red; flesh tender, very white; flavor subacid, sweet dessert season mid to late; tendency to reproduce tree from seed; short spurs.

PI 588794. Malus domestica Borkh.

PI 588795. Malus hybrid
Lennoxville.

PI 588796. Malus domestica Borkh.
Frumos de Voinesta; IRA 293-1-2.

PI 588797. Malus domestica Borkh.
Delcon. Pedigree - Cross between Delicious, Jonathan and Ben Davis. Comments:: Full sized, dark red fruits shaped like a Delicious. Sweet crisp, juicy, white flesh. Good fresh and for pies. Keeps well into winter. Natural semi-dwarf; trice single graft tree. Rarely needs pruning. Bred for increased resistance to fire blight. Bears enormous yields. Ripens from late September to October depending on location.

PI 588798. Malus domestica Borkh.
Rambo-Red Summer. Comments:: Double red Summer Rambo that colors earlier; all the same qualities as the regular strain. If additional color is red, put in storage and keep for marketing until mid-winter, tart, good cooker, ripens during August. There is more than one RAMBO, see literature of National Apple Register of the United Kingdom, pg. 445.

PI 588799. Malus domestica Borkh.
Winesap. Pedigree - First described 1817. Pollinate with Golden Delicious, Liberty, Red Delicious or Summerred. Comments:: Size medium to large 61-78.53 mm; shape tall to intermediate conic to truncate-conic, convex to straight ribbed at eye & sometimes on body; skin greenish-yellow flush and striped dull red, russet dots, some russet at base, bloom, thick, smooth, tough; flesh firm, tender, coarse, yellowish white; flavour sweet, wine like, aromatic, subacid; season very late.

PI 588800. Malus domestica Borkh.
Antonovka Zheltaia.

PI 588801. Malus domestica Borkh.
Duchess.

The following were developed by Canada Dept. Agr. Res. Sta., Rosthern, Saskatchewan, Canada. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588802. Malus domestica Borkh.
Anaros. Pedigree - Open-pollinated sdlg. of Antonovka. Intro. 1936; imported into U.S. in 1941 as PI 139664. Comments:: Fruit: Crab; round, somewhat flattened, 1 1/2 in. diam; skin yellow, nearly covered with crimson; flesh yellow, mellow when ripe; fair for canning, excellent for jelly; matures mid-Sept. Tree: Very hardy, strong grower, heavy bearer. "About the healthiest and hardest crab grown", John Lloyd, Lloyds Fruit Nursery, Adanac, SK, CA.

The following were developed by J.D. Winter. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588803. Malus domestica Borkh.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.
PI 588804. Malus hybrid
Kansas K14. Comments:: Latest accession known for spring bud break.

PI 588805. Malus domestica Borkh.
Tolman Sweet. Pedigree - Sweet Greening x Old Russet Described in 1822. Comments:: Size medium sometimes large, shape intermediate to flat, rectangular to conic, convex, slightly ribbed; skin pale yellow, sometimes a little flushed, russet lines, often a suture line, slightly rough, flesh firm, rather hard, moderately fine, white, flavor sweet; season mid to late, moderately biennial. Probably the hardiest of all New England apples.

PI 588806. Malus domestica Borkh.
Chisel Jersey. Comments:: Bittersweet fruit is green with red flush. Used to make cider of full body, good flavor and aroma. Tree is vigorous, heavy though somewhat biennial bearer. Branch spreaders should be used to avoid narrow crotch angles. Blooms late.

The following were developed by W.A. Springer. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588807. Malus domestica Borkh.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588808. Malus domestica Borkh.
Bulmer Norman. Collected in England, United Kingdom. Comments:: Cider variety.

PI 588809. Malus hybrid
Sparkler. Comments:: Indicator for Apple Stem Pitting Virus.

The following were developed by Pennsylvania State University, Fruit Res. Lab., Biglerville, Pennsylvania, United States. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588810. Malus domestica Borkh.
Nittany. Pedigree - Open-pollinated seedling of York Imperial or one of its red sports. Intro: 1977. Comments:: Fruit similar to York Imperial, processing type; medium 175-250 g; color dark pink or orange-red blush, narrow striping on a light yellow ground color; shape oblique; flesh texture firm; flesh color, deep yellow; soluble solids slightly less
than York Imperial. Flesh retains shape during cooking. Harvest first 3 weeks of October; long storage life 6 months without loss of quality. Essentially free of corking. Tree vigorous, productive; biennial tendency; susceptible to fire blight; bloom date late, similar to York Imperial.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/21/1984.

PI 588811. Malus domestica Borkh.  
MM.102. Collected in England, United Kingdom.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588812. Malus domestica Borkh.  
MM.111. Collected in England, United Kingdom. Comments:: A semi-standard. For use on light soils with poor moisture holding capacity. It has a good reputation for fruiting well even in drought conditions and is hardy, crops heavily and is resistant to deficiencies of potassium and magnesium. Space 14 to 18 ft.

PI 588813. Malus domestica Borkh.  

PI 588814. Malus domestica Borkh.  
Trusevitch V-5-38. Collected in Former Soviet Union.

The following were developed by Davidson Nursery, Fonthill, Ontario, Canada. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588815. Malus domestica Borkh.  
Melred. Collected in United States. Pedigree - Melba bud mutation - Sport of Melba. Distributed 1936; intro: commercially 1940. Comments:: Fruit similar to Melba, but skin more red; flesh more firm and less subject to bruising, slightly later. "Good breeder" says Coutts. Note: Budwood distributed to growers as Melba and named by them as mutation became evident.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588816. Malus domestica Borkh.  
M.7. Collected in England, United Kingdom. Comments:: A semi-dwarfing rootstock, hardier and produces a tree about 50-50% of a standard. Not as precocious as M 26, M 9, but produces well. Very good on light soils, less demanding of fertility and moisture. Not good on heavy or wet soils because of crown rot. Self-supporting. Space 13 to 16 ft.

PI 588817. Malus domestica Borkh.  
PI 588818. *Malus domestica* Borkh.
Trusevitch II-14-50. Collected in Former Soviet Union.

The following were developed by L.F. Hough, Rutgers University, Department of Horticulture, New Brunswick, New Jersey, United States; Catherine H. Bailey. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

Vista Bella. Collected in United States. Pedigree - NJ77349 x Julyred
Note: 77349 (67634 x 122137) x Julyred. 67634 = Melba x Sonora; 122137 = (Williams x Starr) x USDA34 Cross made in 1956; selected 1962; tested as NJ36. Comments: Fruit resembles a well colored McIntosh with waxy skin. Self fertile. Tends to overset. Dessert apple of high quality, flavor and aroma. Ripens mid August at Polson, Montana. Drops when ripe. Poor keeping. Trees: vigorous, large, but subject to scab and mildew. At Saskatoon several years and over winters well. "A good early apple, but a bit tender", says Coutts. Additional Lit.Cit.: 1992-93 H. Apple.
Tsolum River Fruit Trees Catalogue. p. 32.

The following were developed by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States; John Einset; Leo G. Klein. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

Wayne. Collected in United States. Pedigree - Northwestern Greening x Green Spy. Formerly NY44420-1; diploid. Selected 1951, named and introduced autumn 1962. Comments: Fruit: large, dual purpose, fresh and Processing, being out-standing for canned and frozen slices and sauce, rating high er than Northern Spy; skin solidly blushed and washed light scarlet, no striping, appearance excellent, not subject to bitter rot. Tree: upright, vigorous, large, spreading; blooms late, should be a good pollinator for late-blooming varieties; bears precociously; maturing commercial crops within 5-6 years. Additional Lit.Cit: Way, R.D. 1971. Apple Cultivars. NYSAES Srch V. 1 No. 2. p 61.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

Patul. Collected in Romania. Transylvanian Alps (mts.). Pedigree - Probably originated early 1800's. Comments: Size medium 57-79:48-66 mm; shape flat to intermediate, rectangular, convex, ribbed at eye; skin yellow, faintly flushed orange, dotted; flesh crisp, compact, very fine, whitish; flavor subacid, sweet; season mid to very late. Late dessert.

PI 588822. *Malus* hybrid
Red Splendor.

PI 588823. *Malus* hybrid
Royalty.

The following were developed by Agriculture Canada, Morden Research Station, P.O. Box 3001, Morden, Manitoba, Canada. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British
Malus hybrid

Almey. Pedigree - M. baccata x pumila niedzwetzkyana. Cross made at Central Exp. Farm, Ottawa in 1926; seed sown at Morden, selected 1945. Intro. 1946. Comments:: Fruit: 3/4 in. diam.; ribbed; long oval to ovate; skin orange yellow with carmine or crimson blush; used for jelly; persists on tree into winter and spring. Tree: vigorous; hardy; floriferous in spring; blooming at an early age; rounded to 20 ft; strong, spreading branches; leaves purplish-red turning green with bronzy cast; flowers pro- fusely, 5-7 per cluster; ripens late Sept.; highly ornament- al; flower bright red with base of each petal white.

PI 588825. Malus x robusta (Carriere) Rehder

Robusta 5. Pedigree - baccata x prunifolia. Comments:: Crabapple; has been used as a stembuilder, because it roots readily when cut back card and mounded. However, subject to sunscald, and not tolerant to chlorosis.

PI 588826. Malus domestica Borkh.

M.9 (Troch Strain). Collected in England, United Kingdom. Comments:: A true dwarfing rootstock, produces a tree about 30 to 35% of a standard. Fairly hardy. Precocious and productive. Poor anchorage. Trees need support throughout their life. Needs a rich soil and constant moisture during the growing season. Space 7 to 12 ft.

PI 588827. Malus pumila Miller

YP (MB4). Collected in Finland.

PI 588828. Malus domestica Borkh.

Trusevitch I-48-41. Collected in Former Soviet Union.

PI 588829. Malus domestica Borkh.


PI 588830. Malus domestica Borkh.

Budagovsky 57-490. Collected in Former Soviet Union. Pedigree - Red-leaved Paradise x Bud. 13-14. Comments:: A semi-vigorous clonal rootstock with winter hardiness similar to that of Common Antononka. More precocious than MM.111, less so than MM106. Some burr knots develop usually less than on MM.111. Easily propagated by hardwood cuttings or in the stoolbed. Foliage bronze; wood, but not bark, red no suckers, susceptible to scab and powdery mildew. On an unbudded tree, most terminals carry fruit buds. Facultative parthenocarpec.

The following were developed by Michurinsk College of Agriculture, Michurinsk, Former Soviet Union. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588831. Malus domestica Borkh.

Red-leaved Paradise x Bud. 13-14. Comments:: A semi-vigorous clonal rootstock with winter hardiness similar to that of Common Antononka. More precocious than MM.111, less so than MM106. Some burr knots develop usually less than on MM.111. Easily propagated by hardwood cuttings or in the stoolbed. Foliage bronze; wood, but not bark, red no suckers, susceptible to scab and powdery mildew. On an unbudded tree, most terminals carry fruit buds. Facultative parthenocarpec.
Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

**PI 588831. Malus domestica** Borkh.
Trusevitch I-48-46. Collected in Former Soviet Union.

The following were developed by C.R. Ure. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

**PI 588832. Malus domestica** Borkh.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

**PI 588833. Malus domestica** Borkh.
King. Collected in United States. Pedigree - Pollinate with Golden Delicious, Lodi, McIntosh or Melrose. Comments:: Fruit 6-7 cm (standard), green. Antique United States cultivar. Large dessert apple, red striping over yellow fruit. Crisp, sweet, white flesh. Good cooking, fair eating, stores well. Ripens from late September to mid-October depending on location. Highly recommended for West Coast.

**PI 588834. Malus domestica** Borkh.
Prince Charming.

The following were developed by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

**PI 588835. Malus domestica** Borkh.

The following were developed by Jork Fruit Res. Sta., Germany. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

**PI 588836. Malus domestica** Borkh.
Gloster 69. Collected in England, United Kingdom. Pedigree - Intro:
1969 Glochenapfel x Richared Delicious. Comments:: Red Delicious Type. Conic shape, fully red fruit with calyx-end shoulder bumps. Larger, mostly 3" diam; tarter flavor than Delicious. Extremely productive tree, ripens late in the season. Long storage life with Golden Delicious and Jonagold. At present, one of the few apples of the Delicious-type that finishes well under Northern European conditions.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588837. Malus domestica Borkh.

The following were developed by L.E. Aalders; D.F. Dayton. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588838. Malus domestica Borkh.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588839. Malus domestica Borkh.
Beautiful Arcade. Comments:: Fruit of medium (standard) size, pale greenish yellow, pink, thick skinned. Good dessert apple. Hardy. Season August-September.

The following were developed by Ribston Hall, Yorkshire, England, United Kingdom. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588840. Malus domestica Borkh.
Ribston. Collected in Unknown. England, seed from Rouen. Pedigree - Probably planted circa 1707; belongs in the same group as Hubbardston. Comments:: Size medium 63-70:53-58 mm; shape flat, rectangular to truncate-conic, convex, ribbed at apex and on body; skin yellow flushed orange, streaked red, some russet at back and apex; greasy; flesh firm, fine, yellowish; flavor subacid, sweet aromatic, season late; triploid. Fair storage. Medium- size tree, moderately vigorous, spreading.

The following were developed by L. Verner, Agricultural Experiment Station, Moscow, Idaho, United States. Donated by Dan Thompson, Agriculture Canada,
Idared. Collected in United States. Pedigree - Jonathan x Wagener Selected 1935; intro: 1942 Pollinate with Summered, Spartan or Lodi. Comments:: Size large 78-80.63-66 mm; shape flat, rectangular, convex, ribbed on body; skin yellow with bright red flush and flecks hammered; flesh white, slightly tinged green; flavor slight- ly sweet, moderately acid. Excellent dessert apple, good for baking sauce and pies. Keeps well in storage. Season mid to late. Small-med. tree bears heavy crops annually. Susceptible to fire blight. Some resistance to scab.
{Additional Lit.Citation: Bultitude, J., 1983, Apples p.199}.

The following were developed by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

Empire. Collected in United States. Open-pollinated seeds collected from McIntosh fruits borne in Claverack, New York, United States. Pedigree - McIntosh x Red Delicious M-5 seed produced 1945, first fruited 1954; named and intro. 1966. Comments:: Size medium to large, shape intermediate to flat, truncate conic to rectangular, convex, slightly ribbed; skin solid red with slight striping, thick, waxy; flesh crisp, creamy; flavor subacid, aromatic. High quality dessert apple also good for cider. Season mid to very late. Vigorous, upright early bearing tree, spur type habit; produces annually, needs some thinning. Self-fruited. Ripens two weeks after McIntosh and hangs on tree longer. Hardy to -30 degrees F. Storage: 160 days at 30 degrees F. Additonal LIT.CIT: Whealy, K. 1989. Fruit, Berry and Nut Inventory, p. 42.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588843. *Malus domestica* Borkh.
Bessemianka Michurina. Pedigree - Skrizhapel x Bessemyanka Komsinskaya The seed gave cotyledons Cross made in 1912. Comments:: set 15% fruit - parthenozrpy Early large leaves Medium, broad broken carmine stripes. Flesh juicy, winy, sweet-sour flavor; very good keeper; hardy; frost resistant. GMAL 344 & 437 like duplicates.

