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August 1996

Plant Inventory No. 204, Part I

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

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

Norris, R.A., ed. 1996. Plant Inventory No. 204, Part I. Plant Materials Introduced January 1 to June 30, 1995, Nos. 584523 to 589130. U.S. Department of Agriculture, Agricultural Research Service, 386 pp.

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.

Cultivated. Population. Ames 21897. Collected in Colorado, United States. Latitude 39 deg. 17' N. Longitude 102 deg. 26' W. Burlington. Motel garden. Grown as an ornamental. Determinant inflorescence unusual for this species. Stem resistant to lodging. Inflorescence red. Seeds black. Seed maturity adapted for Ames, Iowa.

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. Received 12/15/1994.

PI 584526. *Triticum aestivum* L., nom. cons.

Cultivar. Pureline. "JUDITH"; MT8039. CV-810. Pedigree - Lancota/Froid//NE69559/Winoka. Hard red winter with high yield potential combined with acceptable winterhardiness, early-medium maturity, and exceptional baking qualities. White-glumed with intermediate height, stiff straw, and good lodging and shatter resistance. First HRW adapted to Montana that combines acceptable winterhardiness with a low vernalization requirement. Resistant to prevalent races of *Puccinia graminis*. Susceptible to *P. recondita*, *P. striiformis*, wheat streak mosaic virus, *Cochliobolus sativus*, *Tilletia controversa*, *Cephalosporium gramineum*, *Diuraphis noxia*, and *Cephus cinctus*.

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*

Cultivar. "B99". PL-174. Pedigree - Iowa Corn Borer Synthetic No. 1 [BSCB1(R)C10-7233]. Developed from a population of Iowa Corn Borer Synthetic No. 1 (BSCB1) after ten cycles of reciprocal recurrent selections [BSCB1(R)C10-7233]. Similar to B73 for date of flower and plant and ear height. Above average resistance to first-generation European corn borer (*Ostrinia nubilalis*). Ears have 12 to 14 rows of yellow semi-dent kernels on red cobs. Pollen production good and silk emergence coincident with pollen shed. Maturity classification is AES700.

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.

Breeding. TX-8702 gl. GP-607. Pedigree - Gregg XL-35/Dunn 11LG. 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 33.5%. Micronaire Reading 3.8. Fiber length (UHM) 26.7mm. Fiber strength 277.6 kN m kg-1. Uniformity ratio 81%. Elongation 7.8%. Seed Index 9.63.

PI 584531. *Gossypium hirsutum* L.

Breeding. TX-8703 gl. GP-608. Pedigree - Gregg XL-35/CHI 411. 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 33.3%. Micronaire Reading 3.9. Fiber length (UHM) 26.4mm. Fiber strength 289.4 kN m kg-1. Uniformity ratio 81%. Elongation 7.3%. Seed Index 10.04.

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 33.5%. Micronaire Reading 3.4. Fiber length (UHM) 27.4mm. Fiber strength 303.1 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 6.2g seed cotton per boll. Lint percent 34.5%. Micronaire Reading 3.5. Fiber length (UHM) 27.2mm. Fiber strength 294.3 kN m kg-1. Uniformity ratio 81%. Elongation 7.2%. Seed Index 9.21.

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 31.6% Micronaire Reading 3.9. Fiber length (UHM) 26.9mm. Fiber strength 262.9 kN m kg-1. Uniformity ratio 80%. Elongation 7.9%. Seed Index 9.69.

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.

Breeding. TX-8710 gl. GP-615. Pedigree - Gregg XL-35/Dunn 14 LG//EPSM 4A-1,2. 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 32.9%. Micronaire Reading 3.8. Fiber length (UHM) 28.4mm. Fiber strength 292.3 kN m kg-1. Uniformity ratio 81%. Elongation 7.7%. Seed Index 10.14.

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. "PAGAIYAHAN"; IRRI 8267; BE 3499; F 1070. Collected in Taiwan.
- PI 584548. *Oryza sativa* L.
Cultivar. "CHIEM CHANH"; IRRI 10214; BE 3499; F 1094. Collected in Vietnam.
- 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.

Cultivated. F 00197; IRRI 55301; NSGC 1475. Collected in Luzon, Philippines.

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.

Cultivated. F 00333; 2983; WJK-PRC-30; NSGC 1487. Collected 05/26/1990 in Shanxi, China. market vendor, Xian, from southern Shanxi Province. Black rice, Used for porridge.

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. MAINIMOLOTSY 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.
CHERNYJ; 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.
WIR 5069; Q 29039. Collected in Afghanistan. Ratoonica.
- 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.
N.F. 7; BE-3789; WIR 5457; Q 29059. Collected in Russian Federation.
Krasnodar Reg.

The following were developed by V. Vallega, Cereal Research Institute, Via Labrance 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.
Breeding. Pureline. V. 7051. Pedigree - Valgerardo/Trinakria. Glaucous, semi-dwarf, relatively high yielding F14 line.
Grain protein content high. Heads about same time as Valgerardo. Cooking quality good, analogous to Valgerardo.
- 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 Valfiora, 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.
Breeding. Pureline. V. 9054. Pedigree - Valfiora/Trinakria. Glaucous, large-seeded, semi-dwarf, high-yielding f14 line. Grain protein content high. Heads about same time as Valfiora. Grain yielding capacity greater

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-4CU-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. "HURI 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-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. CT10190-10-1-M; 1696; BE-4352; Q 30252.

PI 584703. *Oryza sativa* L.
Breeding. CT10195-52-1-M; 1761; BE-4352; Q 30254.

PI 584704. *Oryza sativa* L.
Breeding. CT10204-5-2-M; 1795; BE-4352; Q 30255.

PI 584705. *Oryza sativa* L.
Breeding. CT10204-5-3-M; 1796; BE-4352; Q 30256.

PI 584706. *Oryza sativa* L.
Breeding. CT10227-2-6-M; 1874; BE-4352; Q 30257.

PI 584707. *Oryza sativa* L.
Breeding. CT10227-4-1-M; 1875; BE-4352; Q 30258.

PI 584708. *Oryza sativa* L.
Breeding. CT10227-4-7-M; 1877; BE-4352; Q 30260.

PI 584709. *Oryza sativa* L.
Breeding. CT10230-8-3-M; 1899; BE-4352; Q 30262.

PI 584710. *Oryza sativa* L.
Breeding. CT10279-2-4-M; 1997; BE-4352; Q 30268.

PI 584711. *Oryza sativa* L.
Breeding. CT10284-5-2-M; 2019; BE-4352; Q 30269.

PI 584712. *Oryza sativa* L.
Breeding. CT10306-8-1-M; 2025; BE-4352; Q 30271.

PI 584713. *Oryza sativa* L.
Breeding. CT10308-19-3-M; 2057; BE-4352; Q 30272.

PI 584714. *Oryza sativa* L.
Breeding. CT10308-19-4-M; 2058; BE-4352; Q 30273.

PI 584715. *Oryza sativa* L.
Breeding. CT10308-19-6-M; 2059; BE-4352; Q 30274.

PI 584716. *Oryza sativa* L.
Breeding. CT10310-15-9-M; 2101; BE-4352; Q 30275.

PI 584717. *Oryza sativa* L.
Breeding. CT10321-2-2-M; 2143; BE-4352; Q 30277.

PI 584718. *Oryza sativa* L.
Breeding. CT10323-3-2-M; 2175; BE-4352; Q 30278.

PI 584719. *Oryza sativa* L.
Breeding. CT10323-8-2-M; 2176; BE-4352; Q 30279.

PI 584720. *Oryza sativa* L.
Breeding. CT10323-13-3-M; 2183; BE-4352; Q 30280.

PI 584721. *Oryza sativa* L.
Breeding. CT10323-18-3-M; 2197; BE-4352; Q 30282.

PI 584722. *Oryza sativa* L.
Breeding. CT10323-21-6-M; 2205; BE-4352; Q 30283.

PI 584723. *Oryza sativa* L.

Breeding. CT10323-28-4-M; 2227; BE-4352; Q 30284.

PI 584724. *Oryza sativa* L.

Breeding. CT10331-7-1-M; 2256; BE-4352; Q 30285.

PI 584725. *Oryza sativa* L.

Breeding. CT10335-5-3-M; 2290; BE-4352; Q 30286.

PI 584726. *Oryza sativa* L.

Breeding. CT10335-5-10-M; 2292; BE-4352; Q 30287.

PI 584727. *Oryza sativa* L.

Breeding. CT10336-13-3-M; 2317; BE-4352; Q 30288.

PI 584728. *Oryza sativa* L.

Breeding. CT10343-10-1-M; 2404; BE-4352; Q 30290.

PI 584729. *Oryza sativa* L.

Breeding. CNAX 5037-1-5-2B; 2467; BE-4352; Q 30291.

PI 584730. *Oryza sativa* L.

Breeding. CNAX 5067-4-2-4B; 2501; BE-4352; Q 30292.

PI 584731. *Oryza sativa* L.

Breeding. CNAX 5072-2-1-2B; 2541; BE-4352; Q 30293.

PI 584732. *Oryza sativa* L.

Breeding. CNAX 5083-1-5-2B; 2556; BE-4352; Q 30294.

PI 584733. *Oryza sativa* L.

Breeding. CNAX 5093-8-1-1; 2566; BE-4352; Q 30295.

PI 584734. *Oryza sativa* L.

Breeding. CNAX 5115-2-1-1; 2605; BE-4352; Q 30296.

PI 584735. *Oryza sativa* L.

Breeding. CT11971F2; 931-1; BE-4352; Q 30330.

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.

Cultivar. "CIAT ORYZICA 1-M2"; F 732. Collected in Valle, Colombia.

The following were collected by International Center for Tropical

Agriculture, Apartado Aereo 6713, Cali, Colombia. Received 04/23/1991.

- PI 584740. *Oryza sativa* L.
Cultivar. "ANAYANSI"; BE-3390; F 747. Collected in Valle, Colombia.
Developed in Panama. Pedigree - IRB/NILO1.
- PI 584741. *Oryza sativa* L.
Cultivar. "ARAURE 1"; BE-3390; F 748. Collected in Valle, Colombia.
Developed in Venezuela. Pedigree - IR930-147-13/COLOMBIA 1.
- PI 584742. *Oryza sativa* L.
Cultivar. "ARAURE 4"; BE-3390; F 751. Collected in Valle, Colombia.
Developed in Venezuela. Pedigree - CICA 7//CICA 8/REMADJA.
- PI 584743. *Oryza sativa* L.
Cultivar. "CAMPECHE A 80"; BE-3390; F 765. Collected in Valle, Colombia.
Developed in Mexico. Pedigree - GRIJALVA A 71*3/TETEP.
- 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/ P896-20-1-1-6-8.
- PI 584745. *Oryza sativa* L.
Cultivar. "BR-IRGA 413"; BE-3390; F 762. Collected in Valle, Colombia.
Developed in Brazil. Pedigree - IR930-2/IR665-31-2-4.
- PI 584746. *Oryza sativa* L.
Cultivar. "CEA 3"; BE-3390; F 771. Collected in Valle, Colombia.
Developed in Paraguay. Pedigree - IR 8/BIGADIS.
- PI 584747. *Oryza sativa* L.
Cultivar. "CENTA A 5"; BE-3390; F 775. Collected in Valle, Colombia.
Developed in El Salvador. Pedigree - P
1274-6-8M-1-3M-1//IR1909-1-3-3/IRAT 8.
- PI 584748. *Oryza sativa* L.
Cultivar. "CHANCAY"; BE-3390; F 777. Collected in Valle, Colombia.
Developed in Peru. Pedigree - IR8/ IR12-178-2-3.
- PI 584749. *Oryza sativa* L.
Cultivar. EMPASC 101; BE-3390; F 802. Collected in Valle, Colombia.
Developed in Brazil. Pedigree - IR930-80/IR 532-E208.
- PI 584750. *Oryza sativa* L.
Cultivar. "EMPASC 103"; BE-3390; F 804. Collected in Valle, Colombia.
Developed in Brazil. Pedigree - IR930-2/IR 665-31-5-8.
- PI 584751. *Oryza sativa* L.
Cultivar. "ICTA VIRGINIA"; BE-3390; F 816. Collected in Valle, Colombia.
Developed in Guatemala. Pedigree - CICA 4//FI IR665-23-3/TETEP.

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.

Cultivar. "PALIZADA A-86"; BE-3390; F 868. Collected in Valle, Colombia. Developed in Mexico. Pedigree - NAV.A-71/TETEP.

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.

Cultivar. "SAN MARTIN 86"; BE-3390; F 878. Collected in Valle, Colombia. Developed in Peru. Pedigree - INTI/P 792-2-2.

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-.

The following were developed by C.E. Watson, Natl. Dryland Farming Res. Ctr., Katumani, Machakos, Kenya; L.R.F. M'Ragwa, Kenya Agric. Res. Inst., Natl. Dryland Farming Res. Ctr. (NDFRC), Katumani, Machakos, Kenya. Received 12/28/1994.

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 10g. 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.

Breeding. TX89D6435; NSGC 5538. Pedigree - Collin/Enano//TAM 200. Contains leaf rust resistance genes Lr2a, Lr10, Lr13, Lr23, Lr24, Lr26, and Lr34. Very short dwarf with very stiff straw. Awned. Very susceptible to *Septoria tritici*.

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, 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 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

Breeding. PC 84; NSGC 5543. Pedigree - Mola 'S'/4/Brea 'S'/DL70//Mozdosky/3/Nopal 'S'/5/79W40762/6/Gloria 'S'/Copal 'S'. 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 584765. *Hordeum vulgare* L. ssp. vulgare

Breeding. PC 249; NSGC 5544. Pedigree - CI12823/CI585//CI9805.16D/3/Cita 'S'/4/Gal//K1/2*CI2376/3/Gloria 'S'. 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.

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, 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 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 (18-23C). Also posses 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.

PI 584769. *Cynodon dactylon* (L.) Pers.

Cultivar. "MS-CHOICE". CV-26. Pedigree - Vegetative increase of single clone ecotype selection collected at Shandy Oaks Country Club, Jackson, MS. Tetraploid ($2n=4x=36$), turf bermudagrass. Good turf quality, high shoot density, dark green color, medium leaf texture, and very low seedhead density. Good resistance to leafspot (*Bipolaris cynodontis*) and less scalping injury than most other bermudagrasses. Recommended for lawns, sports fields, golf tees, and fairways.

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 Virginia-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, wrinkled 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 für Genetik u. Kultur., Correnstrasse 3, D-O-4325, Gatersleben, Germany. Received 12/24/1991.

- PI 584781. *Secale cereale* L.
Landrace. SN-2202; HR 1014/88; NSGC 451. Collected 08/20/1987 in Georgia. Elevation 1800 m. Dartio, Tal der Parikita Alazani, northwest of Osalo, Rayon Achaeta, historical province Tuschetien.
- 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

Landrace. GSM-11; NSGC 535. Collected 01/1990 in Iraq.

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.

Cultivar. "LIVIA"; NSGC 1856. Collected in Czech Republic. Developed in Czech Republic. Pedigree - K3756-1-76/Kosutka.

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

Cultivar. "SENTA"; NSGC 1857. Collected in Czech Republic. Pedigree - Benno/Sava//Mironovska/Artois Desprez.

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

Cultivar. "SIMONA"; NSGC 1858. Collected in Czech Republic. Pedigree - Weihestephan 378-57/Maris Huntsman//Zdar.

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

Cultivar. "LINDA"; ST 3; NSGC 1859. Collected in Czech Republic. Pedigree - Rena//Mironovska/Siete Cerros.

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

Cultivar. "MAJA"; NSGC 1860. Collected in Czech Republic.

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

Cultivar. "SAXANA"; NSGC 1861. Collected in Czech Republic.

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

Cultivar. "ZDAR"; NSGC 1862. Collected in Czech Republic.

PI 584796. *Triticum aestivum* L., nom. cons.
Cultivar. "REGINA"; NSGC 1863. Collected in Czech Republic.

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.
Cultivar. "JARA"; NSGC 1864. Collected in Czech Republic.

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.
Cultivar. "SANDRA"; NSGC 1865. Collected in Czech Republic.

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*
Cultivar. "ALVA"; NGB 1507; Sv K68241; NSGC 1866. Collected in Sweden.
Pedigree - Balder//Seger/Binder/3/Vada.

PI 584800. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "AGNETA"; NGB 1508; Sv J7013; NSGC 1867. Collected in Sweden.
Pedigree - Asa/Frisia//4*Edda II/Monte Cristo.

PI 584801. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "PERNILLA"; NGB 1510; Sv 71165; NSGC 1868. Collected in Sweden.
Pedigree - Birgitta/Mari//Gunilla.

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*
Cultivar. "TORKEL"; NGB 7451; W 6397; NSGC 1869. Collected in Sweden.
Pedigree - Clara M1/3*W 5853//W 5926.

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*
Cultivar. "BIRGITTA"; NGB 1494; NSGC 1870. Collected in Sweden.
Pedigree - Opal/Vega//Maja.

PI 584804. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "JENNY"; NGB 1511; NSGC 1871. Collected in Sweden. Pedigree - Kristina/2*Hellas//5*Pallas/Rupee.

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

PI 584805. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "TROJA"; NGB 1512; NSGC 1872. 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 584806. Hordeum vulgare L. ssp. vulgare

Cultivar. "BAMSE"; NGB 1513; NSGC 1873. Collected in Sweden. Pedigree -
Asa/Frisia//4*Edda II?Monte Cristo.

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

Cultivar. "SALKA"; NGB 5100; NSGC 1874. Collected in Sweden. Pedigree -
Elbo/Vada.

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

PI 584808. Hordeum vulgare L. ssp. vulgare

Cultivar. "LINA"; NGB 1517; NSGC 1875. Collected in Sweden. Pedigree -
Mari*5/Multan//A6564/3/Lofa.

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 584809. Hordeum vulgare L. ssp. vulgare

Cultivar. "SILJA"; NGB 9280; NSGC 1876. Collected in Sweden. Pedigree -
Sejer/Wega//Suvi.

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

Cultivar. "GUNNAR"; NGB 1515; NSGC 1878. Collected in Sweden. Pedigree
- Kristina/3/6*Mari/57510-44//Domen/Mari.

PI 584811. Hordeum vulgare L. ssp. vulgare

Cultivar. "TAARN"; NGB 1516; NSGC 1879. Collected in Sweden. Pedigree -
Kristina/3/3*Hellas//5*Pallas/Rupee.

PI 584812. Hordeum vulgare L. ssp. vulgare

Cultivar. "RUPAL"; NGB 1501; Sv 65522; NSGC 1880. Collected in Sweden.
Pedigree - 3*Pallas/Rupee.

PI 584813. Hordeum vulgare L. ssp. vulgare

Cultivar. "EVA"; NGB 1502; Sv 6487; NSGC 1881. Collected in Sweden.
Pedigree - Birgitta/Mari.

PI 584814. Hordeum vulgare L. ssp. vulgare

Cultivar. "SENAT"; NGB 1503; Sv VG6862; NSGC 1882. Collected in Sweden.
Pedigree - Hellas//3*Pallas/Triple Awn Lemma.

PI 584815. Hordeum vulgare L. ssp. vulgare

Cultivar. "SALVE"; NGB 1504; Sv A6473; NSGC 1883. Collected in Sweden.
Pedigree - Birgitta/Mari.

PI 584816. Hordeum vulgare L. ssp. vulgare

Cultivar. "SIMBA"; NGB 1505; Sv VG7074; NSGC 1884. Collected in Sweden.
Pedigree - 8*Herta/BYG 191//Ingrid/3/Minerva.

PI 584817. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "KAJSA"; NGB 1506; NSGC 1885. Collected in Sweden. Pedigree -
Asa/Frisia//4*Edda II/Monte Cristo.

PI 584818. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "VISIR"; NGB 1496; Sv 64505; NSGC 1886. Collected in Sweden.
Pedigree - Pallas/Long Glumes.

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

PI 584820. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "GUNILLA"; NGB 1498; Sv 64108; NSGC 1888. Collected in Sweden.
Pedigree - Opal/Vega//Gull mutant/3/Birgitta.

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

PI 584821. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "ANSGAR"; NGB 2589; WW 6156; NSGC 1889. Collected in Sweden.
Pedigree - Herta/BYG 191//5*Ingrid/Wing.

PI 584822. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "SARLA"; NGB 2663; WW 5741; NSGC 1890. Collected in Sweden.
Pedigree - Domen/4/Laschkego Tibetanski/3/Hanna/Svanhals//Kenia.

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.
Cultivar. "PENDRAGON"; NSGC 1892. Pedigree - 06765CnI-10-4/Bulwark.

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

PI 584826. *Avena nuda* L.
Cultivar. "KYNON"; NSGC 1894. Pedigree - Pendrwm//06683CnI-4/Pennal.

PI 584827. *Avena sativa* L.
Cultivar. "GERALD"; NSGC 1895. Pedigree - 06684CnII-19/76-17Cn26.

PI 584828. *Avena sativa* L.
Cultivar. "CHAMOIS"; NSGC 1896. Pedigree - LP78-3/Bulwark//Lustre.

PI 584829. *Avena sativa* L.
Cultivar. "ABERGLENN"; 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.

Cultivar. "BETTONG"; AUS 701677; NSGC 1905. Collected in New South Wales, Australia. Pedigree - Coronado//Cortex/3/Pendek/ME1563.

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.

PI 584832. *Triticum durum* Desf.

Cultivar. "PLENTY"; NSGC 1908.

PI 584833. *Triticum durum* Desf.

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. "CELTA"; MPTD 29; NSGC 1910. Collected in France.

PI 584835. *Triticum durum* Desf.

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

PI 584836. *Triticum durum* Desf.

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

PI 584837. *Triticum durum* Desf.

Cultivar. "DURELLE"; MPTD 705; NSGC 1913. Collected in France. Pedigree - Agathe/Tomclair//Mondur/CIM 21.

PI 584838. *Triticum durum* Desf.

Cultivar. "CASOAR"; MPTD 717; NSGC 1914. Collected in France. Pedigree - 2899/Lakota//Tomclair.

PI 584839. *Triticum durum* Desf.

Cultivar. "CARGIFLASH"; MPTD 767; NSGC 1915. Collected in France.

PI 584840. *Triticum durum* Desf.

Cultivar. "VILLEMUR"; MPTD 797; NSGC 1916. Collected in France. Pedigree - Agathe/creso/Durelle.

PI 584841. *Triticum durum* Desf.

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
Cultivar. "WAGNONVILLE"; MPH 1277; NSGC 1919; Hexagonale de Wagonville.
Collected in France.

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
Cultivar. "HATIF DU MOULIN"; MPH 1276; NSGC 1920. Collected in France.
Pedigree - selection from landrace originating in north France.

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
Cultivar. "ESCOURGEON NOIR"; MPH 767; NSGC 1923. Collected in France.
Developed in France.

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
Cultivar. "MAGIE"; MPH 157; NSGC 1924. Collected in France. Pedigree - 1911/Alpha.

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
Cultivar. "VESTALE"; MPH 150; NSGC 1925. Collected in France. Pedigree - Malta/Alpha.

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
Cultivar. "JEFF"; MPH 149; NSGC 1926. Collected in France. Pedigree - Igri/MG 4156-4.

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
Cultivar. "PASTORAL"; MPH 88; NSGC 1927. Collected in France.

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
Cultivar. "SCALA"; MPH 87; NSGC 1928. Collected in France. Pedigree - Ager/Sonja.

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
Cultivar. "REINETTE"; MPH 85; NSGC 1929. Pedigree - Emir/Ackermann 5//610/3/Robur/Alpha.

PI 584854. Hordeum vulgare L. ssp. vulgare
Cultivar. "PROTIDOR"; MPH 84; NSGC 1930. Pedigree - Rika/Baladi 16/Emir//1038/3/Ager/Ceres//362/Alpha.

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 Societe pour l'Encouragement de l'Orge de Brasserie, SECOBRA, Maule, France. Received 01/07/1993.

PI 584857. Hordeum vulgare L. ssp. vulgare
Cultivar. "OPERA"; MPH 79; NSGC 1933. Collected in France. Pedigree - FTA/Meguelone//Sonja.

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
Cultivar. "NEFTA"; MPH 77; NSGC 1934. Collected in France. Pedigree - Malta/Alpha.

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 584859. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MONIX"; MPH 76; NSGC 1935. Collected in France. Pedigree -
Astrix/Sonja.

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*
Cultivar. "GALION"; MPH 18; NSGC 1936. Collected in France.

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*
Cultivar. "COURLIS"; MPH 13; NSGC 1938. Collected in France. Pedigree -
311.66/Hop.

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*
Cultivar. "CORSAIRE"; MPH 12; NSGC 1939. Collected in France. Pedigree -
Hop/Arma.

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*
Cultivar. "BARBEROUSSE"; MPH 8; NSGC 1940. Collected in France.
Pedigree - Weihenstephan 259-711//Grignon/Ares/3/Ager.

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*
Cultivar. "ANTARES"; MPH 3; NSGC 1941. Pedigree - Ager/Hatif de
Grignon//Ager.