Fuji Red Sport Type 2. Collected in Japan. Comments:: Mutation of Fuji; reported to have more red pigment in fruit skin.


Battleford. Comments:: Fruit: 7 cm, pale green striped red with bloom Flesh: white coarse and crisp, slightly tart. Will bruise from early spring hail. Good dessert, fair cooking and keeping. Standard size. Susceptible to fire blight. Good breeder. Appears to have been introduced by W.J. Boughen, Boughen Nurseries, Valley River, Manitoba, Canada.

PI 588847. *Malus x platycarpa* Rehder
Collected in United States.
The following were developed by S.A. Beach. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588848. Malus domestica Borkh.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588849. Malus domestica Borkh.
Russian. Collected in Unknown. Europe. Pedigree - Of great antiquity but first described about 1613. Comments:: Size medium 62:44-50 mm; shape flat, rectangular, convex, not ribbed; skin yellow flushed dull red with some russet. Flesh firm, crisp, yellowish white; flavor sweet, rich, perfumed; season very late; late flowering.

PI 588850. Malus domestica Borkh.

The following were developed by V.I. Budagovsky. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588851. Malus domestica Borkh.
Budagovsky 57-491. Collected in Former Soviet Union. Comments:: A very dwarving clonal rootstock with greater winter hardiness than Common Antonovka. Wood is very brittle, trees require firm permanent support; gives tree size control similar to M.27; induces very early, very heavy fruiting. Wood is pink. Few burr knots. Propagated in stoolbeds. No suckers. Very susceptible to fire blight, woolly aphids, not resistant to Phytophthora.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588852. Malus kansuensis (Batalin) C. Schneider


PI 588854. *Malus domestica* Borkh.


*Tydeman Red.*

PI 588856. *Malus hybrid*

*Ottawa 8.*


*Caravel*. Pedigree - Melba x Crimson Beauty (Early Red Bird); selected by D.S. Blair (1909-1959) 1942; intro and named 1964. Tested as Ottawa 277. Comments: Size medium 50-61:40-55 mm; shape intermediate to flat, truncate-conic to rectangular, convex, ribbed at eye and on body, often base to apex; skin green with extensive deep red flush and a few stripes, covered in bloom, sometimes a little netted russet on body, smooth, thin, tender. Flesh firm, white; flavor slightly subacid, insipid. Good dessert. Season second early; biennial bearer. Ships well.


The following were developed by T.H. Hoskins. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588859. Malus domestica Borkh.
Yellow Transparent. Pedigree - Old Russian cultivar - spread to Europe in mid-1800's. Imported by USDA from Russia in 1870. Comments:: Size medium 64-66:57-70 mm; shape tall to intermediate conic, convex, prominent ribs base to apex asymmetric; skin pale yellow or whitish, numerous pale dots, slightly greasy, some bloom, tough; flesh crisp, tender, coarse, white, flavour subacid; season early. Tree: upright, vigorous grower, bears young and heavily - needs thinning. Scab resistant.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588860. Malus domestica Borkh.

The following were developed by Greening Nursery Company, Monroe, Michigan, United States. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588861. Malus domestica Borkh.
Winter Banana. Collected in Unknown. USA originated on farm of David Flory, New Adamsboro, Cass County, Indiana. Pedigree - Originated 1876; intro: 1890. Comments:: Size medium to large, shape intermediate to tall, sometimes flat, conic to rectangular, convex - somewhat ribbed, often asymmetric, skin bright pale yellow; often flushed pinkish red, numerous pale dots, often a suture line from basin to cavity, tough, waxy. Flesh moderately firm somewhat crisp, tender, a little coarse, flavour subacid, aromatic. Season mid to very late. Tree: moderately vigorous, upright, spreading, pendulous. Needs warmth. 100-400 hrs. of chilling.

The following were developed by A. Heyer. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

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PI 588862. Malus hybrid
Heyer #12. Pedigree - Russian apple seedling received from Al Stevenson, Morden, Manitoba. Comments:: Fruit: 6 cm (standard), green yellow, very early. Too tart for dessert apple, but fine for cooking. Heavy producer; grows in dry areas. Drops badly while ripening and breaks down quickly. Should be picked before fruit turns yellow. "Obsolete, a fair breeder." (Coutts 1991). Highly productive, very hardy up into Canada; early apple for northern climate.

The following were developed by L.F. Hough, Rutgers University, Department of Horticulture, New Brunswick, New Jersey, United States; Catherine H. Bailey. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588863. Malus domestica Borkh.
Jerseymac. Collected in United States. Pedigree - NJ24 x Julyred NOTE: NJ24 = [Melba x (Wealthy x Starr) x (Red Rome x Melba)] Early McIntosh strain. Cross made in 1956; selected 1961; tested as NJ38. Comments:: Fruit (standard) resembles a well-colored Red McIntosh in appearance, flavor and aroma, but ripens a month earlier. (Sept. 1 at Polson, Montana); bruises early. Useful for sauce, pies, eating fresh; reasonably good keeper for summer apple. Tree bears young, produces annually, vigorous, productive. Grown at Saskatoon several years, over-winters well. Resistant to cedar-apple rust. Ships well, very marketable.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588864. Malus hybrid
Liset (Crab).

The following were developed by Carl G. Dahl, Alnarps Tradgardsskola, Akarp, Sweden; E. Johansson. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588865. Malus domestica Borkh.
Alnarps 2. Collected in Sweden. Pedigree - Selected in 1920 from a group of mixed Doucin Trees. Intro. 1944; imported into the U.S. in 1949 under PI 184382. Comments:: Used only as a clonal rootstock; vigorous; very hardy; strongly anchored; propagated easily in stool beds; merits orchard trials in USA, especially in districts of low temperatures. Winter hardy, produces full-sized trees, and induces early bearing and productivity in the scion cultivar.

The following were developed by Agriculture Canada, Lethbridge Research Station, Lethbridge, Alberta T1J 4B1, Canada. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588866. Malus hybrid
Kerr. Pedigree - Dolgo x Haralson Selected 1944; Introduced 1952; Crossed made 1938. Tested as Morden 352. One of the very best APPLE x CRAB APPLE crosses. Comments:: Fruit: 4 cm (crabapple), green to solid dark purple-almost black. Flesh: yellowish, flecked with dark red; good canning good keeping to early January. May be regarded as large Dolgo


The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588867. Malus domestica Borkh.
Spy Double Red. Collected in United States.

PI 588868. Malus florentina (Zuccagni) C. Schneider

The following were developed by G.P. Van Eseltine. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588869. Malus hybrid
Van Eseltine. Pedigree - Named 1930; intro: 1941; selected 1937. M. x arnoldiana (M. baccata x M. floribunda) x M. spectabilis. Comments: Flowers: double (13-19 petals), expanding buds, deep rose red to rose pink; open pink fading to pale pink, approx. 5 cm across. Fruit: yellow, with brown or light carmine cheek, approx. 1.8 cm. in diam. Fruit not edible. Useful as ornamental. Was named Geneva, but renamed VAN ESELTINE; Geneva had previously been named by Miss Isabella Preston (1930) for one of her own hybrids. Small columnar tree. Add. LIT.CIT. 1992-93. H. Apple. Tsolum River Fruit Trees Catalogue. p. 35; Wyman D. 1955. Crab... p 70.

The following were collected by N.E. Hansen, Agricultural College of South Dakota, Brookings, South Dakota, United States. Developed by N.E. Hansen, Agricultural College of South Dakota, Brookings, South Dakota, United States. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588870. Malus hybrid

The following were developed by R.C. Palmer, Unknown. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588871. Malus domestica Borkh.
rootstocks. Comments:: Similar to McIntosh but later. A very good breeder, says Coutts. Size large 71:63 mm; shape flat, rectangular to conic, convex, sometimes asymmetric, ribbed base to apex; skin yellow almost completely flushed deep purplish red with indistinct stripes; bloom, thick; flesh firm, crisp, fine, very white; flavor subacid; season mid to very late. Resistant to scab, mildew and fire blight. Additional LIT.CIT.: Brooks, R.M. & H. P. Olmo. 1972. Reg. of New Fruit & Nut Var. 2nd Ed. p. 100; 1882-93 H. Apple. Tsolum River Fruit Trees Catalogue. p. 29; Bultitude J., 1983, Apples p. 291.

The following were developed by Roswell Humphrey. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588872. Malus domestica Borkh.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588873. Malus hybrid
MM.106. Collected in England, United Kingdom.

PI 588874. Malus baccata (L.) Borkh.
Nertchinsk.

PI 588875. Malus hybrid
Dab 325.

The following were developed by Isabella Preston, Canada Dept. of Agric. Central Exp. Farm, Ottawa, Ontario, Canada. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588876. Malus hybrid
Makamik. Pedigree - Open-pollinated seedling of M. pumila var. niedzwetzkyana. Named in 1933. Originated and introduced 1921. Comments:: Flowers: single, expanding buds-dark red, open-purplish red fading to a lighter tint, approx. 4.8 cm. across. Fruit: carmine approx. 2.6 cm. in diam. Considered the best of the ROSYBLOOM crab apples originated by Miss Isabella Preston, which bloom only as required. Bronze foliage, annual bearing.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588877. Malus domestica Borkh.
M.2. Collected in England, United Kingdom. Comments:: Standard, M2 has
an outstanding reputation for collar rot resistance. Its production record is good. Fruit on M2, being more compact than that on dwarf rootstocks, keeps well over the winter.

The following were developed by Richard Wellington. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588878. Malus domestica Borkh.

The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588879. Malus domestica Borkh.

PI 588880. Malus domestica Borkh.

The following were developed by Raymond L. Granger, Agriculture Canada, Research Station, 430 Gouin Blvd. St.-Jean-sur-Richlieu, Saint-Jean, Quebec J3B 3B6, Canada; S.J. Leuty. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588881. Malus hybrid
The following were donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588882. Malus hybrid
   Ottawa 7.

PI 588883. Malus hybrid

The following were developed by Laxton Bros. Ltd., Bedford, England, United Kingdom. Donated by Dan Thompson, Agriculture Canada, Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588884. Malus domestica Borkh.
   Lord Lambourne. Pedigree - James Grieve x Worcester Pearmain Raised 1907; intro: 1923. Comments:: Size medium 63:51 mm; shape intermediate to flat, rectangular, convex not ribbed; skin greenish yellow with red flush and darker stripes; flesh fine, firm, crisp, creamy; flavor moderately sweet, aromatic; season mid to late; widely grown in Great Britain. High quality dessert apple. Tree: medium vigor, spreading, round headed, almost weeping. Although formerly trouble with virus disease, healthy material is now available. Good for northern areas. Self-fertile.

The following were developed by Adams Nursery, Inc., Westfield, Massachusetts, United States. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588885. Malus hybrid
   Adams. Pedigree - Chance seedling; Originated 1947. Comments:: Flowers: single expanding buds red opening to pink, approx. 4 cm across. Fruit: carmine red, approx. 2 cm in diam.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588886. Malus domestica Borkh.
   Elise Rathke.

The following were developed by Department of Parks, The Hague, South Holland, Netherlands. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588887. Malus hybrid
   Profusion. Comments:: Flowers: oxblood red faded on shady side, often with tiny russet skin cracks; approx. 4 cm across. Fruit: oxblood red angular, approx 1/2" to 9/16" across.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588888. Malus x purpurea (Barbier) Rehder
   Kobendza. Pedigree - M. x astrosanguinea x M. pumila niedwetzkyana.

PI 588890. *Malus* hybrid

The following were developed by William Saunders, Canada Department of Agriculture, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588891. *Malus* hybrid
Robin. Collected 1904 in Unknown. Pedigree - *M. baccata* x *M. cv. (Simbursk No. 9). Comments: Flowers: 4-5 in cluster, 5 petals, single, expanding buds rose red, open white, with trace of pink along edges, petals clipped, approx. 4 cm. across. Fruit: orange yellow with pale red blush, evenly ribbed, oval, approximately 1" to 1 1/2" across.

The following were collected by C.S. Sargent. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588892. *Malus sieboldii* (Regel) Rehder
Arborescens. Collected 1882 in Unknown. Mountains of Japan and Island of Quelpart, Korea. Comments: Flower: 4-5 in cluster. 5 petals, buds rose pink and green- ish to white/creamy white w/touch of pink to pure white when fully open.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.


PI 588894. *Malus x purpurea* (Barbier) Rehder
Wierdakii. Pedigree - niedzwetzkyana x atrosanguinea.

The following were developed by Arnold Arboretum, The Arborway, Jamaica Plain, Massachusetts 02130, United States. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588895. *Malus x astracanica* hort. ex Dum.-Cours.
Pedigree - *M. prunifolia* x *M. pumila*. Comments: Flower: 5-7 in cluster; 5 petals, buds half open rose pink, streaked and flushed with deeper pink to white or pinkish white when fully open. Fruits: pale yellow, cheek slightly deeper tint, no bloom. Angular-nearly round approx 2" diam.

The following were developed by J.G. Jack, Atkins Institution, Arnold Arboretum, Salcedad, Cienfuegos, Cuba. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588896. *Malus baccata* (L.) Borkh.
Jackii. Collected 1905 in Unknown. Comments: Flowers: single, expanding buds white w/touch of pink; open- pure white, approx. 4 cm across.
The following were developed by Arnold Arboretum, The Arborway, Jamaica Plain, Massachusetts 02130, United States. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588897. Malus x soulardii (L. Bailey) Britton
Pedigree - M. ioensis x M. pumila.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588898. Malus x adstringens Zabel
Pedigree - M. baccata x M. pumila.

The following were collected by Isabella Preston, Canada Dept. of Agric. Central Exp. Farm, Ottawa, Ontario, Canada. Developed by Isabella Preston, Canada Dept. of Agric. Central Exp. Farm, Ottawa, Ontario, Canada. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588899. Malus hybrid
Athabasca. Collected 1921 in Unknown. Pedigree - M/ pumila var. niedzwetzkyana x M. baccata. Comments:: Flowers: single, expanding buds-purplish red, open-pale purplish pink with white claw, approx. 4.5 cm across; 5-6 in clusters; 5 petals. Fruit: Pale yellow, orange yellow w/bright red check; angular to nearly round; 1 1/4" to 1 1/2" across. Disease free.

The following were developed by Provincial Horticultural Station, Brooks, Alberta, Canada. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588900. Malus hybrid
Jubilee. Pedigree - open-pollinated. Comments:: First distributed in 1937 as B.F. #6; named Jubilee in 1955; extremely hardy.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588901. Malus sargentii Rehder
Tina. Comments:: NOTE: According to Michael Dirr, supposedly a dwarf Sargent type.