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*
Cultivar. "ESCOURGEON MARNE"; MPH 1263; NSGC 1942. Collected in France.

Developed in France. Pedigree - selection from French landrace.

- PI 584867. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "ESCOURGEON DE VENDEE"; MPH 1280; NSGC 1943. Collected in France.
- PI 584868. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "BARAKA"; MPH 989; NSGC 1944. Collected in France.
- PI 584869. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "CLARINE"; MPH 1118; NSGC 1945. Collected in France.
- PI 584870. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "FRIVOLE"; MPH 1100; NSGC 1946. Collected in France.
- PI 584871. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "DAHLIA"; MPH 1090; NSGC 1947. Collected in France.
- PI 584872. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "CINDY"; MPH 1070; NSGC 1948. Collected in France.
- PI 584873. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MASSIF"; MPH 1058; NSGC 1949. Collected in France.
- PI 584874. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "JENNIFER"; MPH 1030; NSGC 1950. Collected in France.
- PI 584875. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "PODIUM"; MPH 908; NSGC 1951. Collected in France.
- PI 584876. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MOSAR"; MPH 907; NSGC 1952. Collected in France.
- PI 584877. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "ORFEON"; MPH 906; NSGC 1953. Collected in France.
- PI 584878. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "POULAINNE"; MPH 904; NSGC 1954. Collected in France.
- PI 584879. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "AMANDE"; MPH 901; NSGC 1955. Collected in France.
- PI 584880. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MISS"; MPH 900; NSGC 1956. Collected in France.
- PI 584881. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "NIKA"; MPH 899; NSGC 1957. Collected in France.
- PI 584882. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "FICTION"; MPH 897; NSGC 1958. Collected in France.
- PI 584883. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "EXPRESS"; MPH 909; NSGC 1959. Collected in France.
- PI 584884. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "JAZZ"; MPH 1103; NSGC 1960. Collected in France.
- PI 584885. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "LADY"; MPH 1035; NSGC 1961. Collected in France.

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
Cultivar. "MOTAN"; MPH 29; NSGC 1962. Pedigree - Rika/Baladi
16//33/Emir/3/1038/Robur.

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
Cultivar. "MIKADO"; MPH 26; NSGC 1963. Collected in France. Developed
in France. Pedigree - Dea/Vima 4-3//81.2.

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
Cultivar. "JAIDOR"; MPH 22; NSGC 1964. Pedigree - Rika/Baladi
16//33/Emir/3/1038/Robur.

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
Cultivar. "METRO"; MPH 74; NSGC 1965. Collected in France. Pedigree -
Alpha/Sonja.

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
Cultivar. "HATIF DU DOUAISIS"; MPH 1275; NSGC 1966. Collected in France.

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
Cultivar. "FLAMENCO"; MPH 62; NSGC 1968. Collected in France. Pedigree
- Dea/Sonja.

The following were collected by Institut National de la Recherche
Agronomique, Centro de Recherches de Montpellier, Montpellier, Herault,
France. Developed by Claves Luck, 9 rue de Touraine, Annoeulin, France.

Received 01/07/1993.

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, Maise, France. Received
01/07/1993.

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

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*
Cultivar. "CRITER"; MPH 870; NSGC 1972. Collected in France.

PI 584897. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "SENTINEL"; MPH 869; NSGC 1973. Collected in France.

PI 584898. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MAXIM"; MPH 913; NSGC 1974. Collected in France.

PI 584899. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "PASTORAL"; MPH 1120; NSGC 1975. Collected in France.

PI 584900. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MUSIC"; MPH 1119; NSGC 1976. Collected in France.

PI 584901. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "BELIVIA"; MPH 910; NSGC 1977. Collected in France.

PI 584902. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "KATY"; MPH 69; NSGC 1978. Collected in France.

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*
Cultivar. "ESCOURGEON EXTRA HATIF"; MPH 1274; NSGC 1980. Collected in France.
- PI 584905. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "ESCOURGEON DE BEAUCE"; MPH 1273; NSGC 1981. Collected in France.
- PI 584906. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "DUNOIS"; MPH 1272; NSGC 1982. Collected in France.
- PI 584907. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "ARDENNES"; MPH 1268; NSGC 1983. Collected in France.
- PI 584908. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "PRECOCE LAFITE"; MPH 1267; NSGC 1984. Collected in France.
- PI 584909. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "ESCOURGEON DU NORD"; MPH 1264; NSGC 1985. Collected in France
- PI 584910. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MOGADOR"; MPH 75; NSGC 1986. Collected in France.

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

- PI 584911. *Triticum aestivum* L., nom. cons.
Cultivar. "BH 1146"; NSGC 1987. Collected in Brazil. Pedigree - Ponta Grossa 1//Fretes/Martin.
- PI 584912. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 14"; NSGC 1989. Collected in Brazil. Pedigree - IAS 63/Alondra sib//Gaboto/L. Vermelha.
- PI 584913. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 15"; NSGC 1990. Collected in Brazil. Pedigree - IAS 54*2/Tokai 80//PF 69193.
- PI 584914. *Triticum aestivum* L., nom. cons.
Cultivar. "GUATO"; BR 20; NSGC 1991. Collected in Brazil. Pedigree - BH 1146*3/Alondra sib.
- PI 584915. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 25"; NSGC 1992. Collected in Brazil. Pedigree - BH 1146*3/Alondra sib.
- PI 584916. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 28"; NSGC 1993. Collected in Brazil. Pedigree - IAS 55/PF 70553.
- PI 584917. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 35"; NSGC 1995. Collected in Brazil. Pedigree - IAC 5*2/3/CNT 7*3/Londrina//IAC 5/Hadden.
- PI 584918. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 37"; NSGC 1996. Collected in Brazil. Pedigree - Mazoe/F 13279//Pelado Marau.
- PI 584919. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 38"; NSGC 1997. Collected in Brazil. Pedigree - IAS

55*4/Agent//IAS 55*4/CI 14123.

PI 584920. *Triticum aestivum* L., nom. cons.
Cultivar. "OFAIE"; BR 41; NSGC 1998. Collected in Brazil. Pedigree - BH
1146*6/Alondra sib.

PI 584921. *Triticum aestivum* L., nom. cons.
Cultivar. "BR 43"; NSGC 1999. Collected in Brazil. Pedigree - PF
833007/Jacui.

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

PI 584922. *Triticum aestivum* L., nom. cons.
Cultivar. "JATAI"; CEP 19; NSGC 2000. Pedigree - PEL 72380/Arthur
71//CEP 75336/3/Alondra sib/PF 72707// PAT 19.

PI 584923. *Triticum aestivum* L., nom. cons.
Cultivar. "CAMPOS"; CEP 21; NSGC 2001. Pedigree - PEL 72380/Arthur
71//CEP 75336/3/Alondra sib/PF 72707// PAT 19.

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

PI 584924. *Triticum aestivum* L., nom. cons.
Cultivar. "MARINGA"; IAC 5; NSGC 2002. Collected in Brazil. Pedigree -
Frontana/Kenya 58//Ponta Grossa 1.

PI 584925. *Triticum aestivum* L., nom. cons.
Cultivar. "XAVANTES"; IAC 18; NSGC 2003. Collected in Brazil. Pedigree
- BH 1146*4/S 12.

PI 584926. *Triticum aestivum* L., nom. cons.
Cultivar. "PANTANEIRO"; IAC 27; NSGC 2005. Collected in Brazil.
Pedigree - Sonora 63*2/Lagoa Vermelha.

PI 584927. *Triticum aestivum* L., nom. cons.
Cultivar. "MINUANO 82"; NSGC 2006. Collected in Brazil. Pedigree - S
71/S 473-A3-A2.

PI 584928. *Triticum aestivum* L., nom. cons.
Cultivar. "PF 83438"; NSGC 2007. Collected in Brazil. Pedigree -
Ladoga*2/Abura//Ladoga*5/Agent.

PI 584929. *Triticum aestivum* L., nom. cons.
Cultivar. "PF 839085"; NSGC 2008. Collected in Brazil. Pedigree -
Ladoga*4/Agent//Ladoga*3/NBAY.

PI 584930. *Triticum aestivum* L., nom. cons.
Cultivar. "PF 85491"; NSGC 2009. Collected in Brazil. Pedigree -
Ladoga*6/Kavkaz//Ladoga*6/Agent/3/Ladoga*6/Kavkaz// Ladoga*6/WTP.

PI 584931. *Triticum aestivum* L., nom. cons.
Cultivar. "PF 859232"; NSGC 2010. Collected in Brazil. Pedigree -
Ladoga*6/Kavkaz//Ladoga*6/RL 6043/3/Ladoga*6/Precoz Parana
INTA/Ladoga*6/HST 13471.

PI 584932. *Triticum aestivum* L., nom. cons.
Cultivar. "PF 859244"; NSGC 2011. Collected in Brazil. Pedigree -
Ladoga*6/Kavkaz//Ladoga*6/FB 6630.

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

Cultivar. "IBIRAIARAS"; RS 4; NSGC 2014. Collected in Brazil. Pedigree - IAC 5/S 76.

PI 584934. *Triticum aestivum* L., nom. cons.
Cultivar. "WHESTPHALEN"; RS 8; NSGC 2015. Collected in Brazil. Pedigree - CNT 10/Burgas 2//Jacui.

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.

PI 584935. *Triticum aestivum* L., nom. cons.
Cultivar. "AC BALTIC"; NSGC 2018. Pedigree - Kolibri/Gamenya.

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*
Cultivar. "DAEJINBORI"; NSGC 2019. Pedigree - Milyang 11/Dohogugawa 60.

PI 584937. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MILYANG 43"; NSGC 2020. Pedigree - Oweolbori/3/Musasinomugi/Milyang 6//Haganemugi.

PI 584938. *Hordeum vulgare* L. ssp. *vulgare*
Cultivar. "MILYANG 46"; NSGC 2021. Pedigree - Doosan 8*2/Sacheon 6.

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*
Cultivar. "DONG FENG DA MAI"; Exchange No. 13; NSGC 2029. Collected in Beijing, China.

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

Anhui, China.

- 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,

China.

- PI 584963. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 46; MU DAN QING KE; NSGC 2050. Collected in
Gansu, China.
- PI 584964. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 47; NING QIANG DA MAI; NSGC 2051. Collected in
Shanxi, China.
- PI 584965. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 48; QI SHAN DUAN MANG DA MAI; NSGC 2052.
Collected in Shanxi, China.
- PI 584966. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 49; QIAN QIAN DA MAI; NSGC 2053. Collected in
Guizhou, China.
- PI 584967. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 50; RU DONG WAN DA MAI; NSGC 2054. Collected in
Jiangsu, China.
- PI 584968. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 51; SAN YUE HUANG; NSGC 2055. Collected in
Shandong, China.
- PI 584969. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 52; SAN YUE HUANG DA MAI HU; NSGC 2056. Collected
in Shanghai, China.
- PI 584970. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 53; SHENG XIAN WU MANG LIU LENG; NSGC 2057.
Collected in Zhejiang, China.
- PI 584971. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 55; SI LENG BAI DA MAI; NSGC 2058. Collected in
Qinghai, China.
- PI 584972. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 56; SI XIAN SAN YUE HUANG; NSGC 2059. Collected
in Anhui, China.
- PI 584973. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 57; TA CHENG ER LENG; NSGC 2060. Collected in
Xinjiang, China.
- PI 584974. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 58; TA CHENG XIAN DA MAI; NSGC 2061. Collected in
Xinjiang, China.
- PI 584975. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 59; TA DA MAI; NSGC 2062. Collected in Hebei,
China.
- PI 584976. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 60; TAI PING MAO HUO ZI; NSGC 2063. Collected in
Anhui, China.
- PI 584977. *Hordeum vulgare* L. *ssp. vulgare*
Landrace. Exchange No. 61; TAI YUAN LIU CAO DA MAI; NSGC 2064. Collected
in Shanxi, China.
- PI 584978. *Hordeum vulgare* L. *ssp. vulgare*
Cultivar. "TIAN JIN 1 HAO"; Exchange No. 62; NSGC 2065. Collected in

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.
Cultivar. "BILJANA"; ZG 343/80; NSGC 2081. Pedigree - ZG 5994-66/TP 114-1965.

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 bicolor* (L.) Moench

Cultivated. "POPSORGHUM"; SA 389; MN 4016; IS 474. CV-101. Pedigree - Selected from a cross of Shallu and S. A. No. 5463-40- 1, a dwarf Shallu-like poporghum selection. Dwarf Shallu- like variety. Matures 80 days. Plant color tan. Shallu- like panicle erect. Long drooping seed-branches. Glumes sienna-straw color. Involute. Small white seeds. Popcorn texture. Popping expansion 15:1 and larger. Less hull, more tender and smaller than popcorn. Same nutrition. Flavorful. Adapted Mexico-type latitudes. Value as food source. Potential for other uses.

The following were developed by Don R. Viands, Cornell Univeristy, 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 86I08. 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 (*Acyrtosiphon pisum*). Resistant to phytophthora root rot (*Phytophthora medicaginis*). Moderately resistant to alfalfa stem nematode (*Citylenchus 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. Awed, 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,

University of Nebraska, Panhandle Station, 4502 Avenue I, Scottsbluff, Nebraska 69361, 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; Don V. McVey, USDA, ARS, University of Minnesota, Cereal Rust Laboratory, St. Paul, Minnesota 55105, United States; S.D. Haley, South Dakota State University, Plant Science Dept., Brookings, South Dakota 57007, 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; J.E. Watkins, University of Nebraska, Dept. of Plant Pathology, Lincoln, Nebraska 68583, United States. Received 01/11/1995.

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, Entebe, 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

Semi-Arid Tropics, Genetic Resources Program, Patancheru P.O., Andhra Pradesh 502 324, India; S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India; P.W. Amin, Int. Crops Res. Inst. for the Semi-Arid Tropics, 58, Ramakrishnanagar, Khamla, Maharashtra, India; G.V.S. Nagabhushanam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Asia Center, Patancheru P.O., Andhra Pradesh 502 324, India; G.V. Ranga Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502 324, India; J.A. Wightman, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502 324, India. Received 01/10/1995.

PI 585001. *Arachis hypogaea* L.

Breeding. Pureline. ICGV 86252. GP-69. Pedigree - ICGS 7/NC Ac 2214, F2-B1-B2-B2-B3-B3. Spanish bunch type. Growth habit decumbent-3, elliptic, dark green, waxy leaves. Mainly 2-seeded pods with pod beak none to slight, pod constriction slight to moderate and ridges none to moderate. Pod reticulation slight to moderate. Seeds tan with 100-seed mass averaging 41-50g, and oil content averaging 46-49%.

PI 585002. *Arachis hypogaea* L.

Breeding. Pureline. ICGV 86393. GP-70. Pedigree - J 11//M 13/NC Ac 2214, F2-B1-B1-B1-B1-B2. Virginia bunch type. Growth habit decumbent-3, elliptic, dark green leaves. Mainly 2-seeded pods with pod beak none to slight, pod constriction slight to moderate, and ridges none to moderate. Pod reticulation smooth to slight. Seeds tan with 100-seed mass averaging 41-50g, and oil content averaging 46-49%.

PI 585003. *Arachis hypogaea* L.

Breeding. Pureline. ICGV 86455. GP-71. Pedigree - Kadiri3//M 13/NC Ac 2214, F2-B1-B1-B1-B2-B2. Spanish bunch type. Growth habit decumbent-3, elliptic and dark green leaves. Mainly 2-seeded pods with pod beak none to slight, pod constriction slight to moderate, and ridges none to moderate. Pod reticulation slight to moderate. Seeds tan with 100-seed mass averaging 41-50g and oil content averaging 46-49%. Good O/L ration (1.2 to 1.3).

PI 585004. *Arachis hypogaea* L.

Breeding. Pureline. ICGV 86462. GP-72. Pedigree - ICGS 1/NC Ac 2240, F2-B2-B2-B3-B4-B2. Spanish bunch type. Growth habit decumbent-3, elliptic, dark green, waxy leaves. Mainly 2-seeded pods with pod beak none to slight, pod constriction slight to moderate, and ridges none to moderate. Pod reticulation slight. Seeds tan with 100-seed mass averaging 41-50g, and oil content averaging 46-49%. Good O/L ratio (1.2-1.3).

The following were developed by S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India ; Y.L.C. Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502324, India; H.D. Upadhyaya, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502 324, India; M.J.V. Rao, ICI Limited, Agricultural Research Station, Begur, Karnataka, India; N.S. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502324, India. Received 01/10/1995.

PI 585005. *Arachis hypogaea* L.

Breeding. Pureline. ICGV 86015. GP-73. Pedigree - ICGS 44/TG 2E-F2-B1-B2-B1-B1-B1-B1. Early-maturing, spanish type. Growth habit erect, sequential branching and elliptical medium-sized dark green leaves. Matures in about 100-105 days. Pods mainly two-seeded, small to medium size, with no or slight beak and constriction, and smooth to

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.

The following were developed by S.N. Nigam, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India ; H.D. Upadhyaya, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502 324, India; M.J.V. Rao, ICI Limited, Agricultural Research Station, Begur, Karnataka, India; N.S. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Genetic Enhancement Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502324, India; V.K. Mehan, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502 324, India; D. McDonald, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru, Andhra Pradesh 502 324, India. Received 01/10/1995.

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-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-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 size with slight constriction and without beaks. Seed 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 für Genetik u. Kultur., Correnstrasse 3, D-O-4325, Gatersleben, Germany; J. Kruse, Botanical Institute, Tblisi, Georgia. Received 12/24/1991.

PI 585016. *Triticum aestivum* L., nom. cons.
Landrace. SN-1032; AW 6626/88; NSGC 369. Collected 07/27/1984 in Georgia . Latali, southwest of Mestia, Rayon Mestia, Ober-Svanetien; experimental plots at Botanical Institute.

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.

Landrace. FAO 29.959; 92ABWHSP-409; NSGC 1627. Collected 1968 in Greece. Pedigree - separation of species from PI 372493.

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.

Cultivar. "BUCK BOLIVAR"; NSGC 2086. Pedigree - Buck Araucano/Buck Quenquen//Standard/Thatcher.

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 -
T.sphaerococcum/8*Chancellor//Coker 78-27. Released 1994. Resistant to
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.

Cultivated. K-17088; (1)87069; F 712. Collected in Thailand. About 300 m. from junction of Routes 1020 and 1155. Ban Mai Charoen District, Chiang Khong Amphur, Chiang Rai Province. Sticky upland type. Grain long. Glumes stained with brown.

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 monoecious 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; "HALASIKA". 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, Ciudad 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 fleshed, 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*
Cultivar. "TAINUNG 66"; BE-2335; I 981; Q 27780. Maturity early. Plants
semi-erect. Roots reddish brown, 27% dry matter. Flesh light orange.
Texture slightly dry after cooking. Suitable for hot-wet or cool-dry
season (18 t/ha). Dessert-type.

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 Ruix
Gallo, 8 De Octobra 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*
Cultivar. "TINTO"; BE-1532; Q 26995; Tinto (#29). Collected in Mexico.
Cordoba, Ver.

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

Wild. BAM 6. Collected 09/24/1994 in Arizona, United States. Latitude 32 deg. 25' N. Longitude 110 deg. 44' W. Elevation 2200 m. Pima County. Near Tucson. Coronado National Forest. Santa Catalina Highway on road to Mount Lemmon. At 2.8 miles before the Mt. Lemmon cafe. On edge of big gorge. Only a few plants in one spot under a very large Ponderosa pine. Collected 10 daughter tubers. Plants small, no flowers.

PI 585113. *Solanum fendleri* A. Gray

Wild. BAM 7. Collected 09/26/1994 in Arizona, United States. Latitude 32 deg. 1' N. Longitude 109 deg. 20' W. Elevation 1780 m. Cochise County. Chiricahua National Monument. On Natural Bridge/Pickett Park trail. About 2 miles down trail, or about 300m after entering the ponderosa pine bottoms. Under trees and beside creek bed protected by bushes. Rare and only found exactly where observed in 1992. Only one plant flowering. Collected about 10 tubers.

PI 585114. *Solanum fendleri* A. Gray

Wild. BAM 8. Collected 09/24/1994 in Arizona, United States. Latitude 31 deg. 42' N. Longitude 110 deg. 52' W. Elevation 2700 m. Santa Cruz County. South of Tucson. Near Mt. Wrightson. From Madera Canyon take Old Baldy Trail about 2 miles to Josephine Saddle. Abundant but mostly small. Some flowering and mature fruits. On several plants noted fruit gall with bright orange larvae. Collected about 30 fruit.

PI 585115. *Solanum fendleri* A. Gray

Wild. BAM 9. Collected 09/25/1994 in Arizona, United States. Latitude 32 deg. 42' N. Longitude 109 deg. 57' W. Elevation 2618 m. Graham County. Near Safford. On Mt. Graham at Rigg's Lake. Found only one small colony directly east of the parking lot on the north side of the lake (nowhere else around lake). Plants looked browsed, had no flowers. Found 23 berries in grass under plants, so has previously flowered. Collected fruits and mature tubers.

PI 585116. *Solanum jamesii* Torrey

Wild. BAM 10. Collected 09/27/1994 in New Mexico, United States. Latitude 35 deg. 12' N. Longitude 107 deg. 44' W. Elevation 2225 m. Cibola County. Near Grants. On Hwy 547 to Mt. Taylor. Between the 7 & 8 mile markers. South-east side of the road. Under junipers. Few small (10 cm) plants. Mature tubers up to 0.5 m from plant. Very dry. Collected about 15 tubers.

PI 585117. *Solanum jamesii* Torrey

Wild. BAM 11. Collected 09/27/1994 in New Mexico, United States. Latitude 35 deg. 12' N. Longitude 107 deg. 44' W. Elevation 2230 m. Cibola County. Near Grants. On Hwy 547 to Mt. Taylor. Just past the 10 mile marker at a side road. In soil washed through culvert. Collected 2 mature tubers. One large plant (25 cm). No flowers.

PI 585118. *Solanum jamesii* Torrey

Wild. BAM 12. Collected 09/27/1994 in New Mexico, United States. Latitude 35 deg. 12' N. Longitude 107 deg. 44' W. Elevation 2230 m. Cibola County. Near Grants. On Hwy 547 to Mt. Taylor. Just before mile 11. Coal Mine Campground. At far east edge. Growing in disturbed dry soil under very large ponderosa pine. Many small (10 cm) plants. Collected about 10 tubers.

PI 585119. *Solanum jamesii* Torrey

Wild. BAM 13. Collected 09/29/1994 in Colorado, United States. Latitude 0 deg. 0' N. Longitude 0 deg. 0' W. Elevation 1950 m. Montezuma County. Near Cortez. In Mesa Verde National Monument at junction of Spruce and Navajo Canyons. In deep alluvial soil. Collected by Marilyn Colyer (Park Naturalist). About 15 tubers.

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 585120. *Hibiscus meraukensis* Hochr.

Wild. A67-699; 222. Collected 04/05/1967 in Australia. Northern Territory, bank of Daly River.

PI 585121. *Hibiscus meraukensis* Hochr.

Wild. A82-1288. Collected 05/1971 in Western Australia, Australia. Kimberleys.

PI 585122. *Hibiscus furcellatus* Desr.

Wild. A68-751; 13979. Collected 02/18/1968 in Paraguay. San Pedro orilla rio Jejui-Guazu (camino S. Estanislao a P.J. Caballero).

PI 585123. *Hibiscus furcellatus* Desr.

Wild. A85-1386; PS-39. Collected 09/06/1984 in Mexico. Vera Cruz, 1 km W of Rio tonala, near Hwy 180.

PI 585124. *Hibiscus furcellatus* Desr.

Cultivated. A91-1412; 81S58. Collected in Hawaii, United States. Waimea Botanical Garden.

PI 585125. *Hibiscus fryxellii* var. *mollis* Craven & F. D. Wilson

Wild. A82-1270; JMS-28. Collected 09/08/1981 in Western Australia, Australia. Ca. 70m E of Mt. Elizabeth station on track to Pantajin Homestead, West Kimberleys. Rough sandstone area.

PI 585126. *Hibiscus fryxellii* var. *mollis* Craven & F. D. Wilson

Wild. A84-1337; JMS 112. Collected in Western Australia, Australia. Yampi Peninsula, Kimberleys.

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; CFS-41. Collected in Western Australia, Australia. 5km WNW of Kimbolton Station (Yampi Peninsula), Trent River Tract.

PI 585129. *Hibiscus fryxellii* var. *mollis* Craven & F. D. Wilson

Wild. A86-1395; CFS-49. Collected in Western Australia, Australia. Koolan Island.

PI 585130. *Hibiscus fryxellii* var. *mollis* Craven & F. D. Wilson

Wild. A86-1396; CFS-53. Collected in Western Australia, Australia. Latitude 16 deg. 32' S. Longitude 126 deg. 8' E. Barnett River Gorge.

PI 585131. *Hibiscus fryxellii* Mabb. var. *fryxellii*

Wild. A86-1397; CFS-61. Collected in Western Australia, Australia.