PI 588902. Malus hybrid
Gwendolyn. Comments:: Flowers; 5-7 in cluster, 5 petals; rose red bud, expanding- white with touch of rose red, open-white with touch of pink.

PI 588903. Malus baccata (L.) Borkh.
Siberian Crab.

PI 588904. Malus x robusta (Carriere) Rehder
Cherry Crab. Pedigree - M. baccata x M.prunifolia. Comments:: NOTE: According to DenBoer, this name applies to a LARGE GROUP of hybrids obtained by crossing the Siberian Crab with the Plum-leaved Crab; there are variations in these crabs. Donald Wyman writes that many clones in the past were con- fused with Siberian Crab and wrongly called that name.. identification is hazardous.

The following were collected by C.S. Sargent. Donated by Thomas Green, The
PI 588905. *Malus x zumi* (Matsum.) Rehder
Zumi Crab. Collected 1892 in Unknown. Likely collected by C.S. Sargent; habitat; Island of Honshu, Japan (rare). Pedigree - *M. baccata 'mandshurian'* x *M. sieboldii*. Comments:: Flowers: 5-6 cluster, 5 petals; bud rose red, expanding-yellowish white with rose along petal edge; open-white with trace of pink on edges. Fruit: Yellow to orange, sometimes with faint blush; angular 5/16" to 7/16".


PI 588906. *Malus toeringoides* (Rehder) Hughes
Macrocarpa. Collected 1939 in Unknown. Goring-by-the-Sea, Sussex, England. Pedigree - Raised from *M. toeringoides* seed collected at the Arnold Arboretum. Comments:: Flowers: single, expanding buds pink or pinkish white, open-white, approx. 2.5 cm. across. Fruit: orange yellow and red with bluish bloom, approx. 2.5 cm. in diam.

The following were collected by J.F. Rock, United States Department of Agriculture, Washington, District of Columbia, United States. Developed by T.H. Goodspeed, University of California, Botanical Garden, Berkeley, California, United States. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588907. *Malus baccata* (L.) Borkh.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588908. *Malus sylvestris* Miller
French Crab.

The following were developed by Univ. of Minnesota State Fruit Farm, Excelsior, Minnesota, United States. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588909. *Malus hybrid* Centennial. Pedigree - Originated and introduced 1957. Comments:: Flowers: white Fruit: bright red over yellow, approx. 4.8 cm. in diam.

The following were developed by Canada Department of Agriculture, Alberta, Canada. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588910. *Malus hybrid* Snowcap. Pedigree - *M. baccata* seedling; received in 1941; introduced 1952. Comments:: Named by Research Station, Research Branch, Canada Dept. of Agr., Beaverlodge, Alberta, Canada. Extremely hardy. Disease free. Flowers: single, expanding buds tinged with pink, open-
white, approx. 6 cm. across. Fruit: bright red, approx. 1 cm. in diam.

The following were developed by Kornik Arboretum, Kornik, Poland. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588911. Malus x purpurea (Barbier) Rehder
Kornicensis. Pedigree - Introduced into USA by Arnold Arboretum from plant received in 1939 from Kornik Arboretum. Comments: Flowers: 4-6 in cluster, 5 petals, buds dark red, expanding - purplish red, open-light purplish red. Fruit: dark oxblood red or dark purplish red, lighter or brown red on shaded side; angular 10/16" to 11/16" across.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588912. Malus hybrid
Indian Magic.

PI 588913. Malus hybrid
Spring Snow. Pedigree - (P.P. 2667) (Porter) NOTE: According to Roland Jefferson, this is a cross between M. Dolgo and an unknown parent.

PI 588914. Malus prunifolia (Willd.) Borkh.
Fastigiata. Comments: Flower: 4-6 in cluster, 5 petals, buds yellowish-white, expanding and open white. Fruit: Bright red; somewhat angular and nearly round 3/4" across.

PI 588915. Malus hybrid
Beverly.

PI 588916. Malus pumila Miller
Apetala. Comments: Flowers: 4-5 in cluster, 5 petals, occasionally 3; small un-developed, green. Fruit: green with yellowish cheek or green and brownish-yellow; usually gnarled and misshapen. 1 1/4"-2" in width.

PI 588917. Malus spectabilis (Aiton) Borkh.
Riversii. Comments: NOTE: According to DenBoer, half a dozen different plants are in circulation, all supposedly this crabapple.

PI 588918. Malus floribunda Siebold ex Van Houtte

The following were developed by Parks System, Rochester, New York, United States. Donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588919. Malus sargentii Rehder
Rosea. Pedigree - Selected at the Arnold Arboretum from a group of seedlings numbered 1 B.H.S. received in 1921. Comments: Named and introduced by Arnold Arboretum. Differs from species by having reddish-pink flower buds. Flower: expanding buds reddish pink, open-white, approx. 3.5 cm. across. Fruit: dark red, approx. 1 cm. in diam.

The following were donated by Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588920. Malus toeringoides (Rehder) Hughes
Cut-Leaved Crab.

PI 588921. Malus spectabilis (Aiton) Borkh.
Alboplena.

PI 588922. Malus x sublobata (Dippel) Rehder
Yellow Autumn Crab. Pedigree - M. prunifolia x M. Sieboldii. Comments::
Introduced from Japan in 1892. Flower: single, 40 mm diam.; pink and
white. Fruit: yellow, 15 mm diam.

The following were collected by E.H. Wilson. Developed by Arnold Arboretum,
The Arborway, Jamaica Plain, Massachusetts 02130, United States. Donated by
Received 08/24/1984.

PI 588923. Malus kansuensis (Batalin) C. Schneider
Collected 1911 in Unknown. Kansu, Hupch, and Szechwan, China. Pedigree
- As seed Pyrus No. 4115A. Comments:: Collected in Tachren-Lu, west
Szechwan, China and sent to Arnold Arboretum and introduced by Arnold.

The following were donated by Thomas Green, The Morton Arboretum, Lisle,
Illinois 60532, United States. Received 08/24/1984.

PI 588924. Malus sp.
M. lancifolia.

The following were developed by Arie den Boer, Den Boer Arboretum, Des
Moines, Iowa 50318, United States. Donated by Thomas Green, The Morton
Arboretum, Lisle, Illinois 60532, United States. Received 08/24/1984.

PI 588925. Malus ioensis (Alph. Wood) Britton
Nova. Pedigree - 1928, received by Morton Arboretum from Augustine
Nursery as M. ioensis cv. cv. Flore Plena Nova. Comments:: This
introduction by Morton Arboretum considered by develop- er to be a sport
of M. ioensis cv. Plena, differing only in a deeper pink flower color.
Flower: double (18-35 petals), open-rose pink, approx. 4.5 cm. across,
expanding buds pink. Fruit: few, green to greenish yellow, approx. 3.2
cm. in diam.

The following were donated by Thomas Green, The Morton Arboretum, Lisle,
Illinois 60532, United States. Received 08/24/1984.

PI 588926. Malus sylvestris Miller
Plena. Comments:: NOTE: According to Donald Wyman, there is some
confusion about this variety.

PI 588927. Malus hybrid
Wynema. Pedigree - NOTE: According ot DenBoer, this is a cross between
Malus ioensis and some cultivated apple, more data needed for
identification. Comments:: Flower: 4-5 in cluster, 5 petals, buds rose
pink, expanding pink, flushed with rose. Fruit: green or yellow w/large
red or brown-red cheek; 1 7/8" across.

The following were donated by Curator, National Clonal Germplasm Repository,
33447 Peoria Road, Corvallis, Oregon 97330, United States. Received
08/29/1984.

PI 588928. Malus angustifolia (Aiton) Michaux
PI 588929. Malus coronaria (L.) Miller

PI 588930. Malus toringoides (Rehder) Hughes
            Macrocarpa.

PI 588931. Malus fusca (Raf.) C. Schneider

PI 588932. Malus hybrid
            Alamata.

PI 588933. Malus prattii (Hemsley) C. Schneider

PI 588934. Malus ioensis (Alph. Wood) Britton

PI 588935. Malus ioensis (Alph. Wood) Britton

PI 588936. Malus x robusta (Carriere) Rehder
            Erecta.

PI 588937. Malus sargentii Rehder
            Rosea.

PI 588938. Malus florentina (Zuccagni) C. Schneider

The following were developed by W.A. Alderman, Near East Foundation,
Salonica, Greece. Donated by Irrigated Agric. Research Ext. Center, P.O. Box
30, Washington State University, Prosser, Washington 99350, United States.
Received 08/30/1984.

PI 588939. Malus domestica Borkh.
            Honeygold. Pedigree - Golden Delicious x Haralson. Cross made 1935;
            selected 1947 Tested as Minn 1595. Comments:: Hardy substitute for
            Golden Delicious developed especially for cold northern areas. Golden
            Delicious flavor; Haralson hardiness. Medium to large, golden to
            yellowish green fruit with very smooth finish and reddish bronze blush.
            Flavor is sweeter and more bland than Golden Delicious. High quality.
            Superior storage qualities. Moderately vigorous tree; susceptible to
            fire blight. Ripens during October. Hardy to -50 degrees F. with
            occasional winter injury.

The following were collected by W. Uecker. Donated by Irrigated Agric.
Research Ext. Center, P.O. Box 30, Washington State University, Prosser,
Washington 99350, United States. Received 08/30/1984.

PI 588940. Malus domestica Borkh.
            States. Pedigree - Intro: 1934, Pat. No. 85 16:1:34 Bud sport of
            Jonathan. Assigned to Stark Bros. Nurseries & Orchards Co., Louisiana,
            Missouri. Comments:: Trademark variety. As Jonathan. Skin all over red
            coloring earlier; size medium to large round-conic to round ovate; calyx
            small closed; skin colors earlier than parent becoming solid red, smooth
            thick, rough; flesh white tinged with yellow, firm, crisp, tender,
            juicy, aromatic; keeps well; ripens from mid Sept. to Oct. in midwest
            U.S.
PI 588941. Malus domestica Borkh.

The following were donated by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Received 09/14/1984.

PI 588944. Malus kansuensis (Batalin) C. Schneider
Calva. Comments:: Similar to Kansuensis except underneath leaves, calyx and pedicels and glaborous. Not ornamental. Flowers: single; 2 cm diameter; white. Fruit: 1 cm diameter; yellow.

PI 588945. Malus toeringoides (Rehder) Hughes
Cutleaf Crab.

The following were developed by L.E. Longley. Donated by Irrigated Agric. Research Extension Ctr., P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 02/01/1985.

PI 588947. *Malus hybrid*  

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Webster. Pedigree - NY 26 (Ben Davis x Jonathan) x NY 19 (Ben Davis x Jonathan); sib crossed 1912; introduced 1938. Comments:: Fruit: size large, 80-90 mm; skin 80-90% red, striped, attractive; shape round conic; flesh semi-firm, cream-colored flavor slightly acid; eating quality fair; harvest season late September, 2 wks before Delicious. Tree: vigorous; productive; annual cropping; triploid. Mid-season, large, red, somewhat sour. R.D. Way 1993.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Champlain. Pedigree - Amer. Pomological Soc., listed in 1871. Comments:: Fruit: Medium to large; skin yellow, sometimes 10% pink blush; shape round-conic; flesh semi-firm, white; flavor subacid; eating quality fair; harvest season early September Tree: Vigorous; medium productivity. 100-yr-old yellow.

Stark. Pedigree - First recorded 1867. Comments:: Fruit: size above medium 65-80 mm; skin 20-60% brownish red, striped, not highly attractive; shape round-conic; flesh hard, greenish cream; flavor subacid; eating quality fair; harvest season very late, 3 wks after Delicious. Tree: vigorous; productive; annual cropping; diploid. (Proc. Am. Soc. Hort. Sci. 50:45.1947) Late, hard, appearance not attractive. R.D. Way 1993.

PI 588951. *Malus domestica* Borkh.  
Belle Sans Pepin. Comments:: Flowers without petals; 40 anthrs; 10 pistils. Fruits: Large, 65-75 mm; color 70% dull red striped, green ground color, unattractive; shape round oblate; double set of carpels, first set of 5 in normal center of fruit, second set of 10 just under calyx; flesh greenish light yellow; bitter pit; flavor subacid; eating quality poor to fair; some fruits seedless but untrue to its name, some have a few seeds; harvest date very late, Nov 1; worthless for commercial apple production. Tree: very light yields.
PI 588952. Malus domestica Borkh.
Arkansas. Pedigree - Seed planted about 1833; propagated after 1868.
Comments:: Fruit: Large to medium; skin dull dark red, greenish-yellow ground color; very late, blackish tinge; shape round-conic; flesh greenish-cream colored, very firm, crisp; flavor sub-acid; eating quality good; harvest season very late, 2 wks after Delicious. Tree: Very productive; triploid.

PI 588953. Malus domestica Borkh.
Ben Davis. Pedigree - Early 1800's. Comments:: Fruit: Medium to large; form round; skin stripes and splashed with bright dark carmine; flesh whitish, firm, spongy texture, somewhat aromatic, juicy, mildly subacid; fair eating quality; harvest date Oct 20, a wk after Delicious; very long storage life, 8 mo. at -0.5D C. Tree: Very heavy cropping; annually productive; paid off many farm mortgages but in 1990 other cultivars are superior.

PI 588954. Malus domestica Borkh.
Fall Pippin. Pedigree - Unknown. First recorded 1806. Comments:: Fruit: size large, 70-90 mm; skin yellow-green, sometimes 5-20% dull orange blush, unattractive; shape round-oblate; flesh firm, cream-colored; flavor subacid; eating quality fair to good; harvest season mid-October, 1 wk after Delicious ripens unevenly, Sept. - Nov. Tree: medium productive. Late, green.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588955. Malus domestica Borkh.
Sweet Delicious. Pedigree - Deacon Jones x Delicious; crossed 1911; introduced 1922. Comments:: Fruit: size very large, 80-100 mm; skin 90% red, not striped scarfskin, attractive; shape round-oblate; flesh firm, cream colored; flavor sweet, aromatic; eating quality good; harvest season early October, 4 days after Delicious. Tree: vigorous; productive; biennial cropping; diploid(Proc. Am. Soc. Hort. Sci. 53:197. 1949) Very large, resembles Delicious. R.D. Way, 1993.

PI 588956. Malus domestica Borkh.
Milton. Pedigree - Yellow Transparent x McIntosh; crossed 1909; selected 1920 introd. 1923. Comments:: Fruit: Size medium, 60-75mm; skin 50-80% pinkish red, splashed stripes, attractive; shape round, irregular; flesh soft, white; flavor subacid, aromatic; eating quality good to excellent; harvest season early September, 4 wks before Delicious. Tree: medium size; hardy; medium productive; somewhat biennial. High quality, early ripening, resembles McIntosh.