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.
Wild. A82-1303; MYM 82-6. Collected 07/18/1982 in New South Wales, Australia. Anna Bay, near Port Stephens.

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
Wild. A84-1345; JMS-151. Collected in Western Australia, Australia. Kalumburu.

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.
Wild. A85-1379; UY-843. Collected 1984 in Nigeria. Cross River State, Uyo.

PI 585139. *Hibiscus acetosella* Welw. ex Hiern
Wild. A85-1380; UY-843. Collected 1984 in Nigeria. Cross River State, Uyo.

PI 585140. *Hibiscus marenitensis* Craven & F. D. Wilson
Wild. A86-1389. Collected 06/02/1985 in Western Australia, Australia. Koolan Island.

PI 585141. *Hibiscus stewartii* Craven & F. D. Wilson
Wild. A86-1391; CFS-67. Collected 06/09/1985 in Western Australia, Australia. Kooland Island.

PI 585142. *Hibiscus orarius* Craven & F. D. Wilson
Wild. A86-1392; CFS-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; CFS-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.
Cultivated. A91-1410; 79E1212. Collected in Hawaii, United States.
Waimea Botanical Garden.
- PI 585145. *Hibiscus furcellatus* Desr.
Cultivated. A91-1411; 80S107. Collected in Hawaii, United States.
- PI 585146. *Abelmoschus moschatus* Medikus
- PI 585147. *Hibiscus diversifolius* Jacq.
Wild. A68-749. Collected 01/1968 in New South Wales, Australia.
Koolonbung Creek, Port Macquarie.
- PI 585148. *Hibiscus diversifolius* Jacq.
Wild. A75-1150; 6988. Collected in Uganda. About 18 miles E of Kampal on
road to Jinja.
- PI 585149. *Hibiscus meraukensis* Hochr.
Wild. A67-697; 209. Collected 03/25/1967 in Northern Territory,
Australia. Latitude 12 deg. 34' S. Longitude 131 deg. 4' E. 20 miles
from Darwin along highway.
- PI 585150. *Hibiscus menzeliae* F. D. Wilson & Byrnes
Wild. A67-717; 117. Collected 01/17/1967 in Northern Territory,
Australia. Catherine Gorge.
- PI 585151. *Hibiscus arnhemensis* F. D. Wilson
Wild. A68-754; 812. Collected 05/19/1968 in Northern Territory,
Australia. Latitude 12 deg. 29' S. Longitude 132 deg. 58' E. Arnhem Land
Reserve, East Alligator River.
- PI 585152. *Hibiscus byrnesii* F. D. Wilson
Wild. A69-787; 1390. Collected 02/20/1969 in Northern Territory,
Australia. Latitude 13 deg. 30' S. Longitude 132 deg. 28' E. 57 miles E
of Pine Creek.
- PI 585153. *Hibiscus fryxellii* Mabb. var. *fryxellii*
Wild. A71-881; 2302. Collected 05/30/1971 in Western Australia,
Australia. Kalumburu.
- 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.
Wild. 69127. Collected 04/04/1969 in Zambia. 26 miles NE of
Kapiri-Mposhi on Great North Road.

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.

Wild. A59-86. Collected 06/1959 in Florida, United States. Palm Beach Co., Military Trail, Lake Worth.

The following were donated by USDA, ARS, Florida Agr. Exp. Station, Florida, United States. Received 1965.

PI 585157. *Hibiscus furcellatus* Desr.

Wild. A59-87. Collected in Florida, United States. Palm Beach Co., Belvedere Road.

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.

Wild. A61-359. Collected in Colombia. Dpto. Magdalena.

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.

Wild. A75-1140; 6908. Collected 01/24/1969 in Ethiopia. Agaro, SW edge of town along main road.

PI 585162. *Hibiscus acetosella* Welw. ex Hiern

Wild. A75-1146; 6962. Collected 02/21/1969 in Kenya. Mwea, about 20 miles SW of Embu, Embu District.

PI 585163. *Hibiscus diversifolius* Jacq.

Wild. A75-1147; 6963. Collected 02/21/1969 in Kenya. Mwea, about 20 miles SW of Embu, Embu District.

PI 585164. *Hibiscus diversifolius* Jacq.

Wild. A75-1156; 6995. Collected 03/09/1969 in Uganda. 24 miles W of Mubende on road to Fort Portal, Toro District.

PI 585165. *Hibiscus asper* Hook. f.

Wild. A75-1165; 69115. Collected 03/14/1969 in Uganda. About 76 miles S of Moroto in Karamoja District.

PI 585166. *Hibiscus mastersianus* Hiern

Wild. 69131. Collected 04/07/1969 in Tanzania. 18 miles E of Iringa on road to Morogoro, Iringa District.

PI 585167. *Hibiscus greenwayi* Baker f.

Wild. A75-1177; 69159. Collected 04/14/1969 in Kenya. Foot of Taita

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.
Wild. A93-1417; 3890. Collected 03/14/1992 in Madagascar. Latitude 20 deg. 35' S. Longitude 46 deg. 35' E. Fianarantsoa, Itremo Massif, along route Natioale 35, 44km W of Ambatofinandrahana.

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.
Landrace. 1133; KIRMIZI; NSGC 5552. Collected in Burdur, Turkey. Burdur. Separation of species from original PI 166720.

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.

PI 585177. *Triticum aestivum* L., nom. cons.
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.

PI 585178. *Triticum aestivum* L., nom. cons.
Landrace. 2644a; NSGC 5556. Collected 06/1948 in Edirne, Turkey. Edirne.
Separation of species from original PI 167545.

PI 585179. *Triticum aestivum* L., nom. cons.
Landrace. 3068; NSGC 5557. Collected 06/1948 in Canakkale, Turkey.
Canakkale. Separation of species from original PI 167588.

PI 585180. *Triticum durum* Desf.
Landrace. 8739; TOPIK; NSGC 5558. Collected 09/1948 in Elazig, Turkey.
Ciftlik. Separation of species from original PI 178026.

PI 585181. *Triticum aestivum* L., nom. cons.
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.

PI 585182. *Triticum aestivum* L., nom. cons.
Landrace. 5415; NSGC 5560. Collected 09/1948 in Tekirdag, Turkey. Corlu.
Separation of species from original PI 178093.

PI 585183. *Triticum durum* Desf.
Landrace. 5957; KUNDURU; NSGC 5561. Collected 10/1948 in Canakkale,
Turkey. Biga. Separation of species from original PI 178135.

PI 585184. *Triticum aestivum* L., nom. cons.
Landrace. 2532; NSGC 5562. Collected 06/1948 in Edirne, Turkey. South of
Merik. Separation of species from original PI 182402.

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

PI 585185. *Triticum aestivum* L., nom. cons.
Landrace. k3156; NSGC 5563. Collected 1955 in Afghanistan. Hindu Kush
Mountains. Separation of species from original PI 245585.

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

PI 585186. *Triticum aestivum* L., nom. cons.
Landrace. 954; NSGC 5564. Collected 1956 in Croatia. Near Benkovac.
Separation of species from original PI 264961.

PI 585187. *Triticum aestivum* L., nom. cons.
Landrace. 904; NSGC 5565. Collected 1956 in Bosnia and Herzegovina.
Kavst Mountains, 2 km from Ljubuski. Separation of species from
original PI 265009.

PI 585188. *Triticum aestivum* L., nom. cons.
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.
Landrace. 5747; NSGC 5577. Collected 10/1948 in Canakkale, Turkey.
Kocakoy. Separation of species from original PI 178657.

PI 585192. *Triticum durum* Desf.
Landrace. 4974; EVEYIK; NSGC 5578. Collected 08/1948 in Corum, Turkey.
Kure, Alaca. Separation of species from original PI 182899.

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.
Landrace. 1943; NSGC 5580. Collected in Shewa, Ethiopia. 6 miles south
of Addis Ababa. Separation of species from original PI 273996.

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

PI 585195. *Triticum durum* Desf.
Landrace. 18/71; NSGC 5581. Collected 1971 in Serbia, Yugoslavia. Motel
Vranje. Separation of species from original PI 374480.

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

PI 585196. *Triticum dicoccon* 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.
Landrace. 5388; NSGC 5584. Collected 09/1948 in Zonguldak, Turkey. Gaca. Separation of species from original PI 178083.

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.

PI 585202. *Triticum aestivum* L., nom. cons.
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.

Cultivated. 1113; NSGC 5575. Collected 1988 in Yemen. PDR South Yemen.

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*
Cultivar. "LASER". PVP 9500067. Miniature Indian corn.

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.
Cultivar. "SUNSTAR DOUBLE". PVP 9500070. Six row facultative barley.

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

Department, Casilla Postal 340, Quito, Ecuador. Received 01/04/1993.

PI 585238. *Capsicum annum* 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.

Ecu 2250; Grif 11890. Collected in El Oro, Ecuador. Latitude 3 deg. 46' S. Longitude 80 deg. 1' W. Elevation 420 m. Arenillas. Alimentacion.

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

Ecu 2249; Grif 11907. Collected in Loja, Ecuador. Latitude 4 deg. 13' S. Longitude 79 deg. 25' W. Elevation 2045 m. Gonzanama. Alimentacion.

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. Sigsig.

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

Ecu 2265; Grif 11914. Collected in Loja, Ecuador. Latitude 4 deg. 24' S. Longitude 79 deg. 28' W. Elevation 2500 m. Saraguro.

PI 585269. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 2266; Grif 11915. Collected in Loja, Ecuador. Latitude 4 deg. 24' S. Longitude 79 deg. 28' W. Elevation 2500 m. Saraguro. Alimentacion.

PI 585270. *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 585271. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 2270; Grif 11917. Collected in Loja, Ecuador. Latitude 3 deg. 34' S. Longitude 79 deg. 18' W. Elevation 2620 m. Saraguro. Alimentacion.

PI 585272. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 2271; Grif 11918. Collected in Loja, Ecuador. Latitude 3 deg. 36' S. Longitude 79 deg. 11' W. Elevation 2640 m. Saraguro. Alimentacion.

PI 585273. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 2272; Grif 11919. Collected in Carchi, Ecuador. Latitude 0 deg. 35' N. Longitude 79 deg. 48' W. Elevation 2740 m. Montufar. Alimentacion.

PI 585274. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 6222; Grif 11920. Collected in Napo, Ecuador. Elevation 2400 m. Quijos.

PI 585275. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 6223; Grif 11921. Collected in Napo, Ecuador. Elevation 2400 m. Quijos.

PI 585276. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 6225; Grif 11922. Collected in Napo, Ecuador. Elevation 2260 m. Quijos.

PI 585277. *Capsicum pubescens* Ruiz Lopez & Pavon

Ecu 2243; Grif 11923. Collected in Carchi, Ecuador. Latitude 0 deg. 33' N. Longitude 77 deg. 47' W. Elevation 3378 m. Montufar. Alimentacion.

PI 585278. *Capsicum chinense* Jacq.

Ecu 2256; Grif 11924. 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

Breeding. Inbred. Tx2892; R8504. GP-385. Pedigree - (Tx430*Tx2816)-1-1-5-3-1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 65. Plant height 115cm. Epicarp color white. Endosperm type yellow. 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 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
Breeding. Inbred. Tx2894; 80C2241. GP-387. Pedigree - ((SC120 6*Tx7000)*Tx7000)-10-2-6-2-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 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 117cm. Epicarp white. Endosperm type yellow. 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 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 63. Plant height 91cm. 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 585285. *Sorghum bicolor* (L.) Moench
Breeding. Inbred. Tx2897; R8904. GP-390. Pedigree - (((SC120 6*Tx7000)*Tx7000)-10-2-6-2-CBK*Tx433)-1-C2-C3-C2-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 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; R8922. 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 86cm. 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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghii*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

PI 585288. *Sorghum bicolor* (L.) Moench

Breeding. Inbred. Tx2900; R8925. GP-393. Pedigree - ((SC120 6*Tx7000)*(SC599 6*Tx430)-2-6-2-BK-1-4)-CF2-C6-C1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 67. Plant height 115cm. 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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghii*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

PI 585289. *Sorghum bicolor* (L.) Moench

Breeding. Inbred. Tx2901; R9021. GP-394. Pedigree - ((TAM428*77CS3)-1-14-3-2-2-1-4*Tx433)-CF2-B4-B4-B1-B1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 63. Plant height 84. 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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghii*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

PI 585290. *Sorghum bicolor* (L.) Moench

Breeding. Inbred. Tx2902; R9035. GP-395. Pedigree - (Tx430*Tx2816)-1-5-3*Tx435)-13-?3-1-1-B2-B1-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 62. Plant height 79cm. Epicarp color white. Endosperm type yellow. Plant color tan. Resistant to anthracnose (*Colletotrichum graminicola*). Contain resistances to *Fusarium* spp. head blight, rust (*Puccinia purpurea*), leaf blight (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghii*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

PI 585291. *Sorghum bicolor* (L.) Moench

Breeding. Inbred. Tx2903; R9030. GP-396. Pedigree - ((SC120 6*Tx7000)*Tx7000)-10-2-6-2-CBK*Tx433) -F2-B13-B1-B1-B3-B1-B3-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 60. Plant height 86cm. 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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghii*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

PI 585292. *Sorghum bicolor* (L.) Moench

Breeding. Inbred. Tx2904; R9032. GP-397. Pedigree - ((Tx430*Tx2816)-1-5-3-1*Tx433)CF2-B3-B2-B2-B1-B1-CBK. Restorer to the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 62. Plant height 86cm. 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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghi*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

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

Breeding. Inbred. Tx2905; R9037. GP-398. Pedigree - (B2Tx636*Tx435) CF2-B11-B2-CBK. Restorer in the A1 cytoplasmic-genetic male-sterility system. 3-dwarf. Days to 50% anthesis 63. Plant height 86cm. 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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghi*) except pathotype 3, and tolerant to head smut (*Sphacelotheca reiliana*).

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 (*Exserobolium turcicum*), downy mildew (*Sclerospora sorghii*) 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 RRYyiiZZB1B1b2b2wxwx for caryopsis traits. Caryopses 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 (pp00) 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 Kofoid, 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.

Makhanpur.

- 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.
Rafoochakvayan.
- 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
Grif 7867; IS 24514; 1/45. Collected in Lebanon.
- PI 585347. *Sorghum bicolor* (L.) Moench
Grif 7868; IS 24518; 2/13. Collected in Lebanon.
- PI 585348. *Sorghum bicolor* (L.) Moench
Grif 7869; IS 24522; 2/61. Collected in Lebanon.
- PI 585349. *Sorghum bicolor* (L.) Moench
Grif 7870; IS 24523; 2/93. Collected in Lebanon.
- PI 585350. *Sorghum bicolor* (L.) Moench
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.

- PI 585357. *Sorghum bicolor* (L.) Moench
Grif 7878; IS 24581; 8/99. Collected in Lebanon.
- PI 585358. *Sorghum bicolor* (L.) Moench
Grif 7879; IS 24584; 9/66. Collected in Lebanon.
- PI 585359. *Sorghum bicolor* (L.) Moench
Grif 7880; IS 24586; 10/64. Collected in Lebanon.
- PI 585360. *Sorghum bicolor* (L.) Moench
Grif 7881; IS 24588; 10/68. Collected in Lebanon.
- PI 585361. *Sorghum bicolor* (L.) Moench
Grif 7882; IS 24589; 10/69. Collected in Lebanon.
- PI 585362. *Sorghum bicolor* (L.) Moench
Grif 7883; IS 24590; 10/74. Collected in Lebanon.
- PI 585363. *Sorghum bicolor* (L.) Moench
Grif 7884; IS 24593; 11/14. Collected in Lebanon.
- PI 585364. *Sorghum bicolor* (L.) Moench
Grif 7885; IS 24607; 13/98. Collected in Lebanon.
- PI 585365. *Sorghum bicolor* (L.) Moench
Grif 7886; IS 24608; 14/12. Collected in Lebanon.
- PI 585366. *Sorghum bicolor* (L.) Moench
Grif 7887; IS 24615; 14/39. Collected in Lebanon.
- PI 585367. *Sorghum bicolor* (L.) Moench
Grif 7888; IS 24620; 15/26. Collected in Lebanon.
- PI 585368. *Sorghum bicolor* (L.) Moench
Grif 7889; IS 24626; 16/54. Collected in Lebanon.
- PI 585369. *Sorghum bicolor* (L.) Moench
Grif 7890; IS 24635; 17/59. Collected in Lebanon.
- PI 585370. *Sorghum bicolor* (L.) Moench
Grif 7891; IS 24645; 17/90. Collected in Lebanon.
- PI 585371. *Sorghum bicolor* (L.) Moench
Grif 7892; IS 24647; 17/98. Collected in Lebanon.
- PI 585372. *Sorghum bicolor* (L.) Moench
Grif 7893; IS 24666; 19/19. Collected in Lebanon.
- PI 585373. *Sorghum bicolor* (L.) Moench
Grif 7894; IS 24668; 19/56. Collected in Lebanon.
- PI 585374. *Sorghum bicolor* (L.) Moench
Grif 7895; IS 24670; 19/62. Collected in Lebanon.
- PI 585375. *Sorghum bicolor* (L.) Moench
Grif 7896; IS 24673; 19/72. Collected in Lebanon.
- PI 585376. *Sorghum bicolor* (L.) Moench
Grif 7897; IS 24688; 25/70. Collected in Lebanon.
- PI 585377. *Sorghum bicolor* (L.) Moench
HITE LANDRACE; Grif 7898; IS 24691; PIA 104-2. Collected in Lesotho.

- PI 585378. *Sorghum bicolor* (L.) Moench
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
FARA-FARA; Grif 7905; IS 24711; POD 23. Collected in Nigeria.
- PI 585385. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7906; IS 24712; POD 24. Collected in Nigeria.
- PI 585386. *Sorghum bicolor* (L.) Moench
FARA-FARA; Grif 7907; IS 24713; POD 25-1. Collected in Nigeria.
- PI 585387. *Sorghum bicolor* (L.) Moench
FARA-FARA; Grif 7908; IS 24716; POD 27. Collected in Nigeria.
- PI 585388. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7909; IS 24718; POD 29. Collected in Nigeria.
- PI 585389. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7910; IS 24720; POD 31. Collected in Nigeria.
- PI 585390. *Sorghum bicolor* (L.) Moench
FARA-FARA; Grif 7911; IS 24721; POD 32. Collected in Nigeria.
- PI 585391. *Sorghum bicolor* (L.) Moench
YALA; Grif 7912; IS 24726; POD 39. Collected in Nigeria.
- PI 585392. *Sorghum bicolor* (L.) Moench
FARA-FARA; Grif 7913; IS 24728; POD 45. Collected in Nigeria.
- PI 585393. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7914; IS 24731; POD 48. Collected in Nigeria.
- PI 585394. *Sorghum bicolor* (L.) Moench
Grif 7915; IS 24733; POD 49. Collected in Nigeria.
- PI 585395. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7916; IS 24737; POD 53. Collected in Nigeria.
- PI 585396. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7917; IS 24738; POD 54. Collected in Nigeria.
- PI 585397. *Sorghum bicolor* (L.) Moench
FARA-FARA; Grif 7918; IS 24743; POD 59. Collected in Nigeria.
- PI 585398. *Sorghum bicolor* (L.) Moench
FARA-FARA; Grif 7919; IS 24744; POD 60. Collected in Nigeria.

- PI 585399. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7920; IS 24754; POD 72. Collected in Nigeria.
- PI 585400. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7921; IS 24761; POD 82. Collected in Nigeria.
- PI 585401. *Sorghum bicolor* (L.) Moench
JANA DAWA; Grif 7922; IS 24762; POD 83. Collected in Nigeria.
- PI 585402. *Sorghum bicolor* (L.) Moench
CHAKKALARI-JA; Grif 7923; IS 24774; POD 97-2. Collected in Nigeria.
- PI 585403. *Sorghum bicolor* (L.) Moench
CHAKKALARI-FARI; Grif 7924; IS 24781; POD 105. Collected in Nigeria.
- PI 585404. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7925; IS 24790; POD 113. Collected in Nigeria.
- PI 585405. *Sorghum bicolor* (L.) Moench
Grif 7926; IS 24799; POD 124. Collected in Nigeria.
- 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
Grif 7929; IS 24803; POD 129. Collected in Nigeria.
- PI 585409. *Sorghum bicolor* (L.) Moench
Grif 7930; IS 24804; POD 130. Collected in Nigeria.
- 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
Grif 7933; IS 24812; POD 138-2. Collected in Nigeria.
- PI 585413. *Sorghum bicolor* (L.) Moench
Grif 7934; IS 24817; POD 142-2. Collected in Nigeria.
- PI 585414. *Sorghum bicolor* (L.) Moench
Grif 7935; IS 24818; POD 143. Collected in Nigeria.
- 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
Grif 7938; IS 24831; POD 156. Collected in Nigeria.
- PI 585418. *Sorghum bicolor* (L.) Moench
Grif 7939; IS 24832; POD 157. Collected in Nigeria.
- PI 585419. *Sorghum bicolor* (L.) Moench
Grif 7940; IS 24834; POD 159. Collected in Nigeria.
- PI 585420. *Sorghum bicolor* (L.) Moench

- KAURA; Grif 7941; IS 24838; POD 164. Collected in Nigeria.
- PI 585421. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7942; IS 24840; POD 166. Collected in Nigeria.
- PI 585422. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7943; IS 24842; POD 168. Collected in Nigeria.
- PI 585423. *Sorghum bicolor* (L.) Moench
Grif 7944; IS 24843; POD 170. Collected in Nigeria.
- PI 585424. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7945; IS 24844; POD 171. Collected in Nigeria.
- PI 585425. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7946; IS 24857; POD 185. Collected in Nigeria.
- PI 585426. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7947; IS 24864; POD 194. Collected in Nigeria.
- PI 585427. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7948; IS 24866; POD 198. Collected in Nigeria.
- PI 585428. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7949; IS 24867; POD 199. Collected in Nigeria.
- PI 585429. *Sorghum bicolor* (L.) Moench
KAURA; Grif 7950; IS 24871; POD 203. Collected in Nigeria.
- 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
Grif 7961; IS 24948; NO 2303. Collected in Zambia.
- 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
Grif 7968; IS 24970; NO 2740. Collected in Zambia.
- PI 585448. *Sorghum bicolor* (L.) Moench
Grif 7969; IS 25050; DSA 11. Collected in Ghana.
- PI 585449. *Sorghum bicolor* (L.) Moench
Grif 7970; IS 25051; DSA 11-1. Collected in Ghana.
- PI 585450. *Sorghum bicolor* (L.) Moench
Grif 7971; IS 25052; DSA 12. Collected in Ghana.
- PI 585451. *Sorghum bicolor* (L.) Moench
Grif 7972; IS 25053; DSA 13. Collected in Ghana.
- PI 585452. *Sorghum bicolor* (L.) Moench
Grif 7973; IS 25059; DSA 35. Collected in Ghana.
- PI 585453. *Sorghum bicolor* (L.) Moench
Grif 7974; IS 25060; DSA 45. Collected in Ghana.
- PI 585454. *Sorghum bicolor* (L.) Moench
Grif 7975; IS 25061; DSA 99. Collected in Ghana.
- PI 585455. *Sorghum bicolor* (L.) Moench
Grif 7976; IS 25066; DSA 109-1. Collected in Ghana.
- PI 585456. *Sorghum bicolor* (L.) Moench
Grif 7977; IS 25070; DSA 111-1. Collected in Ghana.
- PI 585457. *Sorghum bicolor* (L.) Moench
Grif 7978; IS 25074; DSA 116-1. Collected in Ghana.
- PI 585458. *Sorghum bicolor* (L.) Moench
Grif 7979; IS 25075; DSA 117. Collected in Ghana.
- PI 585459. *Sorghum bicolor* (L.) Moench
Grif 7980; IS 25077; DSA 119-1-1. Collected in Ghana.
- PI 585460. *Sorghum bicolor* (L.) Moench
Grif 7981; IS 25078; DSA 119-1-2. Collected in Ghana.
- PI 585461. *Sorghum bicolor* (L.) Moench
Grif 7982; IS 25086; DSA 137. Collected in Ghana.
- PI 585462. *Sorghum bicolor* (L.) Moench
Grif 7983; IS 25090; DSA 147-1. Collected in Ghana.