The following were developed by William Saunders, Canada Department of Agriculture, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588957. Malus hybrid
Columbia Crab. Pedigree - Malus Baccata x Broad Green (a Russian variety); crossed about 1895; distributed in 1902. Comments:: Flowers: Early bloom; blossoms resistant to frost. Fruit: size small, 40-50 mm; stalks longs, slender; skin thin, tender; flesh crisp, breaking; flavor little astringency. Tree: Resistant to collar rot and fire blight; tolerant to apple stem pitting virus. Seedlings used as winter hardy
rootstocks; a portion of the seedlings are resistant to lime chlorosis.

The following were developed by W. J. Akin, Lawrenceville, Illinois, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Akin. Pedigree - Unknown. Seed planted in 1831, propagated in 1868, exhibited 1890. Comments:: Fruit: Large (70-75 mm); color 90-100% red; attractive late red color pattern striped; shape round-oblate; flesh firm, cream-colored; flavor subacid; eating quality good; harvest date late, 2 wks after Delicious; storage life at 32D F 7-8 mo.; over-all commercial rating fair. Tree: Productive, biennial bearing.

PI 588959. *Malus x magdeburgensis* Hartwig  
Pedigree - *M. spectabiles* x *M. pumila*; originated before 1900. Comments:: Flowers: single and semi-double, 7-15 petals; 45 mm wide; pink. Fruit: 30 mm; reddish brown; deciduous calyx; not ornamental. Fruit not ornamental. (*Malus x magdeburgensis*).

PI 588960. *Malus baccata* (L.) Borkh.  
Rockii. Comments:: Flower: single: 25mm; white. Fruit: very small, 10 mm; bright red. Tree: large. Flowering crab. Introduced into US in 1922.

The following were developed by Arthur Boller, Sodus, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Boller McIntosh. Pedigree - A red-fruited bud mutation of McIntosh. Discovered in 1950; introduced in 1954. Comments:: Fruit: Resembles McIntosh but firmer, somewhat smaller, and more highly colored than McIntosh. A red sport of McIntosh; Tree: Standard type.

The following were developed by Canada Department of Agriculture, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Diana. Pedigree - Laneford Beauty Seedline; name by W.T. Macoon in 1913. Comments:: Fruit: size medium, 65-80 mm; skin 50-90% red, striped, attractive; shape round; flesh soft, cream-colored; flavor slightly acid; eating quality poor to fair; harvest season early September, uneven ripening. Tree: heavy annual cropping; fruits drop before ripe. Early, attractive, low quality.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588964. Malus domestica Borkh.
    Michurin’s Seedless.

PI 588965. Malus x robusta (Carriere) Rehder
    Joan. Pedigree - X robusta clone found in 1918 by John Dunbar, Park
    System, Rochester, NY, named after his granddaughter. Comments::
    Flowers: single 50 mm wide; white. Fruit: 35 mm; red and yellow. Tree:
    alternate bearer. Similar to other robusta clones; not worthy of
    cultivation. No special merit.

PI 588966. Malus coronaria (L.) Miller
    Bracteata. Collected in United States. MO to GA and ALA. Pedigree -
    Grown from seed from Campbell, MO sent to Arnold Arboretum in 1912;
    introduced by Arnold Arboretum. Comments:: Flower: single, 40 mm; light
    pink-white; attractive. Fruit: 30 mm; green. Tree: annual bearer.
    Leaves: 10% lobed. Similar to coronaria.

The following were developed by Roy A. Bisbee, Hood River, Oregon, United
States. Donated by Roger D. Way, Cornell University, New York State Agric.
Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United
States. Received 06/24/1985.

PI 588967. Malus domestica Borkh.
    Bisbee Giant Winesap. Pedigree - Probably a seedling of Winesap; may or
    may not be the same as Stayman Winesap; discovered about 1963.
    Comments:: Triploid (chromosomes counted by C. Pratt). Fruit: Indis-
    tinguishable from Stayman Winesap. Similar to Stayman Wine- sap. Tree:
    Less upright, more open than Stayman Winesap.

The following were developed by Isaac C. Rogers, Dansville, New York, United
States. Donated by Roger D. Way, Cornell University, New York State Agric.
Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United
States. Received 06/24/1985.

PI 588968. Malus domestica Borkh.
    Rogers McIntosh. Pedigree - Red-fruited mutation of McIntosh; intro.
    1932. Comments:: Fruit and tree indistinguishable from McIntosh, except
    fruit redder, mostly blushed, very little striping. Most widely grown

The following were developed by W.B. Harper. Donated by Roger D. Way, Cornell
University, New York State Agric. Exp. Station, Department of Horticulture,

PI 588969. Malus domestica Borkh.
    Schoharie Spy. Pedigree - Blushed skin color pattern bud mutation of
    Northern Spy; discovered 1936. Comments:: Fruit and tree
    indistinguishable from Northern Spy, except duller, red blushed skin
    color pattern. Blushed skin color pattern mutation Northern Spy. R.D.

The following were developed by Agriculture College, Truro, Nova Scotia,
Canada. Donated by Roger D. Way, Cornell University, New York State Agric.
Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United
States. Received 06/24/1985.

PI 588970. Malus domestica Borkh.
    Shaw Ribston. Pedigree - Red-fruited mutation of Ribston, discovered
    about 1920. Comments:: redder, 30-90% red-orange stripe. Red-fruited
Roxbury Russet. Pedigree - Parentage unknown; originated early 1600's.
Comments:: Fruit: size medium to large, 65-75 mm; skin light green 5-60%
      dull orange blush, 10-40% brown russet, sometimes cracks; shape
      round-conic; flesh firm, light yellow; flavor slightly acid; eating
      quality fair to good; harvest season late October, 3 wks after
      Delicious; long storage life. Tree: productive; fruits drop. Green and

Joan. Pedigree - Anisim x Jonathan; crossed 1906; selected 1918;
introduced 1932. Comments:: Fruit: large; round; skin a solid bright
red, very attractive; flesh white, subacid, juicy, quality fair; a good
culinary type; harvest season early October with Delicious. Tree:
annual bearer; very productive; subject to fire blight. Excellent color;
poor quality.

PI 588973. *Malus domestica* Borkh.
Black Gilliflower. Pedigree - Unknown. Originated before 1841, late
1700's. Comments:: Fruit: Medium to large, 65-75 mm; skin 90% red,
conic, dark red, late, deepening to dark purplish-red or almost black,
striped; shape long conic; flesh firm, cream-colored, dry; flavor
subacid; eating quality good; harvest season late, November 1, 3 wks
after Delicious; use fresh market; storage life medium, 5 mo. at -0.5D
C; popular in late 1800s because kept well in unrefrigerated cellars.
Tree: healthy, dense leaves; productive.

PI 588974. *Malus x scheideckeri* Spaeth ex Zabel
Scheidecker Crab. Pedigree - M. floribunda x M. prunifolia; originated
before 1888. Comments:: Flowers: double, 10 petals; 30 mm diam;
rose-pink; attractive; useful ornamental; late blooming. Fruit: size
small 15- 20 mm; skin yellow-orange, attractive; shape round-oblative;
half of calyces persistent and protruding, half deciduous. Leaves:
bronze, glossy. Resembles midget crab, flowering ornamental. R.D. Way,
1993.

The following were developed by J. Stayman. Donated by Roger D. Way, Cornell
Stayman. Pedigree - Winesap x ?; raised 1866; first fruited 1875; introduced 1895. Comments:: Fruit: size medium to large, 75 +/- mm; skin 90% red, striped attractive, sometimes small cracks; shape round-conic; flesh firm, greenish-light-yellow; eating quality very good; harvest season very late, beginning November, 3 wks after Delicious. Tree: vigorous; spreading; productive; biennial cropping; triploid (Ark. Expt. Sta. Bul. 312. 1934). Produced in commercial quantities in VA, WVA and PA. R.D. Way, 1993. Received 1896 from USDA, Washington, DC.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588976. *Malus micromalus* Makino
Midget Crab. Comments:: Source tree 24-6-17 is not micromalus.

The following were developed by Agriculture Canada, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Atlas. Pedigree - Winter St. Lawrence - o.p.; selected in 1912; introduced about 1924. Comments:: Fruit: skin striped red, highly colored; good for dessert and culinary purposes; keeps well. Tree: very hardy; upright, strong; productive but requires no thinning; early splashed color, McIntosh type.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Charlamoff. Pedigree - Known in Russia in 1700's or earlier. Comments:: Size large 7: 58 mm; shape intermediate to flat, rectangular to truncate-conic, convex, slightly ribbed; skin pale yellow flushed orange-red, striped red; flesh firm, crisp, white; flavour sub-acid; season second-early.

The following were developed by Canada Department of Agriculture, Research Station, Summerland, British Columbia, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Spencer. Pedigree - McIntosh x Golden Delicious; crossed 1926; introduced 1959. Comments:: Fruit: large, oblong, 80 mm; skin 80-100% red, slightly dull striped; shape slightly conic; flesh firm, white, crisp, juicy; flavor subacid; eating quality very good; harvest season mid-October, 2 wks after Delicious; Tree: vigorous; upright; productive; hardier than Spartan; annual cropping; diploid (Proc. Am. Soc. Hort. Sci. 82:56. 1963). High rating. R.D. Way, 1993. Additional Lit.Cit.: Fruit Var. & Hort. Dig. 14:15. 1959.
PI 588980. Malus domestica Borkh.
Pink Pearl. Pedigree - Open-pollinated seedling of Surprise; selected 1944; intro. 1944; Plant patent 723. Comments:: Flower: light, pink petals. Fruit: size medium, 65-80 mm; skin yellow; shape round-conic; flesh semifirm, pink (unique combination; yellow skin, pink flesh); flavor slightly acid; eating quality below fair; harvest season late September, 2 wks before Delicious. Tree: medium productivity; strongly biennial bearing. Yellow skin, pink flesh, unique. --R.D. Way, 1992.
Outstanding bouquet when skin is broken. Flesh crisp, juicy, deep pink.

PI 588981. Malus domestica Borkh.
Mollie's Delicious. Pedigree - (Golden Delicious x Edgewood) x (Red Gravenstein x Close); crossed 1948; selected 1956; introduced 1966. Comments:: Fruit: size very large, 75-90mm; skin 70-90% red, striped; shape conic; flesh semifirm, cream-colored, juicy; flavor subacid, aromatic; eating quality fair to good; harvest season mid-September, 3 wks before Delicious. Tree: productive; annual cropping; fruits hang well after ripe. Very large, good quality. R.D. Way, 1992.

PI 588982. Malus domestica Borkh.
Ozark Gold. Pedigree - Golden Delicious x H 1291 (Red Delicious x Conrad); Introduced 1970. Comments:: Fruit: Size large, 70-80 mm; skin ground yellow-green, 10-30% orange blush, attractive; shape conic; flesh semifirm cream colored; flavor subacid; eating quality fair to good; harvest season first wk October along with Delicious. Tree: productive; strongly biennial; Diploid (J.Amer.Soc.Hort.Sci. 103(5): 692. 1978). Resembles Golden Delicious, redder, earlier.

PI 588983. Malus hybrid
Mary Potter. Pedigree - M. sargentii x M. atrosanguinea; crossed in 1939; introduced in 1947. Comments:: Flowers: single; 27mm; pink buds followed by white flowers. Fruit: small, 12mm; red. Tree: triploid; facultative apomict, breeds true. Ornamental crab apple.

PI 588984. Malus hybrid
Kensib. Pedigree - Kentucky Mammoth Crab x Dolgo. Comments:: Fruit: size small-medium 60-70% mm; skin 90-100% red, striped; shape round; flesh firm, cream-colored; flavor bitter, very astringent; eating quality almost inedible; harvest season late September, 1 wk before Delicious. Tree: dwarf, low vigor, productive; biennial; fruits drop as they ripen. Worthless, bitter.

The following were developed by Farm of "Deacon" Jones, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588985. Malus domestica Borkh. Deacon Jones. Pedigree - May be a seedling of Yellow Bellflower; discovered about 1840; introd. 1892 by J.S. Ford, Pittsford, NY. Deacon Jones is a parent of Medina, Newfane and Sweet Delicious. Comments:: Fruit: size large, 75-85 mm; skin 50-90% dull red, striped, some scarfskin and russet, not attractive; shape long conic; flesh firm, cream-colored; flavor slightly sweet, bland; eating quality mediocre to fair; harvest season late, late October. Tree: productive; annual cropping. Large, mediocre quality.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were developed by A. Wagener. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588989. Malus baccata (L.) Borkh. Manchurian. Pedigree - Introduced to England in 1824 and to US by Arnold Arboretum, Jamaica Plant, MA in 1882. Comments:: Flower: single; large, 40 mm; white; earliest blooming. Fruit: size larger than
baccata, 25-35 mm; skin 100% red, blushed, attractive; shape
round-oblate; ripening season, late September, 1 wk before Delicious.
Tree: vigorous; medium productive; annual; very resistant to fire
blight. Flowering crab.

The following were developed by Niels E. Hansen, S.D. Agr. Expt. Sta.,
Brookings, South Dakota, United States. Donated by Roger D. Way, Cornell
University, New York State Agric. Exp. Station, Department of Horticulture,

PI 588990. Malus hybrid
Hopa. Pedigree - Malus pumila x Malus baccata; introduced 1920.
Comments:: Flowers: single; size 43 mm; expanding buds dark red to
purplish red; open rose pink with almost white star on the center.
Fruit: size 25 mm; bright red, usually yellowish on shaded side; shade
somewhat oval; flesh pink; calyx deciduous; flavor extremely astringent;
borne in clusters; harvest season late September, 2 wks before
Delicious. Tree: heavy, annual cropper; leaves reddish tinge. Ornamental

The following were developed by E.A. Bechtel, Staunton, Illinois, United
States. Donated by Roger D. Way, Cornell University, New York State Agric.
Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United
States. Received 06/24/1985.

PI 588991. Malus ioensis (Alph. Wood) Britton
Bechtel Crab. Pedigree - Double-flowered natural mutation of Malus
ioensis. Discovered in Staunton, Ill. by E.A. Bechtel between 1840 and
1850; introduced 1888. Comments:: Flowers: double, about 33 petals;
large, 50 mm wide; light pink; attractive ornamental; blooms late.
Fruits: 30 mm; green, greasy. Tree: small to medium; very light
cropping; annual bearer; very susceptible to cedar-apple rust. Double-flowered Iowa crab.

The following were developed by Inelis Nursery, Ohio, United States. Donated
by Roger D. Way, Cornell University, New York State Agric. Exp. Station,
Received 06/24/1985.

PI 588992. Malus domestica Borkh.
White Angel. Pedigree - Unknown; chance seedling; originated about
1947; introduced 1962. Comments:: Flower: single; pure white;
attractive; 26 mm diam. Fruit: size 20 mm diam; skin glossy scarlet
red, attractive; calyx protruding, sometimes Deciduous; fruits
persistent. Tree: upright, spreading, somewhat open; leaves glossy
green; disease resistant. One of best flowering crabs. Ornamental

The following were donated by Roger D. Way, Cornell University, New York
State Agric. Exp. Station, Department of Horticulture, Geneva, New York
14456-0462, United States. Received 06/24/1985.

PI 588993. Malus x robusta (Carriere) Rehder
Pedigree - M. baccata x M. prunifolia; grown at Arnold Arboretum from
seed sent in 1904 by C.S. Sargent from Peking, China. Introduced by
Arnold Arboretum. Comments:: Flowers: single; 45 mm wide; white, some
clones pinkish; very early blooming. Fruit: 30-35 mm; red or yellow,
many different clones. Tree: medium size; alternate bearer.
Cherry-like fruits.

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PI 588994. Malus prunifolia (Willd.) Borkh.
Rinkii. Collected in Unknown. Eastern Asia; introduced into US about 1850. Comments:: Flowers: single; 50 mm wide; pink. Fruit: 50-30 mm; green and red. Tree: heavy cropping; alternate bearing. Flowering crab apple.

PI 588995. Malus domestica Borkh.
Antonovka Kamenichka. Pedigree - Recorded in 1889. Comments:: Size medium; shape intermediate, rectangular, convex; skin bright yellow; flesh rather tender, yellowish white; flavour acid; season late; tree upright; hardy tree.

PI 588996. Malus baccata (L.) Borkh.
Costata. Comments:: Flowers: large; white. Fruit: size too large for baccata, 25-30 mm; skin 90% red, blushed color pattern; shape round-oblate. Not baccata type.

The following were developed by E Malline Res. Sta., Maidstone, England, United Kingdom. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588997. Malus domestica Borkh.
Crab C. Pedigree - Unknown; From Todman, Borough Green, Kent, in batch of sdlg. stocks called "True French Crab"; selected in 1914. Comments:: Used only as a clonal rootstock; crab apple; summer shoots very vigorous, woolly throughout; dormant wood deep reddish on sun-exposed portions. Leaf: broad, obovate, dull, halves upfolded; teeth broad, irregular; apple rootstock.

The following were developed by Marshall Farm, Inc., Fitchburg, Massachusetts, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588998. Malus domestica Borkh.
Marshall McIntosh. Pedigree - Red-fruited, branch mutation of McIntosh; discovered in 1967. Comments:: Fruit: More red color than McIntosh; develops red color 2 or 3 wks earlier than McIntosh; harvest date earlier than McIntosh; good storage quality. Tree: nonspur; indistinguishable from McIntosh. Reddest McIntosh mutation. R.D. Way, 1991.

The following were developed by Mervyn Greenslade, British Columbia, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588999. Malus domestica Borkh.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.
PI 589000. Malus domestica Borkh.
Kendall. Pedigree - Zusoff x McIntosh; crossed 1912; introduced 1932.
Comments: Fruit: size large 75-80 mm; skin 90% dark red, blushed, heavy waxy bloom; shape round-oblate; flesh firm, nearly white, greenish tinge; flavor subacid, McIntosh-like aroma; eating quality fair; harvest season early October, 1 wk. before Delicious. Tree: vigorous; productive; biennial cropping. Resembles McIntosh.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589001. Malus domestica Borkh.
Winter Sweet Paradise. Pedigree - Unknown; recorded 1842. Comments: Fruit: size above medium, 70-80 mm; skin 90-100% red, dark stripes; shape round-oblate; flesh firm, light yellow; flavor sweet; eating quality fair; harvest season late October, 3 wks after Delicious. Tree: productive; annual bearing. Fully red, late, sweet. R.D. Way, 1992.

The following were developed by Missouri State fruit Expt. Sta., Mountain Grove, Missouri, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589002. Malus domestica Borkh.
Jonagram. Pedigree - Ingram x Jonathan; crossed 1923; introduced 1956. Comments: Fruit: medium to large, larger than Jonathan; roundish; stem thick, of medium length; skin thin, tough, smooth, pale bright yellow overlaid with red, faint strip on some fruits which have less color, dots small; flesh whiter than Jonathan but not as white as Ingram, firm, fine-grained, juicy, crisp, tender, subacid; keeps well in storage; matures about Sept. 5 in southern Mo., at Jonathan time. Tree: most outstanding characteristic is its late blooming habit, about 12 days after Jonathan and Delicious and 6 days after Golden Delicious and Rome Beauty. Resembles Jonathan.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589003. Malus x robusta (Carriere) Rehder

The following were developed by Canada Department of Agriculture, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589004. Malus domestica Borkh.
Hunter Sandow 2-4-4. Pedigree - Colchicine-induced tetraploid form of Sandow; about 1956. Comments: Fruit: size very large; 85-100 mm; 50-70% red, dull stripes shape oblate; flesh light yellow, bitter pit; flavor slightly acid; eating quality fair; harvest season late September, 2 wks before Delicious, ripens unevenly. Tree: very vigorous; very nonprecocious; very unproductive; fruit drop before they ripen. Tetraploid sandow.
The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589005. Malus coronaria (L.) Miller
Matthews. Pedigree - Probably a hybrid; grown in 1898 by B.A. Mathews, Knoxville, KY; obtained from Downing in 1873. Comments:: Flower: single; 55 mm; pink. Fruit: 50 mm; yellow-green very oblate shape. Tree: vigorous; dense branches and foliage; alternate bearing; tip of leaves lobed. Yellow-green fruits.

The following were developed by Aaron Miller, Walla Walla, Washington, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589006. Malus domestica Borkh.
Spokane Beauty. Pedigree - Unknown; seed sown 1859; discovered 1894. Comments:: Fruit: Very large, up to 130 mm. often over 2 lbs. each. Skin 70% carmine stripe, slight russet; shape roundish, flesh firm, nearly white; flavor slightly acid, sprightly; eating quality fair; harvest season 1st wk October, with Delicious. Tree: vigorous; not highly productive; annual cropping; very susceptible to fire blight; rating 5. Diploid (Proc. Am. Soc. Hort. Sci. 82:58. 1963) Largest apple. R.D. Way, 1993. Good for drying, cooking, dessert and juice.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589007. Malus domestica Borkh.
Twenty Ounce. Collected in Unknown. Around 1850, cultivation appeared to be mostly confined to Cayuga Co., New York, origin unknown, although possibly Connecticut. Pedigree - Brought to notice about 1844. Comments:: Fruit: Large, attractive, green becoming yellowish with broad stripes and splashes of red. Harvest season from Sept. to early winter. Keeps and ships well. Flesh whitish somewhat tinged with yellow. Coarse, moderately tender, juicy, subacid, good for culinary use, second rate for dessert. Tree: moderately vigorous, subject to sunscald and canker on trunk and lower limbs; desirable to top work it upon hardy stock like Talman Sweet or Northern Spy. Additional LIT.CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Catalogue. 31 (Received 1883 from Rochester, NY).

PI 589008. Malus sp.
M. turesii. Comments:: Crab. Flower: single, white; Fruit: size small crab, 12 mm; skin yellow; calyx deciduous. Tree: small, dwarf; branches horizontal, drooping habit; early leaf senescence; unproductive. R.D. Way, 1993.

The following were developed by USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Washington, District of Columbia 20002, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589009. Malus hybrid
NA 40298. Comments:: Flowers: single; white. Fruit: born in clusters; size small 20-25 mm; skin bright dark red, very attractive; calyx Deciduous; ripening season early October, with Delicious. Leaves; 10% of leaves lobed. Tree: very productive; extremely biennial. Ornamental
flowering crab apple. R.D. Way.

The following were developed by N.E. Hansen, Agricultural College of South Dakota, Brookings, South Dakota, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589010. Malus hybrid
Redflesh. Pedigree - Malus pumila Niedzwetzkyana x M. coronaria cv. Elk River; intro. 1928. Comments:: Flower: single: 45 mm diam; carmine buds and flowers fading to dull pink. Fruit: Size 40-45 mm; skin red; shape oblong; flesh red; flavor astringent; eating quality inedible; ripening season late September, 2 wks before Delicious. Tree: greenish bronze foliage; strongly alternate bearing; red flesh crab apple. --R.D. Way, 1992.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589011. Malus sargentii Rehder
Collected in Unknown. Japan; introduced into US in 1892 by Arnold Arboretum. Comments:: Flowers: single; 25 mm wide; white. Fruit: borne in clusters; 10-25 mm; round; red; attractive berrylike. Tree: smallest of the crab apple trees, 2m tall; alternate bearer. Small trees; fruits berrylike.

PI 589012. Malus domestica Borkh.
Fall Russet. Pedigree - Unknown. Introd. 1875. Comments:: Fruit: size medium, 65mm; skin russet; shape round-oblate; flesh semifirm, cream-colored; flavor subacid; eating quality food; harvest season late September, 2 wks before Delicious. Tree: strongly biennial. Russet, good quality.

PI 589013. Malus halliana Koehne

PI 589014. Malus coronaria (L.) Miller

PI 589015. Malus domestica Borkh.
Early Harvest. Pedigree - Unknown; In existence early 1800's or before. Comments:: Fruit: size medium, 50-70 mm; skin yellowish-green; shape round-oblate; flesh soft, nearly white, sometimes watercore; flavor subacid; eating quality fair; harvest season very early, late July. Tree: medium productivity; somewhat biennial. Very early, yellow-green.

PI 589016. Malus x purpurea (Barbier) Rehder
Aldenhamensis. Pedigree - Atrosanguinea x Niedzwetzkyana; introduced into US in 1923 by Arnold Arboretum. A chance seedling about 1915 at Aldenham House, Elstree, Hertfordshire, England. Comments:: Flowers: single and semidouble, 5-11 petals; large, 40-45 mm wide; purplish red; attractive; blooms late; frequently blooms again in late September. Fruit: 20-25 mm; brownish purple, russet streaks; shape oblate; stems long (65 mm); calyx protruding and persistent. Foliage: bronze. Tree:
small; annual bearer. Very good ornamental.

The following were developed by C. P. Close, University of Maryland, College Park, Maryland 20742, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589017. Malus domestica Borkh.
C.P. Close. Comments:: Fruit: size medium to large, 70-85 mm; skin 70-100% red, striped attractive; shape round-conic; flesh soft, cream-colored; flavor sub-acid; eating quality fair; harvest season early, early to mid-August. Tree: medium productivity; annual cropping; fruits drop as they ripen; very early, red, soft.

PI 589018. Malus domestica Borkh.
Cimitiere. Comments:: Fruit: Cider type; size small, 55-65 mm; skin yellow-green, 5% pink blush; shape round-oblate; flesh firm, cream-colored exposed flesh oxidizes quickly; flavor sub-acid, stringent, eating quality poor; harvest season late October. Tree: fruits born in clusters; extremely biennial cropping; medium yields.

PI 589019. Malus baccata (L.) Borkh.
Columnaris. Pedigree - Arnold Arboretum received in 1927 as grafts mistakenly of M. orthocarpa from Royal Botanic Gardens, Kew, Richmond, Surrey, England. Named and introduced in 1940 by Arnold Arboretum. Comments:: Flowers: single; large 40 mm; white; attractive. Fruit: very small, 15 mm; yellow to orange. Tree: very columnar growth habit; annual bearing. Ornamental flowering crab, columnar tree.

PI 589020. Malus domestica Borkh.
PI 589021. Malus domestica Borkh.
Young America. Pedigree - Unknown; originated about 1900. Comments:: Crab. Flowers: Single; 35 mm diam.; pink buds followed by white flowers. Fruit: size large crab, 40-50 mm; skin 80-100% dark red, blushed, attractive; shape round; flesh firm, light yellow; flavor slightly acid, only slightly astringent eating quality poor, good for jelly making; harvest season beginning September, 5 wks before Delicious; one of the best crabs. Tree: productive; annual cropping; diploid (Proc. Am. Soc. Hort. Sci. 53:197. 1949). Crab for jelly making. R.D. Way, 1993.

The following were developed by Arnold Arboretum, The Arborway, Jamaica Plain, Massachusetts 02130, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589022. Malus spectabilis (Aiton) Borkh.
Blanche Ames. Pedigree - Open-pollinated seedling of M. spectabilis cv. Riversi. Selected by Karl Sax in 1939. Introd. in 1947. Tested as A.A. 6639. Comments:: Flowers: semidouble, pink and white; 3.5 cm. across. Fruit: yellow, 0.8 cm in diam. Tree: disease free; Ornamental white flowering crab.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589023. Malus domestica Borkh.
Early McIntosh. Pedigree - Yellow Transparent x McIntosh; crossed 1909; selected 1921 introduced 1923. Comments:: Fruit: resembles McIntosh but is less aromatic and more uprightly; ripens in mid-Aug.; flavor excellent; good for home and local markets. Tree: vigorous; productive; biennial in habit, tendency toward small size unless thinned very early.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589024. Malus domestica Borkh.
Crimson Beauty. Pedigree - Originated about 1880. Comments:: Size medium 64:51 mm; shape intermediate, rectangular to truncate-conic, convex, ribbed at eye, slightly ribbed on body; skin greenish yellow with bright red, often extensive flush, and stripes, some bloom; flesh rather soft, greenish white; flavor subacid to acid; season early to second early; very early flowering; bright red, sour, early.

The following were developed by C.L. Roberts, Department of Agronomy and Horticulture, New Mexico State University, Las Cruces, New Mexico 88003, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589025. Malus domestica Borkh.
Splendor(Stark). Pedigree - Unknown; discovered 1948; introduced 1967. Comments:: Fruit: Size large, 75 mm; skin bright red, waxy, tender, glossy, some scarfskin; shape void-conical, slightly ribbed; flesh semifirm, yellowish crisp, very juicy, fine-grained; flavor subacid, aroma distinct; eating quality good; harvest season 1st wk October, with

The following were developed by Laxton Bros., Bedford Ltd., Bedford, England, United Kingdom. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589026. Malus domestica** Borkh.
Laxton’s Superb. Pedigree - Wyken Pippin x Cox’s Orange Pippin; raised 1897; introduced 1922. Comments:: Fruit: size large, 70-85 mm; skin 30-90% red stripe; shape round-conic; flesh semifirm, cream-colored; flavor subacid; eating quality above fair; harvest season mid-October, 1 wk after Delicious. Tree: productive, strongly biennial cropping; fruits drop as they ripen. Cox type flavor. Substit- ute for northern gardens. Nov. - Mar. Prone to scab in wet areas. Self-fertile.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589027. Malus domestica** Borkh.
Loop Spy 2-2-4-4. Pedigree - Northern Spy bud mutation. Comments:: Synonym of Loop Giant Spy.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589028. Malus domestica** Borkh.
Oswego. Pedigree - Sutton x Northern Spy; crossed 1899; selected 1911; introduced 1915. Comments:: Fruit: size large, up to 90 mm; skin 30% grayish light red striped, not attractive; shape round conic; flesh firm, yellowish cream colored; flavor slightly acid; eating quality fair; harvest season very late, beginning November, 3 wks after Delicious. Tree: not highly productive; strongly biennial bearing. Similar to Northern Spy. R.D. Way, 1992.