- PI 585463. *Sorghum bicolor* (L.) Moench
Grif 7984; IS 25091; DSA 147-2. Collected in Ghana.
- PI 585464. *Sorghum bicolor* (L.) Moench
Grif 7985; IS 25100; DSA 172. Collected in Ghana.
- 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
Grif 7988; IS 25108; DSA 185-1. Collected in Ghana.
- PI 585468. *Sorghum bicolor* (L.) Moench
Grif 7989; IS 25110; DSA 186-2. Collected in Ghana.
- PI 585469. *Sorghum bicolor* (L.) Moench
Grif 7990; IS 25111; DSA 186-1-1. Collected in Ghana.
- PI 585470. *Sorghum bicolor* (L.) Moench
Grif 7991; IS 25112; DSA 186-1-2. Collected in Ghana.
- 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
Grif 7994; IS 25119; DSA 111. Collected in Ghana.
- 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
Grif 7997; IS 25123; DSA 167. Collected in Ghana.
- PI 585477. *Sorghum bicolor* (L.) Moench
Grif 7998; IS 25125; DSA 172. Collected in Ghana.
- PI 585478. *Sorghum bicolor* (L.) Moench
Grif 7999; IS 25126; DSA 173. Collected in Ghana.
- 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
Grif 8002; IS 25134; ACC 70003. Collected in Ethiopia.
- PI 585482. *Sorghum bicolor* (L.) Moench
Grif 8003; IS 25137; ACC 70006. Collected in Ethiopia.
- PI 585483. *Sorghum bicolor* (L.) Moench
Grif 8004; IS 25138; ACC 70022. Collected in Ethiopia.
- PI 585484. *Sorghum bicolor* (L.) Moench

Grif 8005; IS 25141; ACC 70024. Collected in Ethiopia.

PI 585485. *Sorghum bicolor* (L.) Moench
Grif 8006; IS 25146; ACC 70059. Collected in Ethiopia.

PI 585486. *Sorghum bicolor* (L.) Moench
Grif 8007; IS 25147; ACC 70065. Collected in Ethiopia.

PI 585487. *Sorghum bicolor* (L.) Moench
Grif 8008; IS 25150; ACC 70067. Collected in Ethiopia.

PI 585488. *Sorghum bicolor* (L.) Moench
Grif 8009; IS 25151; ACC 70068. Collected in Ethiopia.

PI 585489. *Sorghum bicolor* (L.) Moench
Grif 8010; IS 25152; ACC 70068. Collected in Ethiopia.

PI 585490. *Sorghum bicolor* (L.) Moench
Grif 8011; IS 25153; ACC 70069. Collected in Ethiopia.

PI 585491. *Sorghum bicolor* (L.) Moench
Grif 8012; IS 25154; ACC 70072. Collected in Ethiopia.

PI 585492. *Sorghum bicolor* (L.) Moench
Grif 8013; IS 25158; ACC 70101. Collected in Ethiopia.

PI 585493. *Sorghum bicolor* (L.) Moench
Grif 8014; IS 25164; ACC 70121. Collected in Ethiopia.

PI 585494. *Sorghum bicolor* (L.) Moench
Grif 8015; IS 25167; ACC 70150. Collected in Ethiopia.

PI 585495. *Sorghum bicolor* (L.) Moench
Grif 8016; IS 25168; ACC 70154. Collected in Ethiopia.

PI 585496. *Sorghum bicolor* (L.) Moench
Grif 8017; IS 25171; ACC 70185. Collected in Ethiopia.

PI 585497. *Sorghum bicolor* (L.) Moench
Grif 8018; IS 25172; ACC 70222. Collected in Ethiopia.

PI 585498. *Sorghum bicolor* (L.) Moench
Grif 8019; IS 25176; ACC 70314. Collected in Ethiopia.

PI 585499. *Sorghum bicolor* (L.) Moench
Grif 8020; IS 25180; ACC 70448. Collected in Ethiopia.

PI 585500. *Sorghum bicolor* (L.) Moench
Grif 8021; IS 25183; ACC 70618. Collected in Ethiopia.

PI 585501. *Sorghum bicolor* (L.) Moench
Grif 8022; IS 25185; ACC 70632. Collected in Ethiopia.

PI 585502. *Sorghum bicolor* (L.) Moench
Grif 8023; IS 25188; ACC 70640. Collected in Ethiopia.

PI 585503. *Sorghum bicolor* (L.) Moench
Grif 8024; IS 25189; ACC 70660. Collected in Ethiopia.

PI 585504. *Sorghum bicolor* (L.) Moench
Grif 8025; IS 25190; ACC 70661. Collected in Ethiopia.

PI 585505. *Sorghum bicolor* (L.) Moench
Grif 8026; IS 25196; ACC 70731. Collected in Ethiopia.

- PI 585506. *Sorghum bicolor* (L.) Moench
Grif 8027; IS 25197; ACC 70732. Collected in Ethiopia.
- PI 585507. *Sorghum bicolor* (L.) Moench
Grif 8028; IS 25199; ACC 70745. Collected in Ethiopia.
- PI 585508. *Sorghum bicolor* (L.) Moench
Grif 8029; IS 25201; ACC 70747. Collected in Ethiopia.
- PI 585509. *Sorghum bicolor* (L.) Moench
Grif 8030; IS 25202; ACC 70748. Collected in Ethiopia.
- PI 585510. *Sorghum bicolor* (L.) Moench
Grif 8031; IS 25203; ACC 70882. Collected in Ethiopia.
- PI 585511. *Sorghum bicolor* (L.) Moench
Grif 8032; IS 25204; ACC 70890. Collected in Ethiopia.
- PI 585512. *Sorghum bicolor* (L.) Moench
Grif 8033; IS 25205; ACC 70901. Collected in Ethiopia.
- 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 74884. 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
Grif 8100; IS 25520; PK 93. Collected in Burundi. Kuruvumbu.
- 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
Grif 8103; IS 25523; PK 99. Collected in Burundi. Ruzeba.
- 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. Cyasha.
- PI 585588. *Sorghum bicolor* (L.) Moench
IGIHOVE; Grif 8109; IS 25549; PS 56. Collected in Rwanda. Cyasha.
- 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.
- PI 585653. *Sorghum bicolor* (L.) Moench

- 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 TAINE; 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 TAINE; 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 585691. *Sorghum bicolor* (L.) Moench
NIENIKO; Grif 8212; IS 25733; SG 4643. Collected in Mali. Bema.
- 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

- DARNE; Grif 8215; IS 25740; SG 4657. Collected in Mali. Youri.
- 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
KINTI; 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. Tououkoto.
- PI 585735. *Sorghum bicolor* (L.) Moench
KINTI; Grif 8256; IS 25811; SG 4772. Collected in Mali. Tououkoto.

- 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. Zantiebouyou.
- PI 585787. *Sorghum bicolor* (L.) Moench
BIMBIRI; Grif 8308; IS 25994; SG 5047. Collected in Mali. Zantiebouyou.
- 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. Niena.
- PI 585790. *Sorghum bicolor* (L.) Moench
BIMBIRI BA; Grif 8311; IS 25997; SG 5054. Collected in Mali. Niena.
- 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

- KENDE; Grif 8316; IS 26007; SG 5070. Collected in Mali. Loulouli.
- 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
MAHOUI; 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 26059; 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 5138. 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
D JOU 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

- 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.
Touperre.
- 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
TCHINLORE; 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. Dontondi.
- 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
 MLAKOUKOULOME; Grif 8465; IS 26361; TOGO 472 BIS. Collected in Togo.
 Kangba.
- PI 585945. *Sorghum bicolor* (L.) Moench
 MLAKESSEMA; 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
 MLAKESSEMDA; 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
 MLAKOFOLOUMDE; Grif 8470; IS 26368; TOGO 491. Collected in Togo. Pazza
 Kotokoli.
- PI 585950. *Sorghum bicolor* (L.) Moench
 MLAKESSEMA; Grif 8471; IS 26369; TOGO 492. Collected in Togo. Pazza
 KotoKoli.
- PI 585951. *Sorghum bicolor* (L.) Moench
 MLAKESSEMA; Grif 8472; IS 26371; TOGO 498. Collected in Togo. Aleride.
- PI 585952. *Sorghum bicolor* (L.) Moench
 MLAKOFOUME; 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.
 Kanianboua.
- PI 585954. *Sorghum bicolor* (L.) Moench
 MOHOU; Grif 8475; IS 26378; TOGO 505 BIS. Collected in Togo. Kanianboua

- PI 585955. *Sorghum bicolor* (L.) Moench
MLADELEMA; Grif 8476; IS 26380; TOGO 508. Collected in Togo. Langabou.
- PI 585956. *Sorghum bicolor* (L.) Moench
BOBAKPIPA; 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
DOBI; Grif 8517; IS 26433; SG 4010. Collected in Benin. Guinagourou.
- PI 585997. *Sorghum bicolor* (L.) Moench
DOBI; 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
DOBI 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
DOBI 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
DOBI; Grif 8527; IS 26456; SG 4048. Collected in Benin. Sirarou.
- PI 586007. *Sorghum bicolor* (L.) Moench
DOBI 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. Gamia.
- PI 586011. *Sorghum bicolor* (L.) Moench
ESSE TENHA; Grif 8532; IS 26484; SG 4109. Collected in Benin.
- PI 586012. *Sorghum bicolor* (L.) Moench
DOBI; 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. Sangelenge.
- PI 586033. *Sorghum bicolor* (L.) Moench
Grif 8554; IS 26632; ZFA 3274. Collected in Zambia. Luvelbnga.
- 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. Chinpestu.
- 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 MSELINI; 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

- WIT; Grif 8599; IS 26740; 67312. Collected in South Africa.
- 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
UOELPROET; 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
Grif 8604; IS 26746; 67385. Collected in South Africa. Pedigree - H 11
X 71.
- 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.
Dioumssogui.
- 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. Gorgadji.
- 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
Grif 8671; IS 27342; SG 6210. Collected in Burkina Faso. Bani.
- 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
Grif 8682; IS 27354; SG 6227. Collected in Burkina Faso. Kongoussi.
- 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
Grif 8689; IS 27362; SG 6236. Collected in Burkina Faso. Zorgo.
- PI 586169. *Sorghum bicolor* (L.) Moench
Grif 8690; IS 27363; SG 6237. Collected in Burkina Faso. Zorogo.
- 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
Grif 8695; IS 27368; SG 6243. Collected in Burkina Faso. Boulsa.
- PI 586175. *Sorghum bicolor* (L.) Moench
Grif 8696; IS 27369; SG 6244. Collected in Burkina Faso. Boulsa.
- PI 586176. *Sorghum bicolor* (L.) Moench
Grif 8697; IS 27370; SG 6245. Collected in Burkina Faso. Boulsa.

- PI 586177. *Sorghum bicolor* (L.) Moench
BELOKO; Grif 8698; IS 27372; SG 6247. Collected in Burkina Faso. Dargo.
- PI 586178. *Sorghum bicolor* (L.) Moench
Grif 8699; IS 27373; SG 6248. Collected in Burkina Faso. Bilanga.
- PI 586179. *Sorghum bicolor* (L.) Moench
Grif 8700; IS 27374; SG 6249. Collected in Burkina Faso. Bilanga.
- 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
Grif 8722; IS 27399; SG 6280. Collected in Burkina Faso. Kaibo.
- 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 WANUINGA; Grif 8736; IS 27413; SG 6301. Collected in Burkina
Faso. Napalque.
- PI 586216. *Sorghum bicolor* (L.) Moench
BANINGA; Grif 8737; IS 27414; SG 6302. Collected in Burkina Faso.
Napalque.
- PI 586217. *Sorghum bicolor* (L.) Moench
KAZINGA; Grif 8738; IS 27415; SG 6303. Collected in Burkina Faso.
Napalque.
- 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. Niessegua.

- 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
. Gaboro.
- 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.
Kouri.
- 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 BAOLA 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
WOUORO TENTE; 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 KOULIMNONA; 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 OUEMOUNA; 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 OUEMOUNA; 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 SOUNENDENI; 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
YELA; 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
YALA YALOME; Grif 8860; IS 27545; SG 6450. Collected in Burkina Faso.
Bonyolo.
- PI 586340. *Sorghum bicolor* (L.) Moench
BO; Grif 8861; IS 27546; SG 6451. Collected in Burkina Faso. Bonyolo.
- 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
YELIMI; 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
Grif 8878; IS 27563; SG 6468. Collected in Burkina Faso. Nonion.
- 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
Grif 8884; IS 27569; SG 6475. Collected in Burkina Faso. Nandiala.
- 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

- Grif 8887; IS 27573; SG 6479. Collected in Burkina Faso. Dana.
- PI 586367. *Sorghum bicolor* (L.) Moench
Grif 8888; IS 27574; SG 6480. Collected in Burkina Faso. Dana.
- PI 586368. *Sorghum bicolor* (L.) Moench
Grif 8889; IS 27575; SG 6481. Collected in Burkina Faso. Gao.
- PI 586369. *Sorghum bicolor* (L.) Moench
Grif 8890; IS 27576; SG 6482. Collected in Burkina Faso. Gao.
- PI 586370. *Sorghum bicolor* (L.) Moench
Grif 8891; IS 27577; SG 6483. Collected in Burkina Faso.
- PI 586371. *Sorghum bicolor* (L.) Moench
Grif 8892; IS 27578; SG 6484. Collected in Burkina Faso. Metio.
- PI 586372. *Sorghum bicolor* (L.) Moench
Grif 8893; IS 27579; SG 6485. Collected in Burkina Faso. Metio.
- PI 586373. *Sorghum bicolor* (L.) Moench
Grif 8894; IS 27580; SG 6486. Collected in Burkina Faso. Metio.
- PI 586374. *Sorghum bicolor* (L.) Moench
Grif 8895; IS 27581; SG 6487. Collected in Burkina Faso. Sissili.
- PI 586375. *Sorghum bicolor* (L.) Moench
Grif 8896; IS 27582; SG 6488. Collected in Burkina Faso. Sissili.
- PI 586376. *Sorghum bicolor* (L.) Moench
Grif 8897; IS 27583; SG 6489. Collected in Burkina Faso. Sissili.
- PI 586377. *Sorghum bicolor* (L.) Moench
Grif 8898; IS 27591; PA 9. Collected in Cameroon. Kousseri.
- PI 586378. *Sorghum bicolor* (L.) Moench
Grif 8899; IS 27592; PA 10. Collected in Cameroon. Kousseri.
- PI 586379. *Sorghum bicolor* (L.) Moench
Grif 8900; IS 27593; PA 11. Collected in Cameroon. Afade.
- PI 586380. *Sorghum bicolor* (L.) Moench
Grif 8901; IS 27594; PA 12. Collected in Cameroon. Afade.
- PI 586381. *Sorghum bicolor* (L.) Moench
Grif 8902; IS 27595; PA 13. Collected in Cameroon. Afade.
- PI 586382. *Sorghum bicolor* (L.) Moench
Grif 8903; IS 27596; PA 14. Collected in Cameroon. Afade.
- PI 586383. *Sorghum bicolor* (L.) Moench
Grif 8904; IS 27598; PA 16. Collected in Cameroon. Afade.
- PI 586384. *Sorghum bicolor* (L.) Moench
Grif 8905; IS 27600; PA 18. Collected in Cameroon. Afade.
- PI 586385. *Sorghum bicolor* (L.) Moench
Grif 8906; IS 27601; PA 19. Collected in Cameroon. Afade.
- PI 586386. *Sorghum bicolor* (L.) Moench
Grif 8907; IS 27602; PA 20. Collected in Cameroon. Afade.
- PI 586387. *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
Grif 8914; IS 27610; PA 35-36. Collected in Cameroon. Jagawa.
- 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
Grif 8923; IS 27619; PA 46-31. Collected in Cameroon. Mundu.
- 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
NIKI; 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.
Lengekoro.
- PI 586422. *Sorghum bicolor* (L.) Moench
SEREKETCH; Grif 8943; IS 27770; PCI 171. Collected in Sierra Leone.
Lengekoro.
- 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

- Grif 9051; IS 27936; NO 11. Collected in China.
- PI 586531. *Sorghum bicolor* (L.) Moench
Grif 9052; IS 27937; NO 12. Collected in China.
- PI 586532. *Sorghum bicolor* (L.) Moench
Grif 9053; IS 27938; NO 12. Collected in China.
- PI 586533. *Sorghum bicolor* (L.) Moench
Grif 9054; IS 27939; NO 13. Collected in China.
- PI 586534. *Sorghum bicolor* (L.) Moench
Grif 9055; IS 27940; NO 14. 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
Cultivar. "SCECASOGO"; BJ-9. Collected in Thailand.
- PI 586536. *Sorghum bicolor* (L.) Moench
Cultivar. "HONEY"; BJ-10. Collected in Australia.
- PI 586537. *Sorghum bicolor* (L.) Moench
Cultivar. "ATLAS"; BJ-11. Collected in Australia.
- PI 586538. *Sorghum bicolor* (L.) Moench
Cultivar. "WHITE AFRICA"; BJ-12. Collected in Australia.
- PI 586539. *Sorghum bicolor* (L.) Moench
Cultivar. "SUMAC"; BJ-13. Collected in Australia.
- PI 586540. *Sorghum bicolor* (L.) Moench
Cultivar. "KANSAS COLLIER"; BJ-14. Collected in Australia.
- PI 586541. *Sorghum bicolor* (L.) Moench
Cultivar. "TRACY"; BJ-15. Collected in Australia.
- PI 586542. *Sorghum bicolor* (L.) Moench
Cultivar. "RADAR"; BJ-16. Collected in Australia.
- 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
Cultivar. "CHANGDE"; BJ-71.
- PI 586546. *Sorghum bicolor* (L.) Moench
Cultivar. "KOREA 11"; BJ-72. Collected in Korea.
- PI 586547. *Sorghum bicolor* (L.) Moench
Cultivar. "KOREA 12"; BJ-73. Collected in Korea.
- PI 586548. *Sorghum bicolor* (L.) Moench
Cultivar. "KOREA 13"; BJ-74. Collected in Korea.
- PI 586549. *Sorghum bicolor* (L.) Moench
Cultivar. "KOREA 14"; BJ-75.
- PI 586550. *Sorghum bicolor* (L.) Moench

Cultivar. "JIANHU"; BJ-76.

PI 586551. *Sorghum bicolor* (L.) Moench
Cultivar. "SUIZHONG"; BJ-77.

PI 586552. *Sorghum bicolor* (L.) Moench
Cultivar. "DAWANTOU"; BJ-78.

PI 586553. *Sorghum bicolor* (L.) Moench
Cultivar. "SANSUI"; BJ-115.

PI 586554. *Sorghum bicolor* (L.) Moench
Cultivar. "HONGKER"; BJ-116.

PI 586555. *Sorghum bicolor* (L.) Moench
Cultivar. "DASUI"; BJ-117.

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.

PI 586556. *Sorghum bicolor* (L.) Moench
Cultivar. "HEG 6645-27-1-4-2"; BJ-123. Collected in India.

PI 586557. *Sorghum bicolor* (L.) Moench
Cultivar. "48 UNKNOWN"; BJ-124. Collected in India.

The following were donated by Beijing Botanical Garden, Institute of Botany, Chinese Academy of Science, Beijing, Beijing, China. Received 01/30/1995.

PI 586558. *Sorghum bicolor* (L.) Moench
Cultivar. "WAGADI TRAMBA"; BJ-129. Collected in India.

PI 586559. *Sorghum bicolor* (L.) Moench
Cultivar. "EC 21394"; BJ-134. Collected in Uganda.

PI 586560. *Sorghum bicolor* (L.) Moench
Cultivar. "WM-10492"; BJ-138. Collected in Sudan.

PI 586561. *Sorghum bicolor* (L.) Moench
Cultivar. "20503"; BJ-140. Collected in Sudan.

PI 586562. *Sorghum bicolor* (L.) Moench
Cultivar. "20557"; BJ-141. Collected in Sudan.

PI 586563. *Sorghum bicolor* (L.) Moench
Cultivar. "EVSITU"; BJ-143. Collected in Kenya.

PI 586564. *Sorghum bicolor* (L.) Moench
Cultivar. "ANDIWO MA RABOUR 21260"; BJ-147. Collected in Kenya.

PI 586565. *Sorghum bicolor* (L.) Moench
Cultivar. "TIFT"; BJ-162. Collected in Uruguay.

PI 586566. *Sorghum bicolor* (L.) Moench
Cultivar. "YATAY"; BJ-163. Collected in Uruguay.

PI 586567. *Sorghum bicolor* (L.) Moench
Cultivar. "TX 2747 S1"; BJ-164. Collected in Uruguay.

PI 586568. *Sorghum bicolor* (L.) Moench

- Cultivar. "SS 506"; BJ-165. Collected in Uruguay.
- PI 586569. *Sorghum bicolor* (L.) Moench
Cultivar. "SORGO AZUCARADO 2"; BJ-166. Collected in Uruguay.
- PI 586570. *Sorghum bicolor* (L.) Moench
Cultivar. "SP 89707 A"; BJ-167. Collected in Uruguay.
- PI 586571. *Sorghum bicolor* (L.) Moench
Cultivar. "SORGO AZUCARADO 1"; BJ-168. Collected in Uruguay.
- PI 586572. *Sorghum bicolor* (L.) Moench
Cultivar. "CMS X S606 R"; BJ-169. Collected in Uruguay.
- PI 586573. *Sorghum bicolor* (L.) Moench
Cultivar. "FACON"; BJ-170. Collected in Uruguay.
- PI 586574. *Sorghum bicolor* (L.) Moench
Cultivar. "SP 89708 A"; BJ-171. Collected in Uruguay.
- PI 586575. *Sorghum bicolor* (L.) Moench
Cultivar. "SORGO AZUCARADO"; BJ-172. Collected in Uruguay.
- PI 586576. *Sorghum bicolor* (L.) Moench
Cultivar. "SORGO AZUCARADO S1"; BJ-173. Collected in Uruguay.
- PI 586577. *Sorghum bicolor* (L.) Moench
Cultivar. "SP 89706 B"; BJ-174. Collected in Uruguay.
- PI 586578. *Sorghum bicolor* (L.) Moench
Cultivar. "TX 2747 S2"; BJ-176. Collected in Uruguay.
- PI 586579. *Sorghum bicolor* (L.) Moench
Cultivar. "BEEF BILDER R"; BJ-177. Collected in Uruguay.
- PI 586580. *Sorghum bicolor* (L.) Moench
Cultivar. "SORGO AZUCARADO S2"; BJ-178. Collected in Uruguay.
- PI 586581. *Sorghum bicolor* (L.) Moench
Cultivar. "RIO"; BJ-179. Collected in Uruguay.
- PI 586582. *Sorghum bicolor* (L.) Moench
Cultivar. "SUCRO SORGO 405"; BJ-180. Collected in Uruguay.
- PI 586583. *Sorghum bicolor* (L.) Moench
Cultivar. BJ-175; "EXP P 935".

The following were collected by G. Schmidt. Donated by Botanischer Garten, der Universität Leipzig, Linnestrasse 1, Leipzig, Germany. Received 06/17/1991.

- PI 586584. *Alcea rosea* L.
Wild. Ames 15710; 543. Collected in Georgia. Tblissi (Georgische SSR), Soviet Union.

The following were donated by Research Institute of Ecology and Botany, Hungarian Academy of Sciences Botanical, Vacratot, Hungary. Received 05/22/1989.

- PI 586585. *Alcea pallida* (Waldst. & Kit. ex Willd.) Waldst. & Kit.
Cultivated. Ames 10322; 1926. Collected in Hungary. Latitude 47 deg. 42'

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 Universitat 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-Universitat, 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.
Ames 7829; Mii 438; K-17013. Collected 04/1986 in Sri Lanka.

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 Pflanzengenetik, und Kulturpflanzenforschung, Gatersleben, Germany. Received 06/10/1993.

PI 586592. *Chrysanthemum carinatum* Schousboe
Wild. Ames 21137; CAL 38/91. Collected in Morocco. From Agadir.

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.
Ames 21147; CHRY 9/80. Collected in China. From Chingchiao-Chieh a. Rand d. Laohan.

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.
Wild. Ames 21242; No. 62. Collected 04/28/1991 in Portugal. Lagos, Algarve. 29SNB2907.

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
Ames 21151; CHRY 59/87. Collected in China. From Kunming, Province Yunnan.

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.
Wild. Ames 13168; 269. Collected in Czechoslovakia. Elevation 600 m. Velka Fatra mountains, Gaderska Dolina valley.

The following were donated by University of Alberta, Devonian Botanical Garden, Edmonton, Alberta T6G 2E1, Canada. Received 03/16/1990.

PI 586606. *Dianthus pontederæ* A. Kerner
Cultivated. Ames 13128; 109.

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.
Wild. Ames 18454; W6 9504. Collected 06/1991 in Spain. Elevation 123 m. Collected from several plants growing wild at the edge of a chickpea field at the Centro de Investigacion y Desarrollo Agrario (CIDA), in Alameda del Obispo, Cordoba, Spain.

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 Foulkesweg 37, Wageningen, Netherlands. Received 04/22/1991.

PI 586611. *Hesperis matronalis* L.
Cultivated. Ames 15433; 90139.

PI 586612. *Hesperis matronalis* L.
Wild. Ames 15434; 90140. Collected in Germany. Beeskow, near Frankfurt in East Germany.

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.
Wild. Ames 10343; 494. Collected in Ukraine. Near Skardovka in Kievskaja Oblast on the banks of the Ros River.

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, Vacratot, Hungary. Received 09/20/1990.

PI 586615. *Lavatera thuringiaca* L.

Wild. Ames 14221; 497. Collected in Hungary. Elevation 100 m. Kissarret, part of Great Hungarian Plain. Forest steppes called Fas near Belmegyer.

The following were donated by Hortus Botanicus, Universitatis Posnaniensis, Dabrowskiego 165, Poznan, Poland. Received 08/16/1991.