The following were developed by Kaiser-Wilhelm Institut, Munccheberg Mark, Germany. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589029. Malus domestica** Borkh.
Erwin Bauer. Pedigree - Geheimrat Doktor Oldenburg x ? raised 1928, named 1955. Comments:: Fruit: size very large, 80-100 mm; skin 80-90% red, striped shape oblate; flesh semifirm, nearly white; flavor subacid; eating quality fair; harvest season early September, 4 weeks before Delicious. Tree: productive. Large, early Sept.

The following were developed by Univ. of Minnesota, Excelsior, Minnesota, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589030. Malus domestica** Borkh.
Minnehaha. Pedigree - Malinda open-pollinated; selected 1914; introduced 1920; first cultivar introduced by Univ. Minn. Comments: Fruit: large, 70-80mm; skin 60-90% red, striped; shape oblate; flesh semifirm, nearly white; flavor subacid; eating quality fair; harvest season late September, 2 weeks before Delicious. Tree: productive; somewhat biennial. Large, red, mid-season. R.D. Way, 1992.

The following were developed by J.F. Spencer. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589031. Malus domestica Borkh. Spencer Seedless. Pedigree - Unknown; discovered about 1895. Comments: Flowers: without petals; without stamens. Fruit: size medium 65-75mm; skin 50-80% dull red, striped, unattractive; shape round-oblate; flesh hard, cream-colored; 2 sets of carpels; has some seeds; flavor subacid; eating quality poor; harvest season very late, early November, 4 weeks after Delicious. Tree: very productive. Fruits have seeds; flowers without petals or stamens. R.D. Way 1993.

The following were developed by Canada Department of Agriculture, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589032. Malus domestica Borkh. Linda. Pedigree - Langford Beauty Seedling; selected 1914; introduced 1935. Comments: Fruit: large; skin an attractive deep crimson; flavor sprightly; quality good in midwinter. Tree: vigorous; comes into bearing at an early age; not fully hardy in Ottawa and St. Lawrence River Valleys of Ontario and Quebec unless top-worked on a hardy framework.

The following were developed by H. S. Loop, North East, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were developed by William Coon, Clay Township, Gallia Co., Gallipolis, Ohio, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Oregon Spur Delicious. Pedigree - Red-fruited, early coloring, spur limb mutation of Red King Delicious; introduced about 1966; plant patent 2816, June 1968, assigned to Van Well Nursery, Wenatchee, WA. Comments: Fruit indistinguishable from Red King Delicious, except fruit colors 10-14 days earlier and color is deeper red. Tree: also mutated for spur growth habit. Early coloring, spur mutation of Red King Delicious.

Quebec Belle. Pedigree - Northern Spy seedling; Alexander thought to be pollen parent discovered 1948; intro. 1956. Comments: Fruit: size above medium, 70-80 mm; skin 60-100% red, dark stripe; shape round-conic; flesh firm, cream-colored; flavor slightly acid; eating quality fair; harvest season late; beginning of November, 3 wks after Delicious. Tree: very upright growth habit; nonprecocious; productive; biennial cropping. Late, red. R.D. Way, 1992.


Turley. Pedigree - Winesap seedling. Seed planted 1899; selected 1910; introduced 1922; derived from an organized apple breeding program; Amer. Pomological Soc. Silver Wilder Medal 1917. Comments: Fruit: size large, 70-80 mm; skin 80-100% dark red, striped; shape round-conic; flesh firm, yellowish cream-colored; flavor subacid; eating quality good; harvest season very late, beginning November, 3 wks after Delicious. Tree: very vigorous; very productive; annual cropping; fruits drop; triploid (Proc. Am. Soc. Hort. Sci. 50:45. 1947). Resembles Stayman Winesap. R.D. Way, 1993.

The following were developed by Rankin Toole, Lincoln Co., Fayetteville, Tennessee, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.
PI 589039. Malus domestica Borkh.
Paragon. Pedigree - Seed planted about 1830; introduced after 1870; thought to be Winesap x Limbertwig. Comments:: Fruit: size medium large, 70-80 mm; skin 50-80% red, dull blush, scarfskin; shape round-conic; flesh hard, light yellow; flavor slightly acid; eating quality below fair; harvest season very late, early Nov., 4 wks after Delicious. Tree: Triploid; large, vigorous; medium productive; strongly biennial cropping. Winesap Type. R.D. Way, 1992.

The following were developed by Mr. Crooks, Red Hook, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589040. Malus domestica Borkh.
Gloria Mundi. Pedigree - Unknown; first recorded 1804. Comments:: Fruit: size very large; skin greenish-yellow sometimes with faint bronze blush; shape round; flesh semifirm, light yellow; flavor mildly subacid; eating quality fair; harvest season early October. Tree: vigorous; spreading; not productive. Very large.

The following were developed by Carl R. Gibson, Evans City, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589041. Malus domestica Borkh.

The following were developed by I. Middleton, West Webster, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589042. Malus domestica Borkh.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589043. Malus domestica Borkh.
Bietigheimer. Pedigree - Unknown. Comments:: Size large 79-99:72-81 mm; shape intermediate to flat or tall, truncate-conic, convex, broad ribs at eye and on body, asymmetric; skim pale greenish yellow, almost entirely covered with bright pinkish red to deep red flush, russet dots, solid rough russet on base, smooth; flesh fine, hard crisp, creamy white; flavor acid; season mid; large, unattractive, poor quality.

The following were developed by A.W.S. Hunter, Central Experiment Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

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PI 589044. Malus domestica Borkh.
Hunter Melba 4X. Pedigree - Wholly tetraploid mutation of Melba; chromosomes doubled with colchicine about 1955. Comments:: Fruit: similar to Melba, except larger, 70-85 mm; more bitter pit. Tree: more open growth habit than Melba. Wholly tetraploid mutation of Melba.

The following were developed by Charles Applegate, Monmouth County, Freehold, New Jersey, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589045. Malus domestica Borkh.
Monmouth Beauty. Pedigree - Introduced 1925. Comments:: Fruit: size large, 75-90mm; skin 50-90% red, striped; shape round-oblate; flesh soft to semifirm, nearly white to cream-colored; flavor slightly acid; eating quality fair; harvest season mid-September, 3 wks before Delicious. Tree: productive; annual cropping. Large, red, semifirm, fair, quality. R.D. Way, 1992.

The following were developed by Samuel Greatorex, Knighton, England, United Kingdom. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589046. Malus domestica Borkh.
Annie Elizabeth. Pedigree - Blenheim orange x o.p. Raised by Samuel Greatorex. Introduced by Harrison's, Leicester about 1868. (Maybe from Blenheim orange). Comments:: Size large 95:80 mm; shape flat to intermediate, rectangular to conic, convex, ribbed at eye and on body; skin yellow flushed and striped red, greasy, hammered, tough; flesh firm tender, white; flavor acid; season very late; tree upright; very large, late red. Speckled and stripes with grey-red to pink; culinary; crisp, coarse.

The following were developed by Daniel D. Tyron, Pulaski, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589047. Malus domestica Borkh.
Farmer Spy. Pedigree - A red-fruited mutation of Northern Spy; discovered 1904; introduced 1910. Comments:: Fruit: indistinguishable from Northern Spy, except redder color; color pattern blushed; redder than most other red sports of Northern Spy. A red sport of Northern Spy.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589048. Malus domestica Borkh.
Red Westfield Seek-No-Further. Pedigree - Red-fruited mutation of Westfield Seek-No-Further; described 1869. Comments:: Fruit and tree indistinguishable from Westfield Seek-No-Further, except fruit redder, 80% dull red blush; some branches revert to normal Westfield Seek-No-Further. Red-fruited mutation of Westfield Seek-No-Further. --R.D. Way, 1992.
Kelly #1. Comments:: Fruit: very similar but not identical with Golden Delicious. Compared with Golden Delicious, Kelley #1 has 5% orange blush; slightly earlier ripening, slightly more conic shape; more susceptible to blister spot; less russet; dots more prominent. Tree: extremely biennial cropping. Very similar to Golden Delicious.

Dunning. Pedigree - Early Mcintosh x Cox's Orange Pippin; crossed 1923; selected 1935; introduced 1938. Comments:: Fruit: size small to medium, 60-70 mm; skin 80% dark red, striped, glossy, covered with waxy bloom; flesh soft to semi firm, whitish cream-colored; flavor sweet; eating quality good; harvest season early; end of August, 6 weeks before Delicious. Tree: vigorous; upright; spreading, medium productivity; strongly biennial. Early, sweet, red.

Opalescent. Pedigree - Unknown: introduced 1899. Comments:: Size large 76:69 mm; shape intermediate, conic, convex, ribbed base to apex, sometimes asymmetric; skin pale yellow, bright scarlet flush and stripes, dotted, very greasy; flesh firm, fairly crisp, cream to yellowish white; flavor sweet; eating quality fair; harvest season mid-October, 1 wk after Delicious. Tree: productive; annual bearer. Large, fully red, attractive, late. R.D. Way, 1992.

Bancroft. Pedigree - Forest X McIntosh; Selected in 1930; Introduced about 1935. Comments:: Fruit: sizes well; skin highly colored red; keeps well in cold storage until Apr.; quality moderately good. Tree: strong grower of good form; bears at a young age; appears to be as hardy as McIntosh; Important in Poland.

Lady. Pedigree - Recorded 1628. Roman times. Comments:: Fruit: size
small, 40-80 mm; skin 30-80% orange blush, green ground color; shape oblate; flesh firm, nearly white; flavor slightly acid; eating quality fair; harvest season late October, 3 wks after Delicious. Tree: very upright growth habit; productive; strongly biennial cropping. Oldest apple variety. Grown in the Gardens of Louis XIII, Orleans, 1628. Exquisitely beautiful little dessert apple, cream & crimson. Tender, crisp, very juicy, slightly per- fumy. Used for Christmas wreaths. Nov. to Dec. Small tree. Bears heavily.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589054. Malus domestica Borkh.
Red Astrachan. Pedigree - Originated before 1800. Comments:: Fruit: size medium, 65-75 mm, not uniformly size; skin 30-80% bright red, attractive; striped; shape round-oblate; flesh soft, white; flavor slightly acid; eating quality fair harvest season, ripens unevenly, late July to mid-August, 9 wks before Delicious. Tree: large leaves; vigorous; medium yields; biennial cropping. Beautiful early summer apple. --R.D. Way, 1992.

The following were developed by George Field, Lafayette, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589055. Malus domestica Borkh.
Field Spy. Pedigree - A red-fruited mutation of Northern Spy; discovered about 1961; never introduced. Comments:: Fruit: indistinguishable from Northern Spy, except redder color; 100% red, mostly blushed color pattern, very attract- ive; one of best color sports of Northern Spy. A red sport of Northern Spy.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589056. Malus domestica Borkh.
Redford. Pedigree - Wolf River x Malus pumila Niedzwetzkyana; crossed 1924; intro. 1938. Comments:: Fruit: size above medium, 70-80 mm; skin 100% dark red, blushed; shape round-conic; flesh semifirm, outer half red, inner half cream-colored; flavor sour; eating quality poor; harvest season mid-October, 1 wk after Delicious. Tree: not highly productive; annual cropping. Red flesh, poor quality, similar to Redfield. --R.D. Way, 1992.

The following were developed by Isabella Preston, Canada Dept. of Agric. Central Exp. Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589057. Malus domestica Borkh.
Cowichan. Pedigree - Malus pumila Niedzwetzkyana seedling; crossed 1920; Introduced 1930. Comments:: Flowers: single; 45 mm diam; expanding buds pale rose red, open pale lavender, almost white; one of most attractive ornamental crabs. Fruit: 40mm diam.; bright carmine with some pale yellow or ivory; good for jelly. Tree: autumn leaf color red;
The following were developed by P.M. Gideon. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589058. Malus domestica Borkh.**

September. Pedigree - Seedling of Cherry Crab; introduced 1888.  
Comments: Crab. Flower: single; 40 mm diam; pink buds followed by white flowers. Fruit: size small, 50 mm, crab; skin yellow and red; flesh good quality, not astringent; useful for jelly making. Tree: vigorous; biennial cropping. R.D. Way, 1993. (Received 1888.).

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589059. Malus domestica Borkh.**

Large Yellow Siberian. Comments: Fruit: size small, 45-50 mm; skin yellow, sometimes 5% orange blush; shape round; flesh firm, light yellow, sometimes water core; flavor acid, very astringent; eating quality inedible; useful for jelly making; harvest season early September, 4 wks before Delicious. Tree: very productive; extremely alternate cropping. Crab apple.

**PI 589060. Malus domestica Borkh.**

Vandevere. Collected in Unknown. Originated in Wilmington, Delaware. Pedigree - Unknown; first recorded 1806. Comments: In existence 1905, first recorded 1806. Fruit: size large, 80 mm; skin green ground, 30-70% dull red striped, not attractive; shape round-oblate; flesh firm, yellow, bitter pit; flavor slightly acid, unique flavor; eating quality fair; harvest season late October, 3 wks after Delicious. Tree: productive. R.D. Way, 1993. There is more than one VANDEVERE, synonym with NEWTOWN SPITZENBURG, see literature.

The following were developed by Peter M. Gideon, Excelsior, Minnesota, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589061. Malus domestica Borkh.**

Martha. Pedigree - Discovered 1879. Comments: Fruit: large crab apple, 45mm; skin 40-90% bright red, ground color clear yellow, handsome; shape round-oblate; flesh firm, cream-colored, slow to oxidize; flavor slightly acid, slightly astringent; eating quality poor; harvest season late August, 6 wks before Delicious; one of best cultivars for commercial crab apple production. Tree: medium size; very hardy; precocious cropping; productive; somewhat biennial cropping. Large crab apple for jelly making. R.D. Way, 1991.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

**PI 589062. Malus domestica Borkh.**

Redhook. Pedigree - McIntosh x Carlton; crossed 1923; selected 1935; intro. 1938. Comments: Fruit: size medium to large, 70-80 mm; skin 90-100% dark red, blushed; shape roundish oblate; flesh soft, whitish
cream-colored, pinkish tinge; flavor subacid, slightly astringent; eating quality very good but good only a few days; harvest season mid to late September, 3 wks before Delicious; storage life at -0.5C very short, 20 days. Tree: productive; somewhat biennial cropping; diploid (Proc. Am. Soc. Hort. Sci. 50:45. 1947). Dark red, good quality, soft. --R.D. Way, 1992.

The following were developed by James S. Lord, Lindon, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589063. Malus domestica Borkh.

Lord Seedling. Pedigree - Seedling in a Baldwin orchard; discovered before 1892. Comments:: Fruit: size, variable, medium to large, 65-85 mm; skin yellow-green, dots, unattractive; shape round-oblate; flesh soft, nearly white, some bitter pit; flavor subacid; eating quality fair; harvest season last wk September, 2 wks before Delicious. Tree: productive; extremely biennial cropping. Yellow-green, mediocre quality.

The following were developed by Fruitland Nursery, Fruitland, Idaho, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589064. Malus domestica Borkh.

Fruitland Delicious. Pedigree - Delicious bud mutation; discovered about 1950; never introduced. Comments:: Fruit: similar to Delicious, except much larger, 90-100mm; less conic and more blocky shaped; more bitter pit; 2-4-4 periclinal cytochimera; possible tetraploid parent in breeding. Tree: size and shape same as Delicious but less productive. Tetraploid Delicious.

The following were developed by Sir Christopher Hawkins, Cornwall, England, United Kingdom. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589065. Malus domestica Borkh.

Cornish Gilliflower. Pedigree - About 1800-tree found in a cottage garden in Truro, Cornwall the name Gilliflower is supposed to come from the old french word "girofle" signifying clove. Comments:: Size medium to large 70:65 mm; shape intermediate, conic, convex to slightly straight, ribbed at eye and on body; skin greenish to orange-yellow flushed dull red, some russet; flesh firm, yellowish; flavour sweet, aromatic; season late to very late; tree upright, partial tip bearer. Fruit: red speckles and flush - broad stripes red to purple; very distinct lenticels; clove-like fragrance. Suitable for warm areas. Dec. to May.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589066. Malus domestica Borkh.

Late Strawberry. Pedigree - Discovered before 1848. Comments:: Fruit: size medium, 70-80 mm; skin 60-100% red, splashed stripe; shape round-conic; flesh semifirm, cream-colored; flavor subacid; eating quality fair to good; harvest season late September, 2 wks before Delicious. Tree: productive; somewhat alternate bearing. Red,
mid-season, good quality.

The following were developed by Frank A. Schell, Cashmere, Washington, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were developed by Harold Matson, Zillah, Washington, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were developed by John W. Lasouska, Green Peak Orchard, East Dorset, Vermont, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589069. Malus domestica Borkh. Green Peak McIntosh 2-2-4-4. Pedigree - Large-fruited mutation of McIntosh; discovered about 1950. Comments: Type 2 Diploid-Tetraploid Chimera (2-2-4-4); chromosome counts made by J. Einset. Fruit: very large, 80-95 mm; otherwise similar to McIntosh, except fruits drop before McIntosh and the flesh has bitter pit; shape oblate, ribbed. Tree: more spreading growth habit than McIntosh. Diploid- Tetraploid chimera of McIntosh.

The following were developed by Ralph Griffith, Coben, Illinois, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589070. Malus domestica Borkh. Griffith. Pedigree - Thought to be Golden Delicious x Jonathan. Chance seedling discovered 1959; introduced 1968. Comments: Fruit: resembles Golden Delicious with red blush; round conic shape; skin deep yellow ground cover with up to 50% light red blush, small dots, smooth, very attractive; flesh very firm; very good quality, flavor between Jonathan and Golden Delicious; long storage life; ripens 2 wks after Golden Delicious. Tree: vigorous; spreading; spurry-type growth; productive. Yellowish, late ripening.
PI 589071. Malus domestica Borkh.
Chautauqua. Pedigree - Esopus Spitzenburg X Ben Davis; crossed in 1898; introduced in 1915. Comments: Fruit: size medium to large; shape roundish, somewhat irregular; skin 90% dark red, striped, greenish ground color; flesh very firm, cream-colored; flavor subacid; eating quality fair; harvest season 10 days after Delicious; storage life at -0.5°C 180 days. Tree: medium vigor; medium productivity; biennial cropping, Red, firm, late.

PI 589072. Malus domestica Borkh.
Ingram. Pedigree - Ralls Janet x ?. Comments: Fruit: size medium, 60-70 mm; skin 90-100% red, blushed; shape round-conic; flesh very firm, cream-colored; flavor subacid; eating quality fair; harvest season late, 2 wks after Delicious. Tree: upright, productive. Medium-size, fully red, long storage.

PI 589073. Malus domestica Borkh.
Dabinett. Comments: Fruit: Bittersweet cider; size small 40-65 mm; skin 70-90% dull red striped; shape round-oblate; flesh firm, cream-colored; exposed flesh oxidizes quickly; flavor subacid, astringent; eating quality poor; harvest season mid-October. Tree: medium productivity; extremely alternate cropping; fruits drop from tree as they ripen; fire blight susceptibility rating 7. Cider. (PI 150648 received from W. Hopwood, Cheltenham, England in 1945).

PI 589074. Malus domestica Borkh.
Westchester. Pedigree - Ben Davis x Green Newtown; crossed 1898; introduced 1914. Comments: Fruit: size large, 80 mm; skin 40-80% red, dull stripes, not attractive; shape round-conic, somewhat irregular; flesh semifirm, light yellow; flavor subacid; eating quality fair; harvest season late October, 3 wks after Delicious. Tree: productive; annual cropping; diploid (Proc.Am.Soc.Hort.Sci. 53:177. 1949). Late, mediocre appearance, fair quality. R.D. Way, 1993.

PI 589075. Malus domestica Borkh.
Carlton. Pedigree - Montgomery X Red Astrachan. Introduced in 1923; crossed in 1912. Comments: Fruit: large, round-conic; skin an attractive dark red; flesh white, tender, juicy, sub-acid, of Red Astrachan flavor; home use and roadside markets; ripens 1 mo. later than
Red Astrachan. Tree: vigorous; annual bearer.

The following were developed by C.P. Close; USDA Arlington Expt. Farm, Arlington, Virginia, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589076. Malus domestica Borkh.
    Close. Pedigree: Unknown; selected about 1925; tested as USDA 57; introduced in 1938. Comments:: Fruit: fairly large, 2 1/2 in. or more in diam.; quality fairly good for both dessert and cooking; ripens with or slightly ahead of Yellow Transparent; stands high summer temperatures well; for home gardens and commercial purposes. Tree: widely adapted.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589077. Malus domestica Borkh.
    Mother. Pedigree: Unknown; first recorded 1844. Comments:: Fruit: size above medium, 70-80mm; skin 100% red, dark stripe, attractive; shape round-conic; flesh firm, light yellow; flavor subacid, aromatic; eating quality fair to good; harvest season late September, 1 wk before Delicious. Tree: medium productive; annual cropping. Large, red good. R.D. Way, 1992. Large tree; flowers frost hardy.

The following were developed by Peter M. Gideon, Excelsior, Minnesota, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589078. Malus domestica Borkh.
    Gideon. Pedigree: Crab x Blue Pearmain (Amer. Pom. Soc. 1885); discovered before 1882 (Ragan). Comments:: Fruit: size medium to large, 65-80 mm; skin yellow, 20-40% pinkish orange blush; flesh white, crisp, juicy, brisk sub-acid, water core; core large; eating quality above medium; harvest season late September, 2 wks before Delicious. Tree: very hardy; vigorous; moderately productive. Yellow.

The following were developed by Isabella Preston, Canada Dept. of Agric. Central Exp. Farm, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589079. Malus domestica Borkh.
    Geneva. Pedigree: Malus pumila var. niedzwetzkana x open pollinated; rosybloom crab apple; planted 1920; introduced 1930. Comments:: Flowers: ornamental crab apple; flowers single; 30 mm diam; pink buds followed by white flowers; generally less floriferous than other flowering crabs. Fruit: size very large for a crab apple, 70 mm; flesh red; eating quality fair; excellent for jelly. Tree: hardy; productive; annual cropping; resistant to apple scab; leaves green with reddish bronze tinge; fruits drop from tree as they ripen. Large-fruited, ornamental crab apple. Red juice, cider.

The following were developed by H. Dermen, USDA-ARS, Bureau of Plant Industry, Soils, and Agricultural Engineering, Beltsville, Maryland 20705-2350, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York
PI 589080. Malus domestica Borkh.
Dermen Winesap 2-4-4. Pedigree - A type 1 chromosomal chimera of Winesap. Comments: Fruit: size large, 85 mm; larger than Winesap; shape flatter than Winesap. Tree: Not highly productive. Type 1 chromosomal chimera of Winesap.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589081. Malus domestica Borkh.
Sweet Alford. Pedigree - Unknown. Comments: Cider type. Fruit: size 75 mm; skin 80% red, striped; shape round-conic; flesh firm, light yellow; flavor sweet; harvest season mid-October, 2 wks after Delicious. Tree: not highly productive; extremely susceptible to fire blight, fire blight susceptibility rating 3. English Cider. R.D. Way, 1993.

The following were developed by Iowa Agric. Expt. Station, Ames, Iowa, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589082. Malus domestica Borkh.
Secor. Pedigree - Salome x Jonathan; crossed 1906; introduced 1922. Comments: Fruit: size large, 75-85 mm; skin 70-90% red, striped; shape round-oblate; flesh firm, light yellow; flavor subacid; eating quality fair; harvest season late October, 2 wks after Delicious. Tree: productive; annual cropping; fruits hang well after ripening. Large, red, late. R.D. Way, 1993.

The following were developed by A. Bryant. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589083. Malus domestica Borkh.
Salome. Collected in Unknown. Originated in Ottawa, Illinois. Pedigree - Unknown; originated in 1853. Comments: Fruit: size large 75 mm; skin 40-80% red striped, some scarfskin, not very handsome; shape round-conic; flesh firm, light yellow; flavor slightly acid; eating quality less than fair; harvest season late October, 3 wks after Delicious. Tree: very productive; biennial cropping; fruits hang well after ripe. Very late; not attractive. R.D. Way, 1993. (Received 1888).

The following were developed by Morton Arboretum, Lisle, Illinois, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589084. Malus domestica Borkh.
David. Pedigree - Unknown; named in 1957 by Arie F. denBoer, Des Moines Water Works, Des Moines, Iowa; named after his grandson. Comments: Flowers: single, expanding buds pin, open white; 40 mm wide blooms in mid-season. Fruit: size very small, 15 mm; scarlet red; attractive. Foliage: medium green, 50-80 mm long; healthy; not glossy; foliage conceals flowers. Tree: rounded; compact; Lew Nichols' Penn State Research showed David to be disease free, except slight fire blight. (Different from Malus domestica).
The following were developed by Richard Wellington, Geneva, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589085. Malus x arnoldiana (Rehder) Sarge ex Rehder
Cardinal. Pedigree - Introduced in 1961. Plant pat. 2,035; Mar. 21, 1961; assigned to Stark Bros. Nurseries & Orchards Co., Louisiana, Missouri. Considered to be a sdlg. of Malus arnoldiana; disc in 1946. Malus arnoldiana - open pollenated? Comments:: Fruit: crab; averaging 1 1/2 in. in diam.; skin solid, bright crimson, thin, smooth, glossy, waxy, bloom scant; flesh white, juicy, firm sprightly, aroma distinct, quality good; keeping quality medium, about 30 days in ordinary storage; usage local, culinary, being excellent for jelly; form conical, slightly ribbed; picking season about Sept. 20 to Oct. 15; fruit will hang all winter. Tree; large; vigorous; upright but drooping after fruiting; hardy; very productive; bears regularly; good resistance to scab, fireblight, insect injury; flowers; med., late bloom avg. May 9.

The following were developed by H.M. Lyman. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589086. Malus domestica Borkh.
Lyman Prolific. Pedigree - Originated before 1916. Comments:: Fruit: crab apple, small, 25-45 mm; skin 50-100% red, strip- ed, unattractive; shape round-conic; flesh firm, yellow. Flavor subacid, slightly astringent; eating quality poor to fair; harvest season late August, 5 wks before Delicious. Tree: nonprecocious, very unproductive; fruits drop as they ripen; fire blight susceptibility rating 6. R.D. Way, 1991.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589087. Malus domestica Borkh.
Red Sauce. Pedigree - Deacon Jones x Wealthy; crossed 1910; selected 1920; intro. 1920. Comments:: Fruit: size medium to large, 70-80 mm; skin 90-100% dark red, striped; shape round-conic; flesh semifirm, reddish tinge external to vascular bundles, white center; flavor acid, astringent; eating quality poor; harvest season early October, with Delicious. Tree: medium productive; biennial cropping. Makes red applesauce. --R.D. Way, 1992.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589088. Malus domestica Borkh.
M.27.

PI 589089. Malus sikkimensis (Wenzig) Koehne ex C. Schneider
Collected in Unknown. Himalaya; introduced into US about 1895. Comments:: Flowers: blooms very late; not ornamental; single 25mm wide; white. Fruit: 15-25 mm; color 100% blushed, dull, greenish red. Tree: spiny branches; alternate bearer. Not ornamental.
Sentinel. Comments: Flower: single; pale pink; very attractive; fruit: small, 8 mm; 100% dark red blush, very attractive, berry-like appearance; persistent in late Fall, long after leaf fall. Tree: narrow, upright; foliage green, healthy. Ornamental flowering crab. R.D. Way, 1993.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Toshkee. Pedigree - McIntosh x Milwaukee; originated 1903; introduced 1923. Comments: Fruit: size large, 70-80 mm; skin 70-90 red, striped, not highly attractive; shape round-oblate; flesh semifirm, cream colored; flavor subacid; eating quality less than fair; harvest season late October, 2 wks after Delicious; no commercial usefulness. Tree: productive; annual cropping; diploid (Proc. Am. Soc. Hort. Sci. 53:197. 1949). Large, late, mostly red, mediocre quality. R.D. Way, 1993.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589092. *Malus domestica* Borkh.
Hunter Ottawa 244 4X.

The following were developed by Virginia Polytechnic Institute and State University, Department of Horticulture, Blacksburg, Virginia, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Winchester. Pedigree - York Imperial x Lowry; crossed 1940; introduced 1971. Comments: Fruit: size medium to large, 70-80 mm; skin 50-90% dull red, striped, not attractive; shape round-oblate; flesh firm, light yellow; flavor subacid; eating quality fair; harvest season late October, 3 wks after Delicious; processing type; long storage life. Tree; very productive; biennial cropping viable pollen. Late ripening, processing type. R.D. Way, 1993.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589094. *Malus domestica* Borkh.
Wellington Bloomless. Collected in Unknown. Waltham, Massachusetts, United States. Pedigree - Unknown; discovered about 1875. Comments: Misnomer-Has prolific bloom; blossoms devoid of petals. Fruits: double set of seed cells; size above medium, 75 mm; skin yellow-green with
10-10% pink blush; shape long conic, irregular; flesh firm, cream-colored; sometimes few seeds; flavor slightly acid; eating quality below fair; harvest season mid-October, 1 wk after Delicious. Tree: vigorous; productive; chromosome number 2n = 41 + 1 (Proc. Am. Soc. Hort. Sci. 27:406.1931). Flowers have no petals; double sets of carpels.