PI 586616. *Lavatera thuringiaca* L.

Wild. Ames 17763; 18. Collected in Poland. Gora sw. Wawrzynca, Wojewodztwo (distr.) bydgoskie.

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.

Wild. Ames 15628; 65. Collected in Finland. Latitude 62 deg. 0' N. Longitude 25 deg. 2' E. Dry meadow, Jamsa, Hopsu, Rauhala, Etela-Hame.

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.

Wild. Ames 20033; 2994. Collected in Russian Federation. Near village of Plodovoje of the district Priosersk, in Europaea.

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.

Wild. Ames 20034; 3072. Collected in Russian Federation. Near the village Pervomajskij, Rosczino, Europaea.

The following were collected by H.U.K. Hubatsch. Donated by Botanischer Garten, der Universitat 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
Wild. RWCF 9; Ames 21553. Collected 10/01/1993 in Tamaulipas, Mexico. Latitude 23 deg. 18' N. Longitude 99 deg. 40' W. Elevation 1730 m. Roadside area, white limestone or gypsum. Assoc. *Juniperus*, *Salvia*, *Ratibida*, *Cirsium*, *Physalis*. Km 73 Mex Hwy 101, 28.6 km SW Jaumave at road to Bustamante. Rays dull yellow, disks dark brown. Population small under 100, sampled 6 plants. Possible mixed population; some plants like *S. ocymoides*.

PI 586626. *Sanvitalia angustifolia* Engelm. ex A. Gray
Wild. RWCF 60; Ames 21556. Collected 10/13/1993 in Zacatecas, Mexico. Latitude 24 deg. 19' N. Longitude 101 deg. 24' W. Elevation 1850 m. Roadside, gravelly soils. Assoc. *Larrea*, *Acacia*, *Malvaceae* & misc. composites. 19.8 km N inters. rd to San Tiburcio & Mex Hwy 54, W side of hwy 54. Rays 8-9, dull yellow, disks dull purple. Population large, sampled 25. Could be *S. ocymoides*.

PI 586627. *Sanvitalia ocymoides* DC.
Wild. RWCF 4; Ames 21557. Collected 09/30/1993 in Nuevo Leon, Mexico. Latitude 24 deg. 44' N. Longitude 99 deg. 54' W. Elevation 1500 m. Disturbed rocky roadside. Assoc. *Ptelea*, *Acacia*, *Portulaca* Down slope Mex Hwy 58. W edge of Iturbide. Rays dull yellow, disks dark brown. Population very large, extends from roadside down to creek banks, sampled ca. 15 plants.

PI 586628. *Sanvitalia ocymoides* DC.
Wild. RWCF 5; Ames 21558. Collected 09/30/1993 in Nuevo Leon, Mexico. Latitude 24 deg. 50' N. Longitude 100 deg. 5' W. Elevation 1710 m. Rocky roadside ditch. Assoc. *Bidens*, *Amaranthus*, *Ipomoea* & other composites. East facing slope. Mesa Galeana just W of Galeana. Rays dull yellow, disks dark brown. Population moderate, scattered, sampled ca. 10 plants.

PI 586629. *Sanvitalia procumbens* Lam.
Wild. RWCF 10; Ames 21561. Collected 10/01/1993 in Tamaulipas, Mexico. Latitude 23 deg. 26' N. Longitude 99 deg. 45' W. Elevation 1680 m. Roadside area, gravelly (limestone) clay loams. Assoc. *Salvia* and *Sanvitalia angustifolia*. Along road in village, in Colonia Anton Trejos Navas near Bustamante. Rays 8-10, bright yellow, disks dark brown.

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, Vacratot, Hungary. Received 08/21/1985.

PI 586630. *Sorbaria sorbifolia* (L.) A. Braun
Wild. NA 55946; 689; Ames 13710. Collected in Korea, North. Elevation 1500 m. Kaema plateau and Mt. Paektu. Boreal Larix-Abies-Picea forests and alpine meadows on volcanic soil.

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.
Wild. Ames 20057; NA 61778; No. 177. Collected 09/26/1989 in Korea, South. Paju Gun, Kyonggi Do, Korea. Pink plumes. Plant 30 - 70cm tall.

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 586634. *Zinnia violacea* Cav.
Landrace. RWCF 2; Ames 21583. Collected 09/29/1993 in Nuevo Leon, Mexico. Latitude 25 deg. 23' N. Longitude 100 deg. 14' W. Elevation 1350 m. Garden of Gonzalez Ramirez. 16 km above entrance to Cola de Caballo. Near La Cienega. Rays numerous, pink, rose, red. Population ca. 100, sampled 10 plants.

PI 586635. *Zinnia violacea* Cav.

Landrace. RWCF 3; Ames 21584. Collected 09/29/1993 in Nuevo Leon, Mexico. Latitude 25 deg. 22' N. Longitude 100 deg. 12' W. Elevation 1600 m. Garden of Erminio Gutierrez. 6.2 km above entrance to Cola de Caballo. Near Puerto Genovevo. Rays 15 to many, orange-red, pink, rose. Population ca. 200, sampled ca. 20 plants.

PI 586636. *Zinnia violacea* Cav.

Landrace. RWCF 14; Ames 21585. Collected 10/02/1993 in Tamaulipas, Mexico. Latitude 22 deg. 51' N. Longitude 99 deg. 21' W. Elevation 350 m. Garden of Ramirez family. Colonia del Choy section of Ocampo. Rays 20 to many, red, orange, yellow, rose. Population large sampled ca. 20 plants. Leaf spot (*Helminthosporium?*), but no mildew present.

PI 586637. *Zinnia violacea* Cav.

Landrace. RWCF 47; Ames 21586. Collected 10/10/1993 in Jalisco, Mexico. Latitude 21 deg. 36' N. Longitude 102 deg. 15' W. Elevation 1870 m. Garden of Elvira Lopez, clay soils. In El Salvador. Rays numerous, uniform rose-pink color. Population small, sampled 5 or 6 plants. Powdery mildew evident.

The following were developed by Sharie L. Nygaard, W-L Research, Inc., 8701 W. US Highway 14, Evansville, Wisconsin 53536-9593, United States; Michael A. Peterson, W-L Research, Inc., 8701 Highway 14, Evansville, Wisconsin 53536-9593, United States; J.L. Kugler, W-L Research, Inc., 21029 Rd. 6, SE, Warden, Washington 98857, United States; D.E. Huset, W-L Research, Inc., 8701 W. US Highway 14, Evansville, Wisconsin 53536, United States. Received 02/06/1995.

PI 586638. *Medicago sativa* L. ssp. *sativa*

Cultivar. Population. "WL 323"; 89-31. CV-192. Pedigree - 165-plant synthetic selected for *Aphanomyces* root rot resistance. Source material traces to two lines selected for winterhardiness and spotted aphid resistance. Germplasm traces to DK 125, G-2852, break-thru, Vertus, Vernal, Ranger. Semi-dormant (Group 4) with high resistance to anthracnose, bacterial wilt, *Fusarium* wilt, *Phytophthora* root rot, and stem nematode; resistance to *Verticillium* wilt, *Aphanomyces* root rot, and pea aphid; moderate resistance to spotted aphid. Flower color 65% purple and 35% variegated with traces to cream and yellow. Summer growth erect and fall growth semi-erect.

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.

PI 586639. *Cynodon dactylon* (L.) Pers.

Cultivar. "FLORATEX". CV-27. Pedigree - Off-type vegetative selection from PI 213385 bermudagrass. Widely adapted throughout the southern U.S. especially under low maintenance inputs. Very low nitrogen requirement. Excellent drought resistance and dehydration avoidance. Superior rooting depth and mass. Excellent fall low temperature color retention. Very early spring greenup. Good wear tolerance. Resistant to bermudagrass stunt mite (*Eriophyes cynodontiensis*). Tolerant to short-winged mole cricket (*Scapteriscus abbreviatus*). Tolerant to lance (*Hoplolaimus galeatus*) and spiral nematodes (*Helicotylenchus pseudorobustus*). Little affect by dollar spot (*Sclerotinia homoeocarpa*) under low nitrogen

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

Landrace. Population. Chiapas 429; Ames 15765; CHIS 429. Collected in Chiapas, Mexico.

PI 586641. Zea mays L. ssp. mays

Landrace. Population. Chiapas 463; Ames 15768; CHIS 463. Collected in Chiapas, Mexico.

PI 586642. Zea mays L. ssp. mays

Landrace. Population. Chiapas 512; Ames 15770; CHIS 512. Collected in Chiapas, Mexico.

PI 586643. Zea mays L. ssp. mays

Landrace. Population. Chiapas 567; Ames 15771; CHIS 567. Collected in Chiapas, Mexico.

PI 586644. Zea mays L. ssp. mays

Landrace. Population. Tamaulipas 129; Ames 15903; TAMA 129. Collected in Tamaulipas, Mexico.

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.

PI 586650. *Zea mays* L. ssp. *mays*
NAYA 148.

PI 586651. *Zea mays* L. ssp. *mays*
CHIS 299.

PI 586652. *Zea mays* L. ssp. *mays*
COAH 53.

PI 586653. *Zea mays* L. ssp. *mays*
SINA 74.

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 (*Meilodogyne 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. PIMIENTO 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. LOUISIANA 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*
Landrace. Population. Colima 71; Ames 22288. Collected in Colima, Mexico

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.

Cultivar. Pureline. "IL 84-4046". CV-819. Pedigree - Roy/4/Coker 68-15/3/Etoile de Choisy/Redcoat//Etoile de Choisy/IL 58-844. Soft red winter. Heads not awned, tan at maturity, and remain erect at maturity. Coleoptiles white. Moderate resistance to soil borne wheat mosaic virus. Moderately susceptible to stem rust (*Puccinia graminis*) and susceptible to powdery mildew (*Erysiphe graminis*) and biotypes B,C,D,E,L and GP of Hessian fly (*Mayetiola destructor*, Say).

PI 586683. Triticum aestivum L., nom. cons.

Cultivar. Pureline. "IL 85-3132-1". CV-820. Pedigree - McNair 1003/Caldwell. Soft red winter. Heads not awned, tan at maturity, and remain primarily erect at maturity. Coleoptiles white. Moderate resistance to soil borne wheat mosaic virus. Susceptible to stem rust (*Puccinia graminis*) and powdery mildew (*Erysiphe graminis*). Resistant to biotypes GP, E and B and susceptible to biotypes C, D and L of the Hessian Fly (*Mayetiola destructor*, Say).

The following were developed by J.M. Green, Int. Crops Res. Inst. for the Semi-Arid Tropics, Hyderabad, India; L.J. Reddy, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru P.O., Andhra Pradesh 502 324, India; K.B. Saxena, Int. Crops Res. Inst. for the Semi-Arid Tropics, Legumes Program, Patancheru, Andhra Pradesh 502 324, India; A. Rao, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502324, India; R.V. Kumar, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India; D. Sharma, Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 03/02/1995.

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.

Breeding. ICPM 93007. PL-2. 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 indeterminate. Branching profuse. 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.

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.
Breeding. ICPM 93008. PL-3. Pedigree - Male-sterile stock MS 3A / T 21. Short-duration genetic male-sterile parental line characterized by easily identifiable fully grown translucent anthers. Stem color green. Plant type indeterminate. Branching profuse. 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% flowering 99. Days to 75% maturity 125. Plant height 218cms. 100 seed mass 8.9g. Seed color dark brown with oval seed shape. Susceptible to all diseases. Susceptible to insects.

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.
Breeding. Pureline. KY 83C-16-2. GP-424. Pedigree - IN65309C1-182-3/IL 77-2756//IN65309C1-182-3/Florida 302. White-chaffed, awnletted soft red winter with intermediate size kernels. High yielding. Moderately late maturing with excellent straw strength, lodging resistance and winterhardiness. Resistance to powdery mildew (*Erysiphe graminis*), leaf blotch (*Septoria tritici*), glume blotch (*Phaeosphaeria nodorum*). Moderately susceptible to leaf rust (*Puccinia recondita*).

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*
Breeding. Population. HQPSCB. GP-321. Pedigree - Pool 33 QPM(Early)/2*BSCB1(R)C11. F1 progenitor averaged flowering date of 65 d (1331 GDD-base 50). Relative maturity classification of AES700-800. Kernel types range from semi-flint to soft dent. Incorporates germplasm

from CIMMYT Pool 33 QPM (modified opaque-2) and synthetic BSCB1(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). 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

Landrace. Population. CHZM07 109; De Rulo; CHZM 07 109. Collected 01/01/1955 in Maule, Chile. Latitude 35 deg. S. Longitude 72 deg. W. Elevation 0 m. Maule, Maule. Farm.

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

Landrace. Population. CHZM07 116; De Rulo; CHZM 07 116. Collected 01/01/1955 in Maule, Chile. Latitude 35 deg. S. Longitude 72 deg. W. Elevation 0 m. Maule, Maule. Farm.

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

Landrace. Population. CHZM08 085; Minnesota; CHZM 08 085. Collected 01/01/1955 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Nuble, Bio-Bio. Farm.

PI 586697. Zea mays L. ssp. mays

Landrace. Population. CHZM08 088; Curagua; CHZM 08 088. Collected 01/01/1955 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Nuble, Bio-Bio. Farm.

PI 586698. Zea mays L. ssp. mays

Landrace. Population. CHZM08 089; Curagua; CHZM 08 089. Collected 01/01/1955 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Nuble, Bio-Bio. Farm.

PI 586699. Zea mays L. ssp. mays

- Landrace. Population. CHZM08 092; Curagua; CHZM 08 092. Collected 01/01/1955 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Nuble, Bio-Bio. Farm.
- PI 586700. Zea mays L. ssp. mays**
Landrace. Population. CHZM08 096; Minnesota; CHZM 08 096. Collected 01/01/1955 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Nuble, Bio-Bio. Farm.
- PI 586701. Zea mays L. ssp. mays**
Landrace. Population. CHZM08 110; Choclero; CHZM 08 110. Collected 04/01/1953 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 73 deg. W. Elevation 0 m. Laja, Bio-Bio. Farm.
- PI 586702. Zea mays L. ssp. mays**
Landrace. Population. CHZM08 116; CHZM 08 116. Collected 04/01/1953 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Yungay, Bio-Bio. Farm.
- PI 586703. Zea mays L. ssp. mays**
Landrace. Population. CHZM08 119; CHZM 08 119. Collected 04/01/1953 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 72 deg. W. Elevation 0 m. Bulnes, Bio-Bio. Farm.
- PI 586704. Zea mays L. ssp. mays**
Landrace. Population. CHZM08 124; CHZM 08 124. Collected 04/01/1953 in Bio-Bio, Chile. Latitude 37 deg. S. Longitude 73 deg. W. Elevation 132 m. Yumbel, Bio-Bio. Farm.
- PI 586705. Zea mays L. ssp. mays**
Landrace. Population. CHZM 08 129. Collected in Bio-Bio, Chile.
- 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 10 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; Indiano; 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*
Landrace. Population. CHZM 09 119. Collected 04/01/1953 in La Araucania, Chile. Latitude 39 deg. S. Longitude 72 deg. W. Elevation 40 m. Farm.
- PI 586717. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM10 031; Maiz Chico; CHZM 10 031. Collected 05/11/1982 in Los Lagos, Chile. Latitude 40 deg. S. Longitude 73 deg. W. Elevation 100 m. Nochaco, Los Lagos. Farm.
- 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*
Landrace. Population. CHZM10 041; Curahuilla; CHZM 10 041. Collected 04/01/1953 in Los Lagos, Chile. Latitude 41 deg. S. Longitude 73 deg. W. Elevation 40 m. Osorno, Los Lagos. Farm.
- PI 586720. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM 10 043. Collected in Los Lagos, Chile. Llanquihue, Llanquihue.
- PI 586721. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 031; Choclero; CHZM 13 031. Collected 01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586722. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 032; Choclero Colina; CHZM 13 032. Collected 01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586723. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 033; Chinoco Chico; CHZM 13 033. Collected 01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586724. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 034; Choclero; CHZM 13 034. Collected 01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- 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*
Landrace. Population. CHZM13 039; Maiz De Rulo; CHZM 13 039. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586727. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 040; Maiz De Rulo; CHZM 13 040. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586728. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 041; Maiz De Rulo; CHZM 13 041. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586729. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 042; Chico; CHZM 13 042. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586730. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 046; Chinoco; CHZM 13 046. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586731. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 048; Morocho Ligero; CHZM 13 048. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586732. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 055; Genetico; CHZM 13 055. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586733. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 065; CHZM 13 065. Collected 01/01/1955 in
Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625
m. Santiago, Metropol.De Santiago. Farm.
- PI 586734. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 068; Maiz De Rulo; CHZM 13 068. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586735. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 070; CHZM 13 070. Collected 01/01/1955 in
Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W. Elevation 625
m. Santiago, Metropol.De Santiago. Farm.
- PI 586736. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 078; Camelia; CHZM 13 078. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- PI 586737. *Zea mays* L. *ssp. mays*
Landrace. Population. CHZM13 080; Camelia; CHZM 13 080. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.
- 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

Landrace. Population. CHZM13 083; Minnesota; CHZM 13 083. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586740. Zea mays L. ssp. mays

Landrace. Population. CHZM13 089; Camelia; CHZM 13 089. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586741. Zea mays L. ssp. mays

Landrace. Population. CHZM13 091; Curagua; CHZM 13 091. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586742. Zea mays L. ssp. mays

Landrace. Population. CHZM13 092; Curagua; CHZM 13 092. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586743. Zea mays L. ssp. mays

Landrace. Population. CHZM13 093; Curagua; CHZM 13 093. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586744. Zea mays L. ssp. mays

Landrace. Population. CHZM13 094; Minnesota; CHZM 13 094. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586745. Zea mays L. ssp. mays

Landrace. Population. CHZM13 096; Curagua; CHZM 13 096. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586746. Zea mays L. ssp. mays

Landrace. Population. CHZM13 097; Curagua; CHZM 13 097. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586747. Zea mays L. ssp. mays

Landrace. Population. CHZM13 100; Morocho; CHZM 13 100. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 71 deg. W.
Elevation 250 m. Santiago, Metropol.De Santiago. Farm.

PI 586748. Zea mays L. ssp. mays

Landrace. Population. CHZM13 102; Curagua; CHZM 13 102. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

PI 586749. Zea mays L. ssp. mays

Landrace. Population. CHZM13 103; Curagua; CHZM 13 103. Collected
01/01/1955 in Santiago, Chile. Latitude 33 deg. S. Longitude 70 deg. W.
Elevation 625 m. Santiago, Metropol.De Santiago. Farm.

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.
- PI 586751. *Triticum aestivum* L., nom. cons.**
Breeding. WA 7679; D8806301; NSGC 5587. Pedigree - Thatcher/Cappelle//PI 67822/CI 13438/3/PI 173467/Gaines//McCall/6/Kavkaz/5/Henry/Kiran/3/Awned Onas//Hope/Reliance/Prelude/4/CI 13730. Common-type head, hard white winter, awned, white glumes, mid-tall, mid-maturity. Moderate resistance to common bunt and local races of stripe rust. Susceptible to strawbreaker (*Cercospora*) foot rot. Moderately tolerant to dryland foot rot. Adapted for low rainfall areas. Emergence, grain yield, milling and baking quality equal to locally adapted hard wheats.
- PI 586752. *Triticum aestivum* L., nom. cons.**
Breeding. WA 7757; N8300118; NSGC 5588. Pedigree - PI 173467/Gaines//Wanser/3/N10B/2*Burt//Yogo/4/PI 173467/Gaines//Burt/Itana/3/PI 178383//Burt/Itana/5/Hatton//Short Wheat/Scout. Common-type head, hard red winter, white glumes, awned, tall, mid-maturity. Adapted for low rainfall areas. Test weight and whole grain protein slightly less than Hatton. Milling quality equals Hatton. Baking quality exceeds Hatton.
- PI 586753. *Triticum aestivum* L., nom. cons.**
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.
- PI 586754. *Triticum aestivum* L., nom. cons.**
Breeding. WA 7760; N8300146; NSGC 5590. Pedigree - Kavkaz/3/Bezostaja//Minter/Burt/4/PI 173467/Gaines//Burt/Itana/3/PI 178787//Burt/Itana/5/PI 173467/CI 13438//McCall/3/Cardon. Common-type head, hard red winter, awned, tall, mid-maturity, white glumes. Adapted for low rainfall areas. Test weight, whole grain protein, and milling and baking qualities similar to locally adapted varieties.
- PI 586755. *Triticum aestivum* L., nom. cons.**
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.
- PI 586756. *Triticum aestivum* L., nom. cons.**
Breeding. WA 7772; N9101201; NSGC 5592. Pedigree - PI 512281/4/PI 167822/Itana//CI 9342/Gaines/3/PI 178383//Burt/Itana/5/PI 173467/Gaines//CI 9342/CI 13428/3/Thatcher/Capelli//Sprague. Common-type head, hard red winter, brown glumes, awned, mid-tall, mid-maturity. Adapted for low rainfall areas. Excellent test weight and whole grain protein. Good milling quality. Average baking quality.
- PI 586757. *Triticum aestivum* L., nom. cons.**
Breeding. WA 7773; N9102104; NSGC 5593. Pedigree - Weston/3/Hatton sib//Short Wheat/Scout. Common-type head, hard red winter, awned, brown glumes, tall, mid-maturity, good winterhardness and emergence. Adapted to low rainfall areas. Satisfactory stripe rust resistance. Similar to Weston in yield, whole grain protein, and test weight. Superior to Weston in milling quality and equal in baking quality.

PI 586758. *Triticum aestivum* L., nom. cons.
Breeding. WA 7774; D9108605; NSGC 5594. Pedigree - Cerco//Kavkaz/CI
17271. Common-type head, hard white winter, white glumes, awned,
mid-tall, mid-maturity. Adapted for low rainfall areas. Excellent test
weight and whole grain protein. Good milling quality. Average baking
quality.

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*
Landrace. Population. Barbados 9; CIMMYT 9155; Ames 9933; Chandele Corn.
Collected in Barbados. Latitude 13 deg. 0' N. Longitude 59 deg. 3' W.
Elevation 40 m. Christ Church Parish.

PI 586760. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 102; Ames 9934; CIMMYT 5660
. Collected in Virgin Islands (British).

PI 586761. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 103; CIMMYT 5661; Ames 9935
. Collected in Virgin Islands (British).

PI 586762. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 104; CIMMYT 5662; Ames 9936
. Collected in Virgin Islands (British).

PI 586763. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 106; Ames 9937; CIMMYT 5398
. Collected in Virgin Islands (British).

PI 586764. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 113; Ames 9938; CIMMYT 5404
. Collected in Virgin Islands (British).

PI 586765. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 116; CIMMYT 5407; Ames 9939
. Collected in Virgin Islands (British).

PI 586766. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 127; CIMMYT 5414; Ames 9940
. Collected in Virgin Islands (British).

PI 586767. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 137; CIMMYT 5417; Ames 9941
. Collected in Virgin Islands (British).

PI 586768. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 139; Ames 9942; CIMMYT 5419
. Collected in Virgin Islands (British).

PI 586769. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 141; CIMMYT 5421; Ames 9943
. Collected in Virgin Islands (British).

PI 586770. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 146; CIMMYT 5426; Ames 9944
. Collected in Virgin Islands (British).

PI 586771. *Zea mays* L. *ssp. mays*
Landrace. Population. British Virgin Islands 153; CIMMYT 5665; Ames 9945
. Collected in Virgin Islands (British).

- 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*
Landrace. Population. Cuba 94; CIMMYT 2451; Ames 9949; Tuson. Collected
in Cuba. Latitude 20 deg. 18' N. Longitude 76 deg. 13' W. Elevation 80
m. Almacen de Quinones Contramaestre, Oriente.
- PI 586775. *Zea mays* L. *ssp. mays*
Landrace. Population. Dominican Republic 119; Ames 9950; CIMMYT 2470;
NRC 6839; NRC 6923. Collected in Santiago, Dominican Republic.
- PI 586776. *Zea mays* L. *ssp. mays*
Landrace. 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 Yervas.
- 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*
Breeding. Population. Dominican Republic GP 14; Ames 9955; Dominican
Republic Group 14; CIMMYT 1270. Collected in Dominican Republic.
Developed in Mexico. Pedigree - TEPALCINGO 1962A PARCELA 2492. RDOM
14D, RDOM 15D, and RDOM 17D are included.
- PI 586781. *Zea mays* L. *ssp. mays*
Breeding. Population. Jamaica GP 1; CIMMYT 1258; Ames 9956; Jamaica
Group 1. Collected in Jamaica. Developed in Mexico. Pedigree -
TEPALCINGO 1962A PARCELA 2428. JAM 5, JAM 6, JAM 7, JAM 8, JAM 9, JAM
10 are included.
- PI 586782. *Zea mays* L. *ssp. mays*
Breeding. Population. Puerto Rico GP 5A; Ames 9957; Puerto Rico Group 5A
; CIMMYT 1276. Collected in Puerto Rico. Developed in Mexico. Pedigree
- TEPALCINGO 1962A PARCELA 2517. PUER 12, PUER 13, and PUER 14 are
included.
- 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. IND 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.
Cultivar. "IS 76-125"; 7244. Collected in Indonesia. Gumbasa River Bridge, Palu-Kulawi Rd.