The following were developed by J. Whipple. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589095. Malus domestica Borkh.
Washington Strawberry. Collected in Unknown. USA, originated at Union Springs, Washington County, NY, on farm of Job Whipple. Pedigree - Unknown; first exhibited 1849. Comments:: First exhibited 1849. Size large 70-76:64-70 mm; shape intermediate to tall, truncate-conic to rectangular, convex, slightly ribbed, rather irregular; skin bright yellow, orange-brown flush, dark red blotches and stripes, dotted, sometimes slightly rough; flesh soft, tender, coarse, loose, white tinged orange; flavor rather sweet, a little subacid; season mid to late. Tree: very productive; annual cropping; Triploid (Proc Am.Soc.Hort.Sci. 50:45. 1947). Mid-season, partially red, good quality. R.D. Way, 1993. (Received 1888).

The following were developed by H. S. Loop, North East, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589096. Malus domestica Borkh.
Loop Red Spy. Pedigree - Red-fruited mutation of Northern Spy; discovered about 1930. Comments:: Fruit and tree indistinguishable from Northern Spy, except fruit redder with 70-100% red blush. Red-fruited mutation of Northern Spy.

The following were developed by W.J. Welday. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589097. Malus domestica Borkh.
Welday Jonathan 2-2-4-4. Pedigree - Chimeral mutation of Jonathan; originated 1930. Comments:: Fruit: larger than Jonathan, 80-85 mm. Periclinal cyto- chimera 2-2-4-4. Tree: good cropper, more spreading growth habit than Jonathan; fruits drop; potentially commercially useful.

The following were developed by Agriculture Canada, Ottawa Research Station, Central Experiment Station, Ottawa, Ontario K1A 0C6, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589098. Malus domestica Borkh.
Blair. Pedigree - McIntosh x Fameuse. Cross made in Ottawa in 1929. Progeny grown at Smithfield Exp. Sta.; selected in 1944; tested as 0.294; Introd. in 1972 by D.S. Blair and Paul Roy. Comments:: Fruit: 2 1/2 to 2 3/4 inch in diam., fairly uniform; round, more pointed than McIntosh; skin solid dark red, occasional- ly some light green areas, thin, rough; colors better than McIntosh, otherwise very similar; flesh white rarely pale green, juicy and aromatic. similar to McIntosh, but ripening 10 days earlier; storage life almost as long as that of Lobo
Tree: spreading like McIntosh with fewer suckers after pruning and harder; blooms with McIntosh; moderately productive.

The following were developed by D.B. Perrine, Centralia, Illinois, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589099. Malus domestica Borkh.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589100. Malus domestica Borkh.
Red Spitzenburg. Pedigree - Red-fruited mutation of Esopus Spitzenburg; discovered about 1940. Comments: FRuit and tree indistinguishable from Esopus Spitzenburg, except fruit redder, 100% red. Red-fruited mutation of Esopus Spitzenburg. --R.D. Way, 1992. NOTE: The inventory GMAL 802.06 was indexed for three different viruses (SP, SG, CLS) and were found negative, 5/28/1992. However, symptoms suggest another virus present on Radiant indicator.

PI 589101. Malus domestica Borkh.

The following were developed by H. S. Loop, North East, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589102. Malus domestica Borkh.
Loop Russet Baldwin. Pedigree - Russet-fruited mutation of Baldwin; discovered about 1930; never introduced. Comments: Fruit and tree indistinguishable from Baldwin, except fruit surface totally russeted; tends to revert to normal red fruits. Russet-fruited mutation of Baldwin.

The following were developed by Forest L. Colby, Enfield, New Hampshire, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589103. Malus domestica Borkh.
PI 589104. Malus domestica Borkh.  
No Blow. Collected in Unknown. Addison, Vermont, United States.  
Pedigree - Described 1869. Comments: Flowers: without petals. Fruit: size medium, 70 mm; skin yellow-green, 0-20% pink blush; shape oblong, blocky, irregular shapes; flesh semifirm, near white; water core; 2 sets of carpels, distal set has 10 locules; flavor subacid; eating quality poor; not seedless; harvest late September, 1 wk before Delicious. Tree: productive; strongly biennial; fruits drop as they ripen. No petals, double carpels. R.D. Way, 1992.

The following were donated by Samuel Allinson. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589105. Malus domestica Borkh.  
Maiden Blush. Pedigree - Unknown; first described by Coxe in 1817.  
Received in 1883 from Ellwanger and Barry, Rochester, NY. Comments: Fruit: size above medium, 75 mm; skin ground color yellow-green, over color 30% orange blush; shape oblate; flesh semi-firm, nearly white; flavor subacid; eating quality fair harvest season late September, 2 weeks before Delicious. Tree: productive; biennial cropping; fruits drop before ripe. Mediocre quality. R.D. Way, 1991.

The following were developed by Elmer E. Sandberg, Appleton, New York, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589106. Malus domestica Borkh.  
McNicholas Greening. Pedigree - Limb sport of Rhode Island Greening, discovered in 1958. Comments: Fruit and tree indistinguishable from Rhode Island Greening, except fruits are irregularly shaped with radiating lines of russet, often conciding with furrows; totally useless for commercial apple production. Furrowed mutation of Rhode Island Greening. (Einset J. & C. Pratt).

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589107. Malus domestica Borkh.  
Alexander. Pedigree - Unknown. Known in the 1700'S in Ukraine. Comments: Very large; size large 100:75 mm; shape intermediate, conic, convex, slightly ribbed at eye; skin yellow striped and flushed red; flesh soft, yellowish; flavour sweet; season second early to late. Tree: vigorous, upright-spreading.

Payette. Pedigree - Ben Davis x Wagener; selected 1936; introduced 1944. Comments:: Fruit: size very large, 85-90 mm; skin 60-90% red, striped; shape round-oblate; flesh firm, cream-colored, greenish tinge; flavor subacid; eating quality fair; harvest season late October, 3 wks after Delicious. Tree: large, vigorous; Triploid (Proc.Amer.Soc.Hort.Sci. 58:103-108. 1951); very productive; annual cropping. Large, late, Triploid. R.D. Way, 1992.

The following were developed by Allison Estate, Shippensburg, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589109. *Malus domestica* Borkh.
Yorking. Pedigree - York Imperial red-fruited bud mutation; discovered about 1925. Comments:: Fruit and tree indistinguishable from York Imperial, except fruit redder. Red-fruited mutation of York Imperial.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

Dermen Delicious 4X. Pedigree - A tetraploid sport of Delicious; chromosomes counted by H. Dermen, USDA. Comments:: Fruit: size large, 85 mm; skin 50% red, striped, not attractive; shape typically type Delicious shape, large bumps at base, large calyx; flesh severe bitterpit, other- wise like Delicious. Tree: stout twigs; spreading growth habit; measles; fruits drop from tree; early defoliation. Very large fruited Delicious.

The following were developed by J.D. Duffy, Hobart, Tasmania, Australia. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589111. *Malus domestica* Borkh.
Democrat. Pedigree - Hoover x ?. Found about 1900; different from Democrat found in Tompkins County, NY in 1869. Comments:: Size medium 57:45 mm; shape intermediate, truncate-conic, convex, indistinctly ribbed; skin greenish yellow almost covered dull carmine flush; flesh firm, greenish white; flavour subacid; season very late.

The following were developed by W.T. Macoun, Central Experiment Farm, Department of Agriculture, Ottawa, Ontario, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589113. Malus domestica Borkh.
Spijon. Pedigree - Red Spy x Monroe: crossed 1944; introduced 1968. Comments:: Fruit: size large, 80 mm; skin 90% attractive crimson, blushed; shape oblate; flesh firm, light yellow; flavor subacid; eating quality fair to good; excellent for processing; harvest season mid-October, 1 wk after Delicious; long storage life. Tree: medium vigor; medium productive; annual cropping. Diploid. Large; attractive crimson; processing type. R.D. Way, 1993.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589114. Malus domestica Borkh.
Steacy. Collected in Unknown. Cobleskill, New York, United States. Pedigree - Unknown; discovered about 1915; never introduced. Comments:: Fruit: size large for a crab, 50-65 mm; skin 100% red, striped; shape round-conic; flesh firm, light yellow; flavor slightly astringent; eating quality poor; harvest season mid-September, 3 wks before Delicious. Tree: productive; strongly biennial cropping. Large crab, no value. R.D. Way, 1993.

The following were developed by Arnold Arboretum, The Arborway, Jamaica Plain, Massachusetts 02130, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589115. Malus domestica Borkh.
Donald Wyman. Pedigree - Spontaneous seedline on the grounds of the Arnold Arboretum found before 1950; introd. 1970. Comments:: Flowers; single; 45 mm; pink buds changing to white flowers. Fruit: 10 mm; bright red, glossy, attractive; lone stem; deciduous calyx. Special attribute; retains colorful fruit well into the winter. Tree: leaves broad, flossy, no leaf hopper. One of best flowering crab apples. Ornamental crab.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589116. Malus domestica Borkh.
Pepinka Litowska. Collected in Unknown. Lithuania or Russia. Pedigree - Described as Pepinka Litovskaya in 1903. Imported by USDA from Russia in 1870. Comments:: Fruit: size medium, 65-70 mm; skin yellow, 5-50% pink blush; shape round; flesh soft, white; flavor slightly acid, slightly astringent; eating quality poor to fair; harvest season late September, 2 wks before Delicious. Tree: winter hardy; small, weak growing; medium productive; Diploid (Proc. Amer. Soc. Hort. Sci. 58:103. 1951). Mid-season, yellow, soft.

PI 589117. Malus domestica Borkh.
Arkansas Black. Pedigree - Said to be spur growth habit mutation of Arkansas Black. 1870, Benton County, Arkansas. Comments:: Indistinguishable from Arkansas Black; no visible spur growth habit. Medium, round, smooth, yellow covered with lively red deepening to

The following were developed by Agriculture Canada, Ottawa Research Station, Central Experiment Station, Ottawa, Ontario K1A 0C6, Canada. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589118. Malus domestica Borkh.
Patricia. Pedigree - Open-pollinated seedling of McIntosh; raised 1898; selected 1920; introduced 1921. Comments: Fruit: size small, 50 mm; skin 50-100% red, striped, attractive; shape round-oblate; flesh semifirm, nearly white; flavor subacid; eating quality very good; harvest season late September, 2 wks before Delicious. Tree: Diploid (Proc Amer.Soc.Hort.Sci. 58:103-108.1951); productive; extremely biennial bearing. Small, very good quality. R.D. Way, 1992.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589119. Malus domestica Borkh.
Saratoga. Pedigree - Ben Davis x Green Newtown; crossed 1898; selected 1908; introduced 1914. Comments: Fruit: size large, 70-80 mm; skin 80% pinkish red, striped, attractive; shape round-oblate; flesh very firm, cream-colored; flavor subacid; eating quality fair; processing type; harvest season very late, late October, 3 wks after Delicious. Tree: not highly productive; biennial cropping. Diploid (Proc. Am. Soc. Hort. Sci. 53:197.1949). Large, late ripening, processing type. R.D. Way, 1993.

The following were developed by Mason Richards. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589120. Malus domestica Borkh.
Benoni. Pedigree - Unknown; raised about 1830. Comments: Size medium 55-62 mm; shape variable, tall to intermediate, rectangular to truncate-conic, straight to convex, slightly ribbed at eye; skin pale yellow flushed light red, striped crimson, russet at base, smooth, thin, greasy, tender; flesh tender, fine, yellow; flavour sweet-subacid, aromatic; season second-early; tree upright; ho-hum apple.

The following were developed by Charles Clever, Pennsylvania, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589121. Malus domestica Borkh.
Bedford Red. Pedigree - Unknown. Introd. in 1914; originated 1869. Comments: Fruit: large, 65-75 mm; skin 80% red, attractive; color pattern striped; shape round, sometimes irregular; flesh firm, cream-colored; flavor subacid; eating quality poor to fair; harvest date late, November 1; storage life long, 7 mo at -0.5DC; commercial
usefulness mediocre. Tree: productive annual cropping; fruits drop as they ripen; fire blight susceptibility rating 7. Late attractive, red.

The following were developed by Robert Kimball, Littleton, Massachusetts, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589122. Malus domestica Borkh. Kimball McIntosh 2-4-4-4. Pedigree - Mc Intosh bud mutation. Comments:: Fruit: large; a periclinal chimera 2-4-4-4.

The following were developed by James Evans, Geeveston, Tasmania, Australia. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589123. Malus domestica Borkh. Geeveston Fanny. Pedigree - Unknown: discovered before 1880. Comments:: Fruit: size small, 50-75 mm; skin 70-90% red, color pattern blush, shape round-oblate; flesh firm, cream-colored; flavor subacid to sweet; eating quality less than fair; harvest season early October, one wk before Delicious. Tree: productive; extremely biennial cropping. Small, red, mid- season, biennial. PI received from Knuthenborg, Denmark in 1952. Cider.

The following were developed by J.A. McClintock. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were developed by D. Sergent. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.


The following were developed by John Potter, Director, Nat. Fruit Trials,

PI 589127. Malus domestica Borkh.

Potter Cox. Pedigree - Red-fruited mutation of Cox's Orange Pippin; discovered about 1960 in the orchards of the National Fruit Trials by J.M.S. Potter, Director. Comments:: Fruit and tree indistinguishable from Cox's Orange Pippin, except fruit redder, 80-100% red, similar to Oreby Cox. Bitter pit; sunburn; Jonathan spot; scarfskin; chimeras; fireblight susceptibility rating 6. Red-fruited mutation of Cox's Orange Pippin. --R.D. Way, 1992.

The following were donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589128. Malus domestica Borkh.

Marachal. Pedigree - PI 148362 European Cider Cultivar. Comments:: Astringent European Cider Apple. Fruit: size small, 40-60 mm; skin 90% red, striped, not attractive; flesh firm, white flavor acid, very astringent; eating quality very poor; harvest season mid-October, 1 wk after Delicious. Tree: productive; extremely biennial; fire blight susceptibility rating 7. R.D. Way, 1991.

PI 589129. Malus domestica Borkh.

Saint Lawrence. Pedigree - Unknown: discovered before 1835. Comments:: Fruit: size medium-large, 75 mm; skin 60-100% red, splashed stripes; shape round-oblate; flesh semifirm, white; flavor subacid; eating quality good; harvest season mid-September, 3 wks before Delicious. Tree: productive; strongly alternate cropping. Mid-season, splashed stripe, good quality. R.D. Way, 1993.

The following were developed by M. Sharpe, Vacaville, California, United States. Donated by Roger D. Way, Cornell University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 589130. Malus domestica Borkh.

Rose Bud. Pedigree - Unknown; discovered before 1939. Comments:: Flowers: large; rose pink; attractive. Fruit: crab apple; size small 50-65 mm; skin green ground; 40-60% pink, blushed shape round-conic; flesh firm, solid red, severe bitter pit caused by virus; flavor acid astringent; eating quality poor; worthless cultivar; harvest season mid-October, 2 wks after Delicious. Tree: medium productive; biennial cropping; fruits drop. Ornamental flowering crab. --R.D. Way, 1992.
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