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.
Cultivar. "IS 76-186"; CANE 6146. Collected in Indonesia. Palopo-Masamba Rd., 15km from Palopo.

- PI 586797. *Saccharum spontaneum* L.
Cultivar. "TONGZA"; 10436. Collected in China.
- PI 586798. *Saccharum spontaneum* L.
Cultivar. "US 56-13-7". Collected in Thailand.
- 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.
Cultivar. US 78-506; 7360 F11. Collected in North-West Frontier,
Pakistan. Swat River N.W.F.P.
- 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.
Cultivar. "YACHENG 12"; 10438. Collected in China.
- PI 586804. *Saccharum spontaneum* L.
Cultivar. "YUNNAN 6"; 10443. Collected in China.
- PI 586805. *Saccharum spontaneum* L.
Cultivar. "LEDONG-1"; 10433. Collected in China.

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. E. 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. Eckhoff, 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.
Cultivar. Pureline. "NUWEST"; MT7811. CV-812. Pedigree -
Froid/Winoka/3/TX55-391-56-D8/Westmont//Trader. Hard white winter.
Coleoptile short. Maturity medium. Height intermediate. Straw stiff.
Lodging and shatter resistance good. Spikes white-glumed, awned, and
erect at maturity. Kernels hard, white, and elliptical with a large germ
and midlong brush. Adequate winterhardiness for most production areas of
Montana. Meets domestic quality criteria for high quality bread flour
production with medium to low grain volume weight, high flour yield, low
farinograph absorption, and medium dough mixing characteristics.

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 586807. *Helianthus annuus* L.

Wild. Ames 17873; ANN 2101. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 26' N. Longitude 98 deg. 42' W. Disturbed rocky soil in roadside ditch by James River. 17.6 km west of Glenfield, Hwy. 200 W, Foster County. Seed collected from 10 plants. Population localized in disturbed area by new bridge. Population at mid-flower, disc flowers all purple except for one plant which was yellow. Some heads more like interspecific (wild x cultivated). Some heads too large for typical wild *H. annuus*. May be potential source of CMS.

PI 586808. *Helianthus annuus* L.

Wild. Ames 17874; ANN 2102. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 26' N. Longitude 99 deg. 20' W. Level area and backslope in roadside ditch and disturbed field. 37.3 km west of Carrington, Hwy. 52 W, Wells County. Seed collected from 30 plants. Population scattered over a large disturbed area next to road. Population at mid-flower, good seed set. Typical plants, but heads large. Some insect head and stem damage. Plants severely infected with rust. Rust spores collected for *T.Gulya* but looked too old - black not brown.

PI 586809. *Helianthus annuus* L.

Wild. Ames 17875; ANN 2104. Collected 09/04/1991 in North Dakota, United States. Latitude 47 deg. 40' N. Longitude 100 deg. 40' W. Poor sandy loam soil in roadside ditch, along edge of road. 5.6 km east of Mercer, Hwy. 200 E, Sheridan County. Seed collected from 35 plants. Scattered population on both sides of road. Many plants well past flowering, seed shattered. Good seed set. Some head damage by insects. No rust present. Population looked like typical *H. annuus*, but many cultivated fields nearby. *Helianthus pauciflorus* plants present in population.

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 586811. *Helianthus annuus* L.

Wild. Ames 17877; ANN 2108. Collected 09/05/1991 in North Dakota, United States. Latitude 48 deg. 20' N. Longitude 101 deg. 56' W. Roadside ditch on edge of field along edge of slough. 2.7 km west of Tagus, Hwy. 2 W, Mountrail County. Seed collected from 40 plants. Population scattered along edge of field, well past flowering, good seed set. Typical species. Very severe rust infection, grasshopper damage. Associated species - *Typha* (cattail). Population near very rocky soil.

PI 586812. *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 586813. *Helianthus annuus* L.

Wild. Ames 17879; ANN 2111. Collected 09/05/1991 in North Dakota, United States. Latitude 47 deg. 57' N. Longitude 102 deg. 28' W. Roadside ditch, just beyond mowed area of ditch. 10 km west of New Town, Hwy. 23 W, Mountrail County. Seed collected from 25 plants. Population scattered along road edge. Gravel-like soil. Plants all past flowering, very few leaves. No apparent rust. Seed set good. Some receptacle damage to heads. Typical roadside *H. annuus*.

PI 586814. *Helianthus annuus* L.

Wild. Ames 17880; ANN 2112. Collected 09/05/1991 in North Dakota, United States. Latitude 47 deg. 48' N. Longitude 103 deg. 10' W. Rocky soil in disturbed area of roadside ditch along edge of asphalt road. 25.6 km east of Watford City, Hwy 23 E, McKenzie County. Seed collected from 30 plants. Population scattered along roadside ditch, gravel soil. Past peak flowering, seed set apparently good. Plants with smaller heads. Severe rust, even rust on bracts. Some cultivated land nearby.

PI 586815. *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 586816. *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 586817. *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 586818. *Helianthus annuus* L.

Wild. Ames 17884; ANN 2121. Collected 09/06/1991 in Montana, United States. Latitude 46 deg. 20' N. Longitude 105 deg. 50' W. Gravel-sandy soil in disturbed area along drainage ditch. 19.5 km south of Miles City, Hwy 312 S, Custer County. Seed collected from 30 plants. Population extending in disturbed area along edge of drainage way. Plants well past flowering, very good seed, most heads dry. Typical species but population has possible mixed plants with Ames 17988 - *H. petiolaris* from same location. Very bad rust.

PI 586819. *Helianthus annuus* L.

Wild. Ames 17885; ANN 2123. Collected 09/06/1991 in Montana, United States. Latitude 45 deg. 50' N. Longitude 105 deg. 40' W. Very sandy soil in disturbed area of roadside ditch. 0.8 km north of Volborg, Hwy 312 N, Custer County. Seed collected from 15 plants. Scattered plants in *H. petiolaris* population. Well past flowering, good seed set, heads dry. Very severe rust.

PI 586820. *Helianthus annuus* L.

Wild. Ames 17886; ANN 2125. Collected 09/06/1991 in Montana, United States. Latitude 45 deg. 45' N. Longitude 105 deg. 40' W. Disturbed soil in roadside ditch. 29 km south of Volborg, Hwy 312 S, Powder River County. Seed collected from 30 plants. Population growing in disturbed area just below *H. petiolaris*, and along secondary road. Well past flowering. *Helianthus petiolaris* near - possible introgression. Slight rust.

PI 586821. *Helianthus annuus* L.

Wild. Ames 17887; ANN 2127. Collected 09/06/1991 in Montana, United States. Latitude 45 deg. 30' N. Longitude 105 deg. 25' W. Disturbed soil in roadside ditch, just below *H. petiolaris* population. 19.2 km south of Broadrus, Hwy. 59 S, Powder River County. Seed collected from 30 plants. Scattered plants, not dense population. Past flowering. Severe rust. Possible introgression with *H. petiolaris* in same population.

PI 586822. *Helianthus annuus* L.

Wild. Ames 17888; ANN 2128. Collected 09/06/1991 in Wyoming, 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.

PI 586823. *Helianthus annuus* L.

Wild. Ames 17889; ANN 2129. Collected 09/06/1991 in Wyoming, United States. Latitude 44 deg. 30' N. Longitude 105 deg. 25' W. Disturbed area in roadside ditch, along edge of asphalt. 12.5 km south Weston, Hwy. 59 S, Campbell County. Seed collected from 50 plants. Scattered along edge of blacktop. Just past peak flowering. Typical species for *H. annuus*. Severe rust on leaves. Leaves of green plants dead from rust.

PI 586824. *Helianthus annuus* L.

Wild. Ames 17890; ANN 2130. Collected 09/06/1991 in Wyoming, United States. Latitude 44 deg. 18' N. Longitude 105 deg. 30' W. Roadside ditch, along edge of asphalt of road. 17.6 km north of Gillette, Hwy. 14 and 16 N, Campbell County. Seed collected from 40 plants. Scattered population along roadside edge of blacktop. Only 2 plants with rust. Plants just past flowering, typical plants.

PI 586825. *Helianthus annuus* L.

Wild. Ames 17891; ANN 2131. Collected 09/06/1991 in Wyoming, United States. Latitude 44 deg. 40' N. Longitude 105 deg. 45' W. Disturbed section along construction area. 9.6 km west of Spotted Horse, Hwy. 14 and 16 N, Campbell County. Seed collected from 60 plants. Plants scattered around edge of disturbed road repair-gravel pit. Typical *H. annuus*, well past flowering, most plants mature, good seed. Severe rust on most plants.

PI 586826. *Helianthus annuus* L.

Wild. Ames 17892; ANN 2132. Collected 09/06/1991 in Wyoming, United States. Latitude 44 deg. 30' N. Longitude 106 deg. 30' W. Recently disturbed construction area along fence row and irrigation ditch. 11.2 km west of Ucross, Hwy. 14 W, Sheridan County. Seed collected from 25 plants. Plants scattered along edge of irrigation ditch, also recent road construction one year ago. Typical *H. annuus* plants, well past

flowering, seed heads dry, good seed. Severe rust on most plants.

PI 586827. *Helianthus annuus* L.

Wild. Ames 17893; ANN 2134. Collected 09/07/1991 in Wyoming, United States. Latitude 44 deg. 44' N. Longitude 106 deg. 49' W. Disturbed area in roadside ditch along edge of road. 1.6 km southeast of Banner, Hwy. 193 S, Sheridan County. Seed collected from 25 plants. Population scattered along edge of road. Good seed set, typical *H. annuus*. One plant had rust, powdery mildew. Some plants had heads in leaf axil.

PI 586828. *Helianthus annuus* L.

Wild. Ames 17894; ANN 2136. Collected 09/07/1991 in Wyoming, United States. Latitude 44 deg. 0' N. Longitude 106 deg. 40' W. Disturbed gravel-like soil in roadside ditch, recent road construction. 35.8 km north of Kaycee, Hwy. 196 N, Johnson County. Seed collected from 70 plants. Population scattered along recent (last year) road construction. Typical *H. annuus*, past peak flowering, good seed set. Moderate to severe rust.

PI 586829. *Helianthus annuus* L.

Wild. Ames 17895; ANN 2137. Collected 09/07/1991 in Wyoming, United States. Latitude 43 deg. 40' N. Longitude 106 deg. 15' W. Disturbed sandy soil in roadside ditch. 26.4 km east of Edgerton, Hwy. 387 E, Johnson County. Seed collected from 40 plants. Scattered population along ditch about 300 m. Past peak flowering, good seed set. No apparent rust. Typical *H. annuus*, several single stemmed and single headed plants. Plants 0.75 m tall.

PI 586830. *Helianthus annuus* L.

Wild. Ames 17896; ANN 2138. 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.

Wild. Ames 17897; ANN 2139. Collected 09/07/1991 in Wyoming, United States. Latitude 43 deg. 51' N. Longitude 104 deg. 8' W. Roadside ditch, disturbed sandy area by bridge. 48 km east of New Castle, Hwy. 450 E, Weston County. Seed collected from 50 plants. Plants scattered along disturbed area of bridge construction. Good seed set, well past flowering. Typical *H. annuus* except for some shorter, single to three-headed plants. Very severe rust on most plants.

PI 586832. *Helianthus annuus* L.

Wild. Ames 17898; ANN 2140. 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 2141. 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.
Wild. Ames 17903; ANN 2148. Collected 09/09/1991 in Wyoming, United States. Latitude 42 deg. 4' N. Longitude 104 deg. 11' W. Sandy soil at edge of stream from irrigation ditch. 4.2 km southwest of Torrington, Hwy. 85 S, Goshen County. Seed collected from 40 plants. Population scattered along irrigation ditch. Just past peak flowering, good seed set. Plants taller and heads larger than previously seen. No apparent rust.
- PI 586838. *Helianthus annuus* L.
Wild. Ames 17904; ANN 2149. Collected 09/09/1991 in Wyoming, United States. Latitude 41 deg. 38' N. Longitude 104 deg. 14' W. Disturbed roadside ditch. 12.3 km south of Hawk Springs, Hwy. 85 S, Goshen County. Seed collected from 60 plants. Population scattered over several km, only sampled a portion. Just past peak flowering, seed set good. Tall plants, very red stems, smaller heads. Light to moderate rust.
- PI 586839. *Helianthus annuus* L.
Wild. Ames 17905; ANN 2150. Collected 09/09/1991 in Wyoming, United States. Latitude 41 deg. 29' N. Longitude 104 deg. 22' W. Sandy-clay soil in a disturbed area on backslope of a roadside ditch. 60.3 km southwest of Hawk Springs, Hwy 85 S, Laramie County. Seed collected from 60 plants. Population scattered on disturbed backslope. Good seed set, lots of single stemmed, single to three-headed plants. Not very tall. Two *H. petiolaris* plants mixed in. No apparent rust.
- PI 586840. *Helianthus annuus* L.
Wild. Ames 17906; ANN 2153. Collected 09/09/1991 in Colorado, United States. Latitude 40 deg. 37' N. Longitude 104 deg. 43' W. Sandy soil in a disturbed roadside ditch near corn field. 5.9 km south of Nunn, Hwy 85 S, Weld County. Seed collected from 80 plants. Population scattered in ditch near edge of corn field. Plants tall, larger stem, some large heads. Moderate rust.
- 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.

Wild. Ames 17908; ANN 2157. Collected 09/09/1991 in Colorado, United States. Latitude 40 deg. 5' N. Longitude 104 deg. 24' W. Sandy soil in disturbed roadside ditch. 12.8 km east of Prospect, Hwy 52 E, Weld County. Seed collected from 25 plants. Population along roadside ditch and disturbed area along cultivated field, also near cultivated sunflower. Tall plants (ca. 2 m). Very branched, larger heads, good seed set, just past peak flowering. Severe rust damage.

PI 586843. *Helianthus annuus* L.

Wild. Ames 17909; ANN 2159. Collected 09/09/1991 in Colorado, United States. Latitude 39 deg. 50' N. Longitude 104 deg. 25' W. Sandy soil in roadside ditch and adjacent stubble field. 1.1 km northeast of Bennett, Hwy. 79 N, Adams County. Seed collected from 50 plants. Population very large, extending a few hundred meters into stubble field. Very sandy soil. Plants typical *H. annuus*, tall, larger stems and heads. No apparent rust. Associated species: *Kochia*. Good seed set, past peak flowering, *H. petiolaris* population adjacent. Insect damage to face and head.

PI 586844. *Helianthus annuus* L.

Wild. Ames 17910; ANN 2162. Collected 09/10/1991 in Colorado, United States. Latitude 39 deg. 24' N. Longitude 104 deg. 26' W. Sandy soil in disturbed roadside ditch. 6.4 km east of Kiowa, Hwy 86 E, Elbert County. Seed collected from 35 plants. Population scattered along edge of blacktop, both sides of the road. Just past peak flowering, seed set very good. Typical plants, red stems, larger heads. Some plants with rust.

PI 586845. *Helianthus annuus* L.

Wild. Ames 17911; ANN 2165. Collected 09/10/1991 in Colorado, United States. Latitude 39 deg. 15' N. Longitude 103 deg. 41' W. Sandy soil, disturbed roadside ditch. 1.6 km south of Limon, Hwy. 71 S, Lincoln County. Seed collected from 45 plants. Population on backslope of roadside ditch, sandy soil. Very branched plants, whitish stem, pubescent. Well past flowering. Rust on about half of plants. Some head damage to disc flowers (grasshopper).

PI 586846. *Helianthus annuus* L.

Wild. Ames 17912; ANN 2168. Collected 09/10/1991 in Colorado, United States. Latitude 38 deg. 55' N. Longitude 103 deg. 10' W. Sandy 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 deg. 46' N. Longitude 102 deg. 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.

Wild. Ames 17914; ANN 2170. Collected 09/10/1991 in Colorado, United States. Latitude 38 deg. 50' N. Longitude 102 deg. 21' W. Sandy-loam

soil in disturbed area along roadside ditch. 21.6 km north of Cheyenne Wells, Hwy. 385 N, Cheyenne County. Seed collected from 44 plants. Large population extending into field for over 100 m. Plants tall (ca. 2.5 m) spreading, branching, long peduncles, heads large, some stems red. Few plants with rust.

PI 586849. *Helianthus annuus* L.

Wild. Ames 17915; ANN 2171. Collected 09/11/1991 in Kansas, United States. Latitude 39 deg. 30' N. Longitude 101 deg. 0' W. Sandy-loam soil in roadside ditch along irrigation tail water pit. 1.6 km south of Colby, Hwy. 25 S, Thomas County. Seed collected from 45 plants. Population scattered along roadside and irrigation pit. Plants had longer, narrow bracts but heads still large, plants tall, branching and spreading. Moderate rust.

PI 586850. *Helianthus annuus* L.

Wild. Ames 17916; ANN 2172. Collected 09/11/1991 in Kansas, United States. Latitude 39 deg. 10' N. Longitude 100 deg. 50' W. Sandy-loam soil in disturbed roadside ditch. 24.8 km south of Oakley, Hwy 83 S, Logan County. Seed collected from 52 plants. Population scattered along disturbed area of ditch. Good seed set, past peak flowering. Plants typical of *H. annuus*, tall, spreading, branching, red stems. Moderate rust.

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. 54' W. Sandy soil in disturbed roadside ditch near soybean field. 1.2 km north of Scott City, Hwy 83 N, Scott County. Seed collected from 32 plants. Population scattered along roadside ditch, near soybean field, sandy-loam soil. Plants tall, red stems, branching, spreading. Severe head clipper damage. Suleima in some heads. 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. 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 44 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 586853. *Helianthus annuus* L.

Wild. Ames 17919; ANN 2175. 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.

PI 586854. *Helianthus annuus* L.

Wild. Ames 17920; ANN 2176. Collected 09/11/1991 in Kansas, United States. Latitude 38 deg. 6' N. Longitude 99 deg. 51' W. Disturbed roadside ditch at edge of cultivated field. 2.4 km north of Jetmore, Hwy. 283 N, Hodgeman County. Seed collected from 28 plants. Population scattered over ditch and along cultivated field. Many plants had digging around the base of plants. Plants short, many single to three heads, leaves dark green. No rust apparent, leaf insect damage.

PI 586855. *Helianthus annuus* L.

Wild. Ames 17921; ANN 2177. Collected 09/11/1991 in Kansas, United States. Latitude 38 deg. 10' N. Longitude 99 deg. 36' W. Disturbed area of loam soil in the corner of roadside ditch. 17.6 km east of Burdett,

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.

Wild. Ames 17922; ANN 2179. Collected 09/12/1991 in Kansas, United States. Latitude 38 deg. 41' N. Longitude 98 deg. 42' W. Disturbed sandy soil in roadside ditch. 16.8 km east of Great Bend, Hwy. 56 E, Barton County. Seed collected from 43 plants. Population large, scattered along disturbed area of ditch. Plants just past peak flowering, good seed set. Typical Kansas *H. annuus*, tall, darker green leaves, slight rust problem, severe grasshopper damage.

PI 586857. *Helianthus annuus* L.

Wild. Ames 17923; ANN 2180. Collected 09/12/1991 in Kansas, United States. Latitude 38 deg. 40' N. Longitude 98 deg. 12' W. Disturbed sandy-loam soil in roadside ditch by bridge near stream. 25.3 km east of Lyons, Hwy. 56 E, McPherson County. Seed collected from 72 plants. Population scattered along roadside ditch by bridge with stream, backslope, sandy-loam soil. Typical *H. annuus* for Kansas, tall, branching above, numerous larger heads. Just past flowering, good seed set. No apparent rust. Some typical *H. tuberosus* in population, just beginning to flower.

PI 586858. *Helianthus annuus* L.

Wild. Ames 17924; ANN 2181. Collected 09/12/1991 in Kansas, United States. Latitude 38 deg. 42' N. Longitude 97 deg. 31' W. Sandy-loam soil in disturbed roadside ditch. 1.5 km east of Galva, Hwy 56 E, McPherson County. Seed collected from 30 plants. Population scattered along roadside ditch, backslope by drainage channel. Typical tall plant 2 - 2.5 m tall. Branching, spreading, dark green leaves. Good seed set, past peak flowering. No apparent rust.

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 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.

Wild. Ames 17925; ANN 2182. Collected 09/12/1991 in Kansas, United States. Latitude 38 deg. 40' N. Longitude 96 deg. 40' W. Disturbed roadside ditch. 1.6 km southwest of Elmdale, Intersection of Hwy. 50 S and 56 W, Chase County. Seed collected from 38 plants. Population small, scattered on ridge of road along disturbed drainage area. Typical *annuus*, tall, dark green leaves, branching, spreading above. Past peak flowering, good seed set. Moderate rust. Plants resembling *H. hirsutus*(?) present, probably depauperate *H. tuberosus*.

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.
Wild. Ames 17927; ANN 2184. Collected 09/12/1991 in Kansas, United States. Latitude 39 deg. 17' N. Longitude 95 deg. 22' W. Rocky, limestone soil in disturbed roadside ditch, along drainage ditch. 19.2 km south of Oskaloosa, Hwy. 59 S, Jefferson County. Seed collected from 35 plants. Plants scattered along drainage ditch. Rocky, limestone soil. Plants ca. 2 m tall. Many heads and branches above. Good seed set, just past peak flowering. Only a few plants with rust.
- PI 586862. *Helianthus annuus* L.
Wild. Ames 17928; ANN 2185. Collected 09/13/1991 in Kansas, United States. Latitude 39 deg. 15' N. Longitude 95 deg. 31' W. Clay-loam soil in roadside ditch, disturbed area along drainage ditch. 10 km northeast of Meriden, Hwy 4 E, Jefferson County. Seed collected from 22 plants. Small population isolated in disturbed area. Typical *H. annuus*, ca. 2 m tall, larger head. Just past peak flowering, seed probably good. No apparent rust. *Helianthus grosseserratus* mixed in population.
- 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 Fairveiw, 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.

Wild. Ames 17948; ANN 2218. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 30' N. Longitude 99 deg. 1' W. Sandy-loam soil along roadside ditch, edge of slough in cultivated sunflower field. 1.6 km west of Miller, Hwy. 14 N, Hand County. Seed collected from 29 plants. Small scattered population in slough of cultivated sunflower. Sandy-loam soil. Plants well past flowering, good seed set, typical *H. annuus*, shorter than previously seen, smaller heads. Suleima damage.

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.

Wild. Ames 17952; ANN 2229. Collected 09/17/1991 in South Dakota, United States. Latitude 45 deg. 21' N. Longitude 97 deg. 38' W. Roadside ditch along an abandoned road approach to railroad. 6.4 km west of Holmquist, Hwy. 12 W, Day County. Seed collected from 26 plants. Small isolated population, clay-loam soil, sometimes rocky soil. Plants well past flowering, good seed set. Plants not too branched, some shorter, most brown. Severe damage to heads, Suleima. Rust on remaining green leaves.

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

Wild. Ames 17957; GRO 2212. Collected 09/15/1991 in Nebraska, United States. Latitude 42 deg. 10' N. Longitude 100 deg. 23' W. Sandy soil in roadside ditch, moist lowland. 36.8 km north of Thedford, Hwy. 83 N, Cherry County. Seed collected from 35 plants. Clumped, small isolated population. Typical *H. grosseserratus* habitat, moist lowland. Typical plants, branching at top, red stem, serrated leaves not too scaberous. Population past flowering, good seed set. No apparent rust.

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 maximiliani* 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 maximiliani* 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 maximiliani* 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 maximiliani* Schrader

Wild. Ames 17962; MAX 2115. Collected 09/05/1991 in Montana, United States. Latitude 47 deg. 43' N. Longitude 104 deg. 10' W. Clay soil, recently disturbed area at edge of irrigation ditch. 6 km southwest of Sidney, Hwy. 16 SW, Richland County. Seed collected from 40 plants. Population along edge of recently disturbed irrigation channel. Plants just past peak flowering, seed set appears good. Population has more *H. maximiliani* characteristics than *H. nuttalli*. *Helianthus nuttalli* characters: red stem, wide leaves, long phyllaries, spreading. *Helianthus maximiliani* characters: folded leaves, gray-green color. Moderate to heavy rust infection present.

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 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 586895. *Helianthus maximiliani* 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 maximiliani* Schrader

Wild. Ames 17964; MAX 2214. Collected 09/15/1991 in Nebraska, United States. Latitude 42 deg. 51' N. Longitude 99 deg. 54' W. Sandy soil in low area of roadside ditch. 4.8 km north of Spring View, Hwy. 183 N, Keya Paha County. Seed collected from 38 plants. Population scattered in clumps on both sides of road, sandy soil. Typical *H. maximiliani*, branched above, flowers on upper part of stem, silver leaves. Just past flowering, good seed set, seeds small. Moderate rust.

PI 586897. *Helianthus maximiliani* 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 maximiliani* Schrader

Wild. Ames 17966; MAX 2221. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 5' N. Longitude 98 deg. 31' W. Sandy-loam soil in roadside ditch. 4.8 km east of Lane, Hwy 34 E., Jerauld County. Seed collected from 45 plants. Small localized population, sandy-loam soil. Very typical *H. maximiliani*, grayish leaves, folded, branching in leaf axil. Plants ca. 2 m tall, red stems. Moderate to severe rust. *Helianthus annuus* population nearby, *Polygonum* species associated.

PI 586899. *Helianthus maximiliani* 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 maximiliani* Schrader

Wild. Ames 17968; MAX 2224. Collected 09/16/1991 in South Dakota, United States. Latitude 44 deg. 23' N. Longitude 99 deg. 33' W. Sandy soil in roadside ditch recently disturbed by pipeline construction. 5.6 km south of DeSmet, Hwy. 25 S, Kingsburg County. Seed collected from 85 plants. Population scattered along disturbed area of pipeline construction. Plants past flowering, good seed set. Plants 1 - 1.5m tall, typical *H. maximiliani*, gray leaves, folded, some single-headed plants. Some plants with clubbed heads as seen before in Ames 17965. Some head damage, no apparent rust. Mixed with *H. annuus*.

PI 586901. *Helianthus maximiliani* Schrader

Wild. Ames 17970; MAX 2227. Collected 09/17/1991 in South Dakota, United States. Latitude 45 deg. 20' N. Longitude 97 deg. 12' W. Sandy roadside ditch. 9.6 km southeast of Summit, Hwy 12 E, Grant County. Seed collected from 82 plants. Population scattered in roadside ditch, sandy soil. Plants well past flowering, typical *H. maximiliani*, narrow gray leaves, axially branching, typical flowering heads, seed set good. Slight rust. *Helianthus pauciflorus* mixed in population.

PI 586902. *Helianthus maximiliani* Schrader

Wild. Ames 17971; MAX 2230. Collected 09/17/1991 in South Dakota, United States. Latitude 45 deg. 23' N. Longitude 97 deg. 58' W. Sandy-loam soil in roadside ditch along railroad right-of-way. 7.0 km west of Andover, Hwy. 12 W, Day County. Seed collected from 36 plants. Population scattered along railroad tracks, sandy-loam soil. Plants past flowering, seed set good, typical mid-west *H. maximiliani* with folded leaves, wavy margins, leaves narrow. Plants 1 m tall, typical flowering. No apparent rust. Several plants had okra-type leaves.

PI 586903. *Helianthus maximiliani* Schrader

Wild. Ames 17972; MAX 2232. Collected 09/17/1991 in South Dakota, United States. Latitude 45 deg. 33' N. Longitude 98 deg. 7' W. Roadside ditch. 27.2 km north of Groton, Hwy. 37 N, Brown County. Seed collected from 62 plants. Extensive population extending for around 1000 m. Typical mid-west *H. maximiliani*, slight to moderate rust. Well past flowering, good seed set. Plants 1-1.5 m tall.

PI 586904. *Helianthus maximiliani* 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. maximiliani* 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 *subrhomboides* mixed in population. Clubbed head and flat stemmed plants present in the population.

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 Duhon, 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 586905. *Helianthus nuttallii* ssp. *nuttallii* (Torrey & A. Gray) Heiser

Wild. Ames 17978; NUT 2135. Collected 09/07/1991 in Wyoming, United States. Latitude 44 deg. 10' N. Longitude 106 deg. 40' W. Saline soil in swampy area of roadside ditch. 51.8 km north of Kaycee, Hwy 196 N, Johnson County. Seed collected from 50 plants. Population scattered in low-land area, swampy, *Juncus* (Bullrush) area. Typical species, plants past flowering, good seed set. No apparent rust.

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.

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 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 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.

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 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. 1' 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 Coutny. 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*
Wild. Ames 17989; PET 2122. Collected 09/06/1991 in Montana, United States. Latitude 45 deg. 50' N. Longitude 105 deg. 40' W. Very sandy soil in roadside ditch. 0.8 km north of Volborg, Hwy 312 N, Custer County. Seed collected from 50 plants. Population scattered for a km. Good seed set, heads very dry. *Helianthus annuus* plants present in population but still looks like good species. Very severe rust present.
- PI 586915. *Helianthus petiolaris* ssp. *petiolaris*
Wild. Ames 17990; PET 2124. Collected 09/06/1991 in Montana, United States. Latitude 45 deg. 45' N. Longitude 105 deg. 40' W. Very sandy soil in roadside ditch along edge of asphalt road. 29 km south of Volborg, Hwy. 312 S, Powder River. Seed collected from approximately 100 plants. Population scattered along roadside for kilometers, just sampled part of it. Well past flowering. Moderate rust.

- PI 586916. *Helianthus petiolaris* ssp. *petiolaris***
 Wild. Ames 17991; PET 2126. Collected 09/06/1991 in Montana, United States. Latitude 45 deg. 30' N. Longitude 105 deg. 25' W. Roadside ditch, along edge of asphalt road and extending into rangeland. 19.2 km south of Broadrus, Hwy. 59 S, Powder River County. Seed collected from 40 plants. Population scattered over considerable distance, several km. Typical *H. petiolaris*, just peak flowering. Introgression with *H. annuus* possible. Moderate rust.
- 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***
 Wild. Ames 17993; PET 2146. Collected 09/08/1991 in Wyoming, United States. Latitude 43 deg. 15' N. Longitude 104 deg. 10' W. Disturbed sandy area by rest stop. Mule Creek Junction, Intersection of Hwy. 18 W and 85 S, Niobrara County. Seed collected from 70 plants. Population widely scattered along both sides of road and near rest area, sandy soil. Plants just past peak flowering, typical *H. petiolaris*. No apparent rust.
- PI 586919. *Helianthus petiolaris* ssp. *petiolaris***
 Wild. Ames 17994; PET 2151. Collected 09/09/1991 in Wyoming, United States. Latitude 41 deg. 20' N. Longitude 104 deg. 30' W. Disturbed sandy soil of roadside ditch. 81.9 km southwest of Hawk Springs, Hwy. 85 S, Laramie County. Seed collected from 35 plants. Population small, scattered on sandy backslope of road. Just past peak flowering, good seed set, typical *H. petiolaris*. Severe rust on some plants. Few *H. annuus* plants mixed in population.
- PI 586920. *Helianthus petiolaris* ssp. *petiolaris***
 Wild. Ames 17995; PET 2152. Collected 09/09/1991 in Colorado, United States. Latitude 40 deg. 49' N. Longitude 104 deg. 49' W. Disturbed area of sandy roadside ditch. 1.1 km west of Carr, County Road 156, Weld County. Seed collected from 35 plants. Scattered population along sandy roadside ditch. Typical *H. petiolaris*. Just at peak flowering. No apparent rust.
- 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*

Wild. Ames 17999; PET 2163. Collected 09/10/1991 in Colorado, United States. Latitude 39 deg. 24' N. Longitude 104 deg. 26' W. Sandy roadside ditch. 6.4 km east of Kiowa, Hwy. 86 E, Elbert County. Seed collected from 40 plants. Population scattered on both sides of road. Just past peak flowering, good seed set. Maybe possible introgression with *H. annuus*, some intermediate characters, red stems. Possible hybrid population.

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. 1.6 km south of Limon, Hwy. 71 S, Lincoln County. Seed collected from 75 plants. Population extending on both sides of the road for kilometers. One plant with yellow disc flowers. Plants more branched than usual, but not tall. Just mid flowering, seed questionable. About 1/2 plants had some rust. *Helianthus annuus* mixed in.

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. 41' W. Sandy disturbed soil in 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 586927. *Helianthus petiolaris* ssp. *petiolaris*

Wild. Ames 18002; PET 2167. Collected 09/10/1991 in Colorado, United States. Latitude 38 deg. 55' N. Longitude 103 deg. 10' W. Sandy soil in disturbed roadside ditch. 42.4 km east of Punkin Center, Hwy 94 E, Lincoln County. Seed collected from 45 plants. Large population scattered on both sides of road, sandy soil. Plant typical *H. petiolaris*. Good seed set, tall plants, good *H. petiolaris* characteristics. *Helianthus annuus* population mixed in and nearby. Several plants with rust.

PI 586928. *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 42 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 42 deg. 6' 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*

Wild. Ames 18008; PET 2215. Collected 09/15/1991 in South Dakota, United States. Latitude 43 deg. 2' N. Longitude 99 deg. 49' W. Sandy soil in roadside ditch along edge of asphalt of road. 14.4 km north of Wewela, Hwy. 183 N, Tripp County. Seed collected from 48 plants. Population scattered along edge of road, sandy soil. Typical *H. petiolaris*, some plants shorter. Shorter *H. petiolaris* than previously seen. Population well past flowering. Good seed set. Moderate to severe rust.

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 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.

The following were developed by J. Dintinger, Centre International de Recherche Agronomique Dev., Station de Ligne Paraolis-97410, Ile de La Reunion, Saint Pierre, Reunion; B. Clerget, Centre International de Recherche Agronomique Dev., Maize Breeding Program, 97487 Saint Denis Cedex, Reunion; B. Reynaud, Centre International de Recherche Agronomique Dev., Maize Breeding Program, 97487 Saint-Denis Cedex, Reunion. Received 03/21/1995.

PI 586935. *Zea mays* L. ssp. *mays*

Breeding. CIRAD 390. 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

degrees F.

The following were collected by Aaron Contreras, Universidad de Guadalajara, Instituto de Botanica, Las Agujas, Nextipac, Zapopan, Jalisco, Mexico. Received 03/22/1995.

PI 586946. *Solanum polytrichon* Rydb.

Wild. ROD 2571; Q 32535; BE 4893. Collected 08/25/1993 in Jalisco, Mexico. Latitude 21 deg. 17' N. Longitude 101 deg. 51' W. Elevation 1940 m. La Ermita, Municipality of Lagos de Moreno; road from Lagos de Moreno to Leon. Mesquite-grassland. Under *Opuntia* sp. and *Acacia* sp. Plants 60cm tall. Corolla rotate-substellate, white. Fruit globose. Seeds and tubers collected.

PI 586947. *Solanum polytrichon* Rydb.

Wild. ROD 2558; Q 32533; BE 4893. Collected 08/22/1993 in Queretaro, Mexico. Latitude 20 deg. 17' N. Longitude 99 deg. 54' W. Elevation 2174 m. Highway from Mexico city to Queretaro city, just on the Queretaro-Mexico states border. Mesquite-grassland with *Opuntia* sp. and *Acacia* sp. Corolla rotate-substellate, white. Fruit globose. Seeds and tubers collected.

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-Huajuapán de León 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.

PI 586949. *Solanum polytrichon* Rydb.

Wild. ROD 2573; Q 32537; BE 4893. Collected 08/25/1993 in Jalisco, Mexico. Latitude 21 deg. 12' N. Longitude 101 deg. 46' W. Elevation 2100 m. Km 25 from Lagos de Moreno towards Leon, Municipality of Lagos de Moreno. Cornfield, among Mesquite-grassland. 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.

PI 586950. *Solanum colombianum* Dunal

Wild. SVRPV 6314; Q 29739; BE 4520. Collected 08/28/1992 in Tachira, Venezuela. Latitude 7 deg. 57' N. Longitude 72 deg. 4' W. Elevation 2750 m. On Paramo El Zumbador, along roadside, 21.7 Km NW of Plaza Bolívar of Quiniquea. Growing in organic soil in semi-shade.

PI 586951. *Solanum colombianum* Dunal

Wild. SVRPV 6316; Q 29737; BE 4520. Collected 08/29/1992 in Tachira, Venezuela. Latitude 8 deg. 1' N. Longitude 71 deg. 54' W. Elevation 2250 m. About 10 Km N of San José de Bolívar on road to La Grita, 1.6 Km N of Quebrada Blanca. Growing in organic soil in semi-shade. Corolla white.

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*). Awne, 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*). Awne, 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*). Awne, 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/TA 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 (01C) under moderate field infection in 1994, and consistently low (01C) 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*

Uncertain. BE 7642. Collected in China.

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").

The following were developed by Maher M. Noaman, Field Crops Res. Inst., Agricultural Res. Center, Barley Res. Dept., Giza 12619, Egypt; F.A. Asaad, Field Crops Res. Inst., Barley Res. Dept., Agric. Res. Center, Giza 12619, Egypt; A.M. El-Sherbini, Field Crops Res. Inst., Barley Res. Dept., Agric. Res. Dept., Giza 12619, Egypt; A.O. El-Bawab, Field Crops Res. Inst., Barley Res. Dept., Agric. Res. Center, Giza 12619, Egypt; A.A. El-Sayed, Field Crops Res. Inst., Barley Res. Dept., Agric. Research Center, Giza 12619, Egypt; A.S. El-Gamal, Field Crops Res. Inst., Barley Research Dept., Agric. Research Center, Giza, Egypt; M. Megahed, Field Crops Res. Inst., Barley Research Dept., Agric. Research Center, Giza, Egypt; M. Abdel-Hameed, Field Crops Res. Inst., Barley Research Dept., Agric. Research Center, Giza, Egypt; E.E. Dessouki, Field Crops Res. Inst., Barley Research Dept., Agric. Research Center, Giza, Egypt. Received 04/17/1995.

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*

Cultivar. Pureline. "GIZA 128". CV-259. Pedigree - WI 2291/4/11012-2/70-22425/3/Apm/IB65//A 16. Two-rowed spring malting barley selected for high grain and malting quality and disease resistance. Plant height intermediate with rough awns and semi-lax spikes and good straw strength. Juvenile plants intermediate growth

habit. Leaves medium green color, narrow width averaging 17mm. Spikes tapered, 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.

Breeding. Population. 19-L38-1472. GP-22. Pedigree - From cultivar Kenstar, result of several cycles of selection for resistance to BYMV, PSV, and powdery mildew. Selection was begun in 1983 with 35 red clover plants that survived three years of screening for BYMV and PSV resistance. Seeds were germinated and grown in a field and screened for virus resistance in 1985. Phenotypic selection continued for 4 more cycles and was completed in 1991. Beginning in 1986, plants screened for resistance to powdery mildew in a greenhouse, continued for three more cycles.

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.
Cultivar. "173-90". PVP 9500127.

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
Uncertain. 1146. Collected 1988 in Yemen.

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 586986. *Eleusine coracana* (L.) Gaertner
Uncertain. 1220. Collected 1988 in Yemen. Socotra.
- PI 586987. *Eleusine coracana* (L.) Gaertner
Uncertain. 12009. Collected 1989 in Yemen. Socotra.
- PI 586988. *Eleusine coracana* (L.) Gaertner
Uncertain. 12028. Collected 1989 in Yemen. South Yemen.
- PI 586989. *Eleusine coracana* (L.) Gaertner
Landrace. 15072; Doksa. Collected 06/26/1989 in Saudi Arabia. Latitude
19 deg. 51' N. Longitude 41 deg. 31' E. Elevation 370 m. Farmstore,
Mikwah, road between Al-Baha and Al-Lith. Tihama Province. Irrigated
valley botton, sandy loam, low stoniness. Used for human food.

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.
Uncertain. 1005. Collected 1988 in Yemen.

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.
Uncertain. 1015. Collected 1988 in Yemen.
- PI 586992. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1017. Collected 1988 in Yemen.
- PI 586993. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1019. Collected 1988 in Yemen.
- PI 586994. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1022. Collected 1988 in Yemen.
- PI 586995. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1026. Collected 1988 in Yemen.
- PI 586996. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1031. Collected 1988 in Yemen.
- PI 586997. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1033. Collected 1988 in Yemen.
- PI 586998. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1039. Collected 1988 in Yemen.
- PI 586999. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1049. Collected 1988 in Yemen.
- PI 587000. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1060. Collected 1988 in Yemen.
- PI 587001. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1065. Collected 1988 in Yemen.

- PI 587002. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1066. Collected 1988 in Yemen.
- PI 587003. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1082. Collected 1988 in Yemen.
- PI 587004. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1084. Collected 1988 in Yemen.
- PI 587005. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1086. Collected 1988 in Yemen.
- PI 587006. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1090. Collected 1988 in Yemen.
- PI 587007. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1092. Collected 1988 in Yemen.
- PI 587008. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1095. Collected 1988 in Yemen.
- PI 587009. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1099. Collected 1988 in Yemen.
- PI 587010. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1100. Collected 1988 in Yemen.
- PI 587011. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1103. Collected 1988 in Yemen.
- PI 587012. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1112. Collected 1988 in Yemen.
- PI 587013. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1125. Collected 1988 in Yemen.
- PI 587014. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1128. Collected 1988 in Yemen.
- PI 587015. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1197. Collected 1988 in Yemen.
- PI 587016. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1204. Collected 1988 in Yemen.
- PI 587017. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1206. Collected 1988 in Yemen.
- PI 587018. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1214. Collected 1988 in Yemen.
- PI 587019. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1225. Collected 1988 in Yemen.
- PI 587020. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1238. Collected 1988 in Yemen.
- PI 587021. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1243. Collected 1988 in Yemen.
- PI 587022. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 1272. Collected 1988 in Yemen.

PI 587023. *Pennisetum glaucum* (L.) R. Br.
Uncertain. 12010. Collected 1989 in Yemen. Socotra.

PI 587024. *Pennisetum glaucum* (L.) R. Br.
Landrace. 15012. Collected 06/21/1989 in Saudi Arabia. Latitude 16 deg. 50' N. Longitude 42 deg. 12' E. Elevation 140 m. Village market, Ad-darb, Tihama Province. Irrigated sandy loam, low stoniness. Used for human food. Sown August, harvested December.

PI 587025. *Pennisetum glaucum* (L.) R. Br.
Landrace. 15075; Dokhn. Collected 06/26/1989 in Saudi Arabia. Latitude 19 deg. 51' N. Longitude 41 deg. 13' E. Elevation 370 m. Farmstore, Mikwah, road between Al-Baha and Al-Lith, Tihama Province. Irrigated valley bottom, sandy loam, low stoniness. Used for human food. Sown July.

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.
Cultivar. Pureline. "HILLER"; WA7729. Pedigree - CI 13438/Odin//CI 13645/101/3/M722712/4/Tres. Chaff white. Awnless to awnletted. 1 gene semidwarf. Club soft white winter. Early season. Race specific and nonspecific resistance to *Puccinia striiformis*. Specific resistance to some races of *Tilletia tritici* and partially resistant to *Puccinis recondita* and *Blumeria graminis*. Less prone to lodging and winter injury than most other club cvs. Excellent club wheat milling, flour and baking quality and superior or equal to all currently grown club cvs.

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 (*Erysiphe 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 (*Erysiphe 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 (*Erysiphe 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.

PI 587030. *Triticum aestivum* L., nom. cons.

Breeding. TX88A6880. GP-458. Pedigree - (TAM105*4/Amigo)*4//Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (*Erysiphe graminis*) and biotypes C and E greenbug (*Schizaphis graminum*).

PI 587031. *Triticum aestivum* L., nom. cons.

Breeding. TXGH10194. GP-459. Pedigree - (TAM105*4/Amigo)*4//Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (*Erysiphe graminis*) and biotypes C and E greenbug (*Schizaphis graminum*).

PI 587032. *Triticum aestivum* L., nom. cons.

Breeding. TXGH10289. GP-460. Pedigree - (TAM105*4/Amigo)*4//Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (*Erysiphe graminis*) and biotypes C and E greenbug (*Schizaphis graminum*). More tolerant of water stress than TAM107, based upon grain yield in two years, with or without irrigation, at Bushland, Texas.

PI 587033. *Triticum aestivum* L., nom. cons.

Breeding. TXGH10440. GP-461. Pedigree - (TAM105*4/Amigo)*4//Largo. Moderately early semi-dwarf, similar to TAM107 in maturity, height and disease reaction. Resistant to powdery mildew (*Erysiphe 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 Mo17 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 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)C1. 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

dehiscence.

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 owl. 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.

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 Int. Crops Res. Inst. for the Semi-Arid Tropics, Patancheru P.O., Andhra Pradesh 502 324, India. Received 04/28/1995.

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 owl. Seed protein content 21.8%. Resistant to leaf miner (*Liriomyza cicerina*). Susceptible to ascochyta blight (*Ascochyta rabiei*). Resistant to iron deficiency and pod dehiscence.

The following were developed by K. B. Singh, Int. Center For Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; M. C. Saxena, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; C. Johansen, Int. Center for Agricultural Research in the Dry Areas, ICRISAT Asia Center, Patancheru, Andhra Pradesh 502 324, India; M. Omar, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 04/28/1995.

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 owl. 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 81-56W / FLIP 82-78C. Winter sown at Tel Hadya, 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 Breedin Sta., Manor House, Loughgall, Ireland. Received 03/02/1988.

PI 587048. *Solanum tuberosum* L.

Cultivar. "ARMA"; BE-1700; C20551; Q 27177. Pedigree - S62-47-1/Maris Piper. Late maturing, table stock. Tubers long-oval, distinctly regular, with shallow eyes. Skin yellow. Flesh creamy white. Long rest period favorable for storage. Suitable for regions with hot climates. Moderately susceptible to leafroll virus and to common scab. Susceptible to potato cyst nematode. High tolerance to verticillium wilt and early blight. Immune to viruses A,B,C, and Y. Heat tolerance.

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.
Cultivar. "CORINE"; Q 27388. Collected in England, United Kingdom.

Unknown source. Received 12/09/1988.

PI 587052. *Solanum tuberosum* L.
Cultivar. "OMEGA"; Q 27389. Collected in England, United Kingdom.

Unknown source. Received 12/09/1988.

PI 587053. *Solanum tuberosum* L.
Cultivar. "CFL 69-1"; Q 27391. Collected in China.

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; I-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. Turkrsbeen, 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.

Cultivar. "KWPTM24"; 590011.24; BE-4758; Q 30894. Pedigree - 2X(TS-2)5/PTM1.33.

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.

Cultivar. "TS-9"; 386625.41; BE-5025; Q 32745. Pedigree - CONCURRENT/LT-7.

PI 587083. *Solanum tuberosum* L.

Cultivar. "TPS-113"; IP81002.13; BE-5025; Q 32746. Pedigree - C. selection of Ex/A.680-16.

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".

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.

Cultivar. Pureline. "Council". CV-340. Pedigree - Ozzie x Dawson. Maturity Group 0 indeterminate adapted as full season from 45 deg. to 48 deg. N. lat. Yield high. Iron chlorosis tolerance. Flowers purple. Pubescence gray. Pods brown at maturity. Seed dull yellow with yellow hila. Adapted to high pH soils. Has Rps1 gene for resistance to *Phytophthora sojae*.

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*

Cultivar. Pureline. "GEORGIA GREEN"; GA T-2846. CV-55; PVP 9500165. 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, Greeneville, 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 Vidyapeeth, Agricultural Research Station, Jalgaon, 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*
Landrace. Population. BG-070403; MB 26.
- PI 587104. *Zea mays* L. ssp. *mays*
Landrace. Population. BG-070404; MB 29.
- 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

53706, United States. Received 04/17/1990.

PI 587110. *Solanum tuberosum* L. ssp. *tuberosum*

Wild. 4543; BE-2893; CPS 4543; Q 28058. Collected 03/12/1990 in Aisen, Chile. Latitude 45 deg. 59' S. Longitude 73 deg. 38' W. Elevation 1 m. Aisen. Near seashore, at Puerto Pescadores, E of Isla Huemules. Rocky soil with organic matter, by abandoned fishing camp. Tubers with red skin, white flesh. Apparently a modern, recently-introduced cultivar. Flowers and fruits present.

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 cornfield 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

Wild. SCL 4579; Q 28534. Collected 04/05/1990 in La Rioja, Argentina. Latitude 29 deg. 9' S. Longitude 67 deg. 40' W. Elevation 1820 m. Chilecito. At Guanchin Viejo, by fence row near where road crosses stream. In rich organic soil. No flowers or fruits seen. Tubers pink.

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 E of E side of Laguna Saisay, ca. 5.5 km (by air) SE of SanRafael. 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 deg. 43' N. Longitude 70 deg. 50' W. Elevation 3750 m. ca. 50 m E of E side of Laguna Saisay, ca. 5.5 km (by air) SE of SanRafael. 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 deg. 42' N. Longitude 70 deg. 57' W. Elevation 3180 m. 10 plants seen on steep slope, 1.6 km W of school in Gavidia, on E 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*
Breeding. Inbred. "C13"; Ames 20142. Developed in United States. Yellow
sweetcorn inbred.

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*
Breeding. Inbred. H105W; Ames 20138. Developed in United States.

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*
Inbred. H99; Ames 15931. Developed in United States.

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*
Breeding. Inbred. "4722"; Ames 20068. Developed in United States.

PI 587131. *Zea mays* L. *ssp. mays*
Breeding. Inbred. "HP301"; Ames 20070. Developed in United States.

PI 587132. *Zea mays* L. *ssp. mays*
Breeding. Inbred. "Sg 1533"; Ames 20071.

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 587133. *Zea mays* L. *ssp. mays*
P39; Ames 20145. Developed in United States.

PI 587134. *Zea mays* L. *ssp. mays*
Cultivar. Inbred. "IA2132"; Ames 20143. Developed in United States.
Yellow sweetcorn inbred.

PI 587135. *Zea mays* L. *ssp. mays*
Cultivar. Inbred. "IA5125"; Ames 20144. Developed in United States.
Yellow sweetcorn inbred.

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*
Breeding. Inbred. "Ky228"; Ames 20135. Pedigree - Pride of Saline.
Released 1967. White dent inbred line.

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*
Breeding. Inbred. A619; Ames 19306. Developed in United States.
- PI 587140. *Zea mays* L. *ssp. mays*
Breeding. Inbred. A632; Ames 19307. Developed in United States.
- 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*
Breeding. Inbred. A679; Ames 21098. Developed in United States.
- 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*
Breeding. Inbred. "Mo24W"; Ames 20117. Pedigree - (K10 x Ky49/Ziler Hi-Cob).

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*
Breeding. Inbred. "NC268"; Ames 20132. Developed in United States.
Pedigree - B732 X NC250.
- PI 587146. *Zea mays* L. *ssp. mays*
Breeding. Inbred. "Oh7"; Ames 20133. Developed in United States.
Pedigree - CI.540 x Ill. L.

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,

USDA-ARS, University of Missouri, Curtis Hall, Rm. 210, Columbia, Missouri 65211, United States. Received 01/04/1993.

PI 587148. Zea mays L. ssp. mays

Breeding. Inbred. "CI66"; Ames 20115. Pedigree - Ky27 x L97.

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

Breeding. Inbred. "W153R"; Ames 20130. Developed in United States. Pedigree - Rec. I.153.

PI 587155. Zea mays L. ssp. mays

Breeding. Inbred. "W182BN"; Ames 20131. Developed in United States. Pedigree - (WD x W22) Outcross.

The following were developed by Jacklin Seed Company, United States. Received 06/21/1994.

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(O) (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 *Diplodia maydis*, *Colletotrichum graminicola*, *Gibberella zea* 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.

PI 587158. *Zea mays* L. ssp. *mays*

Breeding. RBS10C(6). GP-327. Pedigree - Developed from BS10C(4) (Iowa two-ear 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 *Diplodia maydis*, *Colletotrichum graminicola*, *Gibberella zea* and *Fusarium moniliforme*. Plant and ear characteristics similar to BS10C(4). Plant height averages 282cm, with grain moisture ranging from 18 to 20%. Relative maturity group 800. Leaf area infected with multiple leaf disease will vary from 29-70%, and for multiple stalk rots average internodes infected is 1.1. Stalk lodging will vary between 6 and 10%. Should serve as good source of resistant genes for multiple leaf and stalk rot diseases of maize.

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,

Mexico, Federal District 06600, Mexico. Received 08/16/1994.

- PI 587160. *Triticum aestivum* L., nom. cons.
Breeding. Pureline. CIGM87.2768-1B-0Y-0M-0Y; WX-SYN B-92-52; NSGC 5117.
GP-425. Pedigree - Altar 84/T. tauschii (Acc.198). Karnal bunt resistant
synthetic hexaploid. Flowering days 106. Days to maturity 138. Plant
height 97cm. Grain color red. 1000-grain weight 61.3g.
- 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 - Duergand/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.
GP-427. Pedigree - Altar 84/T. tauschii (Acc.223). Karnal bunt resistant
synthetic hexaploid. Flowering days 106. Days to maturity 138. Plant
height 103cm. Grain color red. 1000-grain weight 58.6g.
- 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.
Breeding. Pureline. WX-CIGM-295-1; NSGC 5121. GP-429. Pedigree - Chinese Spring/*Thinopyrum curvifolium*, F1//Glennson/3/Alondra/Pavon.
Helminthosporium leaf blight resistant. Flowering days 65. Days to maturity 102. Plant height 87cm. Grain color red. 1000-grain weight 29.4g. Resistant to *Cochliobolus sativus*.
- PI 587165. *Triticum aestivum* L., nom. cons.
Breeding. Pureline. WX-CIGM-295-2; NSGC 5122. GP-430. Pedigree - Chinese Spring/*Thinopyrum curvifolium*, F1//Glennson/3/Alondra/Pavon.
Helminthosporium leaf blight resistant. Flowering days 66. Days to maturity 106. Plant height 88cm. Grain color red. 1000-grain weight 27.4g. Resistant to *Cochliobolus sativus*.
- PI 587166. *Triticum aestivum* L., nom. cons.
Breeding. Pureline. WX-CIGM-295-3; NSGC 5123. GP-431. Pedigree - Chinese Spring/*Thinopyrum curvifolium*, F1//Glennson/3/Alondra/Pavon.
Helminthosporium leaf blight resistant. Flowering days 67. days to maturity 108. Plant height 87cm. Grain color red. 1000-grain weight 25.4g. Resistant to *Cochliobolus sativus*.
- PI 587167. *Triticum aestivum* L., nom. cons.
Breeding. Pureline. WX-CIGM-295-4; NSGC 5124. GP-432. Pedigree - Chinese Spring/*Thinopyrum curvifolium*, F1//Glennson/3/Alondra/Pavon.
Helminthosporium leaf blight resistant. Flowering days 69. Days to maturity 105. Plant height 88cm. Grain color red. 1000-grain weight 26.4g. Resistant to *Cochliobolus sativus*.

PI 587168. *Triticum aestivum* L., nom. cons.

Breeding. Pureline. WX-CIGM-295-5; NSGC 5125. GP-433. Pedigree - Chinese Spring/*Thinopyrum curvifolium*, F1//Glennson/3/Alondra/Pavon. Helminthosporium leaf blight resistant. Flowering days 69. Days to maturity 110. Plant height 91cm. Grain color red. 1000-grain weight 25.3g. Resistant to *Cochliobolus sativus*.

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.

Wild. 3347; MEX 340. Collected 03/11/1980 in Oaxaca, Mexico. Elevation 1550 m. 20km W of Oaxaca. Rainfall 600mm. Growing with *Macroptilium atropurpureum*.

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.

Cultivated. LP 128; Ames 21667. Collected 04/1993 in Jujuy, Argentina.

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
Cultivar. "PARWANI KRANTI"; 7001. Collected in Nepal.

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
Cultivar. "SISHIR"; 7030. Collected in Nepal.

PI 587176. *Lens culinaris* Medikus
Cultivar. "SIRNAL"; 7031. Collected in Nepal.

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.
Wild. 15A. Collected in Papua New Guinea. Elevation 2000 m. South Highland Province, City of Mendi at the Kiburu Lodge. Attractive orange corolla. Used as an ornamental.

PI 587178. *Ipomoea purpurea* (L.) Roth
Wild. 15B. Collected in Papua New Guinea. Elevation 2000 m. South Highland Province, City of Mendi at the Kiburu Lodge. Attractive purple corolla. Used as an ornamental.

PI 587179. *Ipomoea obscura* (L.) Ker Gawler
Wild. 16A. Collected in Papua New Guinea. Elevation 2 m. East New Ireland Province, near Kavieng airport.

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.
Cultivar. "Probst". CV-338; PVP 9500079. Pedigree - Spencer x Resnik, F4. Indeterminate, maturity group III. Flowers purple. Pubescence tawny. Pods tan when mature. Seed yellow with intermediate luster, between dull and shiny, black hila, and low peroxidase seedcoat activity. Possesses Rps1-K allele for resistance to specific races of *Phytophthora sojae*. Seeds average 416g Kg-1 protein and 206g Kg-1 oil concentration.

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. "BREAKNESS". 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.

PI 587198. *Triticum aestivum* L., nom. cons.
Cultivar. "FERGUS". PVP 9500093.

PI 587199. *Triticum aestivum* L., nom. cons.
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.
Breeding. 6A191; NAT0003; NSGC 5597. Pedigree - T. durum Stewart/S. montanum.
- 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.

Collected in Manitoba, Canada.

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 587226. X Triticosecale sp.

Breeding. 6A1167; NAT0097; NSGC 5604. Collected in Manitoba, Canada.
Pedigree - T.Bocolox/T.57//T.Hermien/T.679A F3.

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 Ditele/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: wwHh (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.

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 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/?.

PI 587247. X Triticosecale sp.

Breeding. 6A1353; NAT0140; NSGC 5625. Pedigree - Cocorit 75/S.
dalmaticum.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by International Maize & Wheat Improvement Center, Apdo. Postal 6-641, Lisboa 27, Mexico City, Federal District 06600, Mexico. 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 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; CBTCL-598. Collected in Manitoba, Canada. Pedigree - Yogui 's'.

PI 587251. X Triticosecale sp.

Breeding. 6A1357; CBTCL-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.

Pedigree - GDOVZ471/BR 's'/3/PG 's'//NLOSAMOUSKIE/4/M2A2/5/53260.

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.

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 587255. X Triticosecale sp.

Breeding. NAT0148; NSGC 5633; 6A1362. Pedigree - TRR 'r'/MPE//PND 's'/3/M2A/IRA/4/47220-A-2M-1Y-1Y-0H.

PI 587256. X Triticosecale sp.

Breeding. 6A1363; NSGC 5634; NAT0149. Pedigree - W74-103-AADAX//BGL 's'/M2A/3/IRA/4/53470-C-1Y-3M-2Y-2.

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 587257. X Triticosecale sp.

Cultivated. NAT0150; NSGC 5635; 6A1364. 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 587258. X Triticosecale sp.

Cultivar. NAT0151; "CARMAN"; NSGC 5636; 6A1365. Pedigree - Beagle sib.

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 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; X78-532S-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 - IRN entry 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.

Pedigree - ms Red Bobs//Daws/Snoopy.

- 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.
Breeding. NAT0186; NSGC 5659; 8A1437; H79-212-6. Collected in Manitoba,
Canada. Pedigree - Penjamo 62/R1003.
- 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//Pullman-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.

Breeding. NAT0205; 6A1478; NSGC 5671. Collected in Manitoba, Canada. Pedigree - Tetra Prelude/OD289//M77-8532/3/EMSGTA876.

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.

The following were collected by University of Manitoba, Department of Plant Sciences, Winnipeg, Manitoba R3T 2N2, Canada. Developed by International Maize & Wheat Improvement Center, Apdo. Postal 6-641, Lisboa 27, Mexico City, Federal District 06600, Mexico. 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 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.

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 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.

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 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.
Breeding. 6A1618A; TCL-3; NAT0236; S-1014; NSGC 5699. Collected in Manitoba, Canada. Pedigree - Jupateco
F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato.
Hexaploid with an 'octoploid' phenotype.
- PI 587322. X *Triticosecale* sp.
Breeding. 6A1618B; NAT0237; S-1014; NSGC 5700; TCL-4. Collected in Manitoba, Canada. Pedigree - Jupateco
F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato.
Hexaploid with an 'octoploid' phenotype.
- PI 587323. X *Triticosecale* sp.
Breeding. NAT0238; S-1027; NSGC 5701; 6A1619; TCL-9. Collected in Manitoba, Canada. Pedigree - Jupateco
F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato.
Hexaploid with an 'octoploid' phenotype.
- PI 587324. X *Triticosecale* sp.
Breeding. S-1046; 6A1620; TCL-17; NSGC 5702; NAT0239. 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 587325. X *Triticosecale* sp.
Breeding. NAT0240; TCL-18; NSGC 5703; 6A1621; S-1049. 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 587326. X *Triticosecale* sp.
Breeding. 6A1622; TCL-19; NAT0241; S-1051; NSGC 5704. 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 587327. X *Triticosecale* sp.
Breeding. 6A1623; NAT0242; S-1053; TCL-20; NSGC 5705. 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 587328. X *Triticosecale* sp.
Breeding. S-1059; 6A1624; TCL-23; NAT0243; NSGC 5706. Collected in Manitoba, Canada. Pedigree - Jupateco

F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato.
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
F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato.
Hexaploid with an 'octoploid' phenotype.

PI 587330. X Triticosecale sp.

Breeding. 6A1626; NAT0245; TCL-26; S-1066; NSGC 5708. Collected in Manitoba, Canada. Pedigree - Jupateco
F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato.
Hexaploid with an 'octoploid' phenotype.

PI 587331. X Triticosecale sp.

Breeding. 6A1627; TCL-27; NSGC 5709; NAT0246; S-1070. 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 587332. X Triticosecale sp.

Breeding. 6A1628; NAT0247; NSGC 5710; TCL-29; S-1080. 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 587333. X Triticosecale sp.

Breeding. 6A1629; NAT0248; NSGC 5711; TCL-30; S-1082. 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 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.
Hexaploid with an 'octoploid' phenotype.

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.
Hexaploid with an 'octoploid' phenotype.

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.
Breeding. S-1148; TCL-57; NSGC 5719; NAT0256; 6A1638. Collected in Manitoba, Canada. Pedigree - Pavon F76/Latt Rye 23. Hexaploid with an 'octoploid' phenotype.
- PI 587342. X *Triticosecale* sp.
Breeding. 6A1639; NAT0257; S-1156; NSGC 5720; TCL-58. Collected in Manitoba, Canada. Pedigree - Jupateco F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato. Hexaploid with an 'octoploid' phenotype.
- PI 587343. X *Triticosecale* sp.
Breeding. 6A1640; NAT0258; TCL-59; S-1160; NSGC 5721. Collected in Manitoba, Canada. Pedigree - Jupateco F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato. Hexaploid with an 'octoploid' phenotype.
- PI 587344. X *Triticosecale* sp.
Breeding. 6A1641; NAT0259; TCL-60; S-1163; NSGC 5722. Collected in Manitoba, Canada. Pedigree - Jupateco F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato. Hexaploid with an 'octoploid' phenotype.
- PI 587345. X *Triticosecale* sp.
Breeding. S-1196; 6A1645; TCL-74; NSGC 5723; NAT0263. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle MZA//Ciano. Hexaploid with an 'octoploid' phenotype.
- PI 587346. X *Triticosecale* sp.
Breeding. 6A1647; TCL-77; NSGC 5724; NAT0264; S-1202. Collected in Manitoba, Canada. Pedigree - Jupateco F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato. Hexaploid with an 'octoploid' phenotype.
- PI 587347. X *Triticosecale* sp.
Breeding. 6A1648; TCL-78; NAT0265; S-1204; NSGC 5725. Collected in Manitoba, Canada. Pedigree - Jupateco F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato. Hexaploid with an 'octoploid' phenotype.
- PI 587348. X *Triticosecale* sp.
Breeding. 6A1649; TCL-79; NSGC 5726; NAT0266; S-1206. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle MZA//Ciano. Hexaploid with an 'octoploid' phenotype.
- PI 587349. X *Triticosecale* sp.
Breeding. TCL-83; NAT0267; S-1215; NSGC 5727; 6A1650. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle/MZA//Ciano. Hexaploid with an 'octoploid' phenotype.
- PI 587350. X *Triticosecale* sp.
Breeding. 6A1651; NAT0268; S-1217; NSGC 5728; TCL-84. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle MZA//Ciano. Hexaploid with an 'octoploid' phenotype.
- PI 587351. X *Triticosecale* sp.

- Breeding. NAT0269; S-1225; 6A1652; TCL-87; NSGC 5729. 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 587352. X *Triticosecale* sp.
Breeding. NAT0270; NSGC 5730; 6A1653; S-1226; TCL-88. 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 587353. X *Triticosecale* sp.
Breeding. 6A1654; TCL-91; NAT0271; S-1231; NSGC 5731. Collected in Manitoba, Canada. Pedigree - Era/Ciano//Gallo/3/Snoopy/4/Camel/Pato/5/Octo. Hexaploid with an 'octoploid' phenotype.
- PI 587354. X *Triticosecale* sp.
Breeding. S-1233; 6A1655; TCL-92; NSGC 5732; NAT0272. Collected in Manitoba, Canada. Pedigree - Era/Ciano//Gallo/3/Snoopy/4/Camel/Pato/5/Octo. Hexaploid with an 'octoploid' phenotype.
- PI 587355. X *Triticosecale* sp.
Breeding. 6A1656; TCL-94; S-1235; NSGC 5733; NAT0273. Collected in Manitoba, Canada. Pedigree - Era/Ciano//Gallo/3/Snoopy/4/Camel/Pato/5/Octo. Hexaploid with an 'octoploid' phenotype.
- PI 587356. X *Triticosecale* sp.
Breeding. 6A1657; TCL-98; S-1248; NSGC 5734; NAT0274. Collected in Manitoba, Canada. Pedigree - Jupateco F73/Dietz/3/Cinnamon/Ciano//Beagle/4/Era/Ciano//Gallo/5/Camel/Pato. Hexaploid with an 'octoploid' phenotype.
- 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.
Breeding. 6A1659A; NAT0276; S-1254; NSGC 5736; TCL-101. Collected in Manitoba, Canada. Pedigree - Era/Ciano//Gallo/3/Snoopy/4/Camel/Pato/5/Octo. Hexaploid with an 'octoploid' phenotype.
- PI 587359. X *Triticosecale* sp.
Breeding. NAT0277; S-1254; 6A1659B; TCL-102; NSGC 5737. Collected in Manitoba, Canada. Pedigree - Era/Ciano//Gallo/3/Snoopy/4/Camel/Pato/5/Octo. Hexaploid with an 'octoploid' phenotype.
- PI 587360. X *Triticosecale* sp.
Breeding. NAT0278; 6A1660; TCL-102; NSGC 5738; S-1258. 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 587361. X *Triticosecale* sp.
Breeding. 6A1661; TCL-103; NAT0279; S-1258; NSGC 5739. 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 587362. X *Triticosecale* sp.
Breeding. 6A1662; TCL-104; NSGC 5740; NAT0280; S-1259. 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 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.
Breeding. 6A1664A; NAT0282; NSGC 5742; TCL-106; S-1266. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle MZA//Ciano. Hexaploid with an 'octoploid' phenotype.
- PI 587365. X *Triticosecale* sp.
Breeding. NAT0283; S-1266; NSGC 5743; 6A1664B; TCL-107. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle/MZA//Ciano. Hexaploid with an 'octoploid' phenotype.
- 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.
Breeding. 6A1667; NAT0286; TCL-116; S-1285; NSGC 5746. 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 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.
Breeding. NAT0288; S-1304; NSGC 5748; TCL-124; 6A1669. 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 587371. X *Triticosecale* sp.
Breeding. NAT0289; S-1306; NSGC 5749; 6A1670; TCL-125. 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 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.

Breeding. 6A1673; TCL-131; NAT0291; S-1321; NSGC 5751. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle MZA//Ciano. Hexaploid with an 'octoploid' phenotype.

PI 587374. X Triticosecale sp.

Breeding. TCL-132; NSGC 5752; NAT0292; S-1322; 6A1674. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes 64//Nadadores M63/3/Jaral 66/5/WRC31/6/Beagle/MZA//Ciano. Hexaploid with an 'octoploid' phenotype.

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//Drira/M1A. Hexaploid with an 'octoploid' phenotype.

PI 587379. X Triticosecale sp.

Breeding. 6A1680; TCL-148; NAT0298; S-1350; NSGC 5757. 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 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.

Breeding. 6A1683; TCL-157; S-1384; NSGC 5760; NAT0301. Collected in Manitoba, Canada. Pedigree - Bluebird/4/Sonora 64/Andes64//Nadadores M63/3/Jaral 66/5/WRC31//Drira/M1A. Hexaploid with an 'octoploid' phenotype.

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

Research, Salinas, California, United States. Developed by University of Guelph, Crop Science Department, Guelph, Ontario N1G 2W1, 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 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; "TERRELLLAND 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 *Triticosecale* sp.
Breeding. NAT0337; NSGC 5771; 6TB5W; M83-8501. Collected in Oregon,
United States.
- PI 587394. X *Triticosecale* sp.
Breeding. 6TB5Y; M84-477; NAT0339; NSGC 5772. Collected in Oregon,
United States.
- PI 587395. X *Triticosecale* sp.
Breeding. NSGC 5773; 6TB6B; M84-6170; NAT0342. Collected in Oregon,
United States.
- PI 587396. X *Triticosecale* sp.
Breeding. 6TB6C; NAT0343; M84-6800; NSGC 5774. Collected in Oregon,
United States.
- PI 587397. X *Triticosecale* sp.
Breeding. 6TB6D; NAT0344; M84-6999; NSGC 5775. Collected in Oregon,
United States.
- PI 587398. X *Triticosecale* sp.
Breeding. 6TB6E; NAT0345; NSGC 5776; M85-6014. Collected in Oregon,
United States.
- PI 587399. X *Triticosecale* sp.
Breeding. 6TB6F; NAT0346; M85-6032; NSGC 5777. Collected in Oregon,
United States.
- PI 587400. X *Triticosecale* sp.
Breeding. 6TB6M; NAT0348; NSGC 5778; M85-7050. Collected in Oregon,
United States.
- PI 587401. X *Triticosecale* sp.
Breeding. 6TB6P; NAT0349; M83-6015; NSGC 5779. Collected in Oregon,
United States.
- PI 587402. X *Triticosecale* sp.
Breeding. 6TB6Q; NSGC 5780; NAT0350; M83-6016. Collected in Oregon,
United States.
- PI 587403. X *Triticosecale* sp.
Breeding. NAT0353; M84-440; 6TB6S-1; M83-6088; NSGC 5781. Collected in
Oregon, United States.
- PI 587404. X *Triticosecale* sp.
Breeding. NAT0357; NSGC 5782; 6TB6V; M84-6187. Collected in Oregon,
United States.
- PI 587405. X *Triticosecale* sp.
Breeding. NAT0358; M84-6188; NSGC 5783; 6TB6W. Collected in Oregon,
United States.
- PI 587406. X *Triticosecale* sp.
Breeding. 6TB7A; M84-6194; NSGC 5784; NAT0359. Collected in Oregon,
United States.
- PI 587407. X *Triticosecale* sp.
Breeding. NAT0360; 6TB7C; M84-6196; NSGC 5785. Collected in Oregon,
United States.
- PI 587408. X *Triticosecale* 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; NAT0394; NSGC 5810.

PI 587433. X *Triticosecale* sp.
Breeding. NSGC 5811; NAT0395; 6TA8T.

PI 587434. X *Triticosecale* sp.
Breeding. 6TA8U; NSGC 5812; NAT0396.

PI 587435. X *Triticosecale* sp.
Breeding. 6TA8V; NSGC 5813; NAT0397.

PI 587436. X *Triticosecale* sp.
Breeding. 6TA8W; NAT0398; NSGC 5814.

PI 587437. X *Triticosecale* sp.
Breeding. 6TB4X; NSGC 5815; NAT0399.

PI 587438. X *Triticosecale* sp.
Breeding. 6TA8X; NAT0400; NSGC 5816.

PI 587439. X *Triticosecale* sp.
Breeding. 6TA8Y; NSGC 5817; NAT0401.

PI 587440. X *Triticosecale* sp.
Breeding. NAT0402; NSGC 5818; 6TA8Z.

PI 587441. X *Triticosecale* sp.
Breeding. 6TA8Z-1; NAT0403; NSGC 5819.

PI 587442. X *Triticosecale* sp.
Breeding. NSGC 5820; 6TA9A; NAT0404.

PI 587443. X *Triticosecale* sp.
Breeding. 6TA9B; NAT0405; NSGC 5821.

PI 587444. X *Triticosecale* sp.
Breeding. 6TA9C; NAT0406; NSGC 5822.

PI 587445. X *Triticosecale* sp.
Breeding. 6TA9D; NAT0407; NSGC 5823.

PI 587446. X *Triticosecale* sp.
Breeding. NAT0408; 6TA9E; NSGC 5824.

PI 587447. 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; "WYTCH"; 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.
- PI 587565. *Glycine max* (L.) Merr.
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.
Pureline. ZDD04644; Hai an ci yu dou 1. Collected in Jiangsu, China.
- 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 huang 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 huang 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.
Pureline. ZDD04891; Nan tong dan huang dou yi. Collected in Jiangsu, China.
- 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.
Pureline. ZDD04915; Kan jiang da hua lian. Collected in Jiangsu, China.
- PI 587654. *Glycine max* (L.) Merr.
Pureline. ZDD04916; Tai xing ma que dou. Collected in Jiangsu, China.
- PI 587655. *Glycine max* (L.) Merr.
Pureline. ZDD05381; Hei dou. Collected in Anhui, China.
- 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.
Pureline. ZDD05389; Qing dou zi. Collected in Anhui, China.
- PI 587660. *Glycine max* (L.) Merr.
Pureline. ZDD05391; Xiao li huang. Collected in Anhui, China.

- PI 587661. *Glycine max* (L.) Merr.
Pureline. ZDD05392; She dou. Collected in Anhui, China.
- PI 587662. *Glycine max* (L.) Merr.
Pureline. ZDD05393; Mi feng qiu. Collected in Anhui, China.
- PI 587663. *Glycine max* (L.) Merr.
Pureline. ZDD05394; Zhong chun huang dou. Collected in Anhui, China.
- PI 587664. *Glycine max* (L.) Merr.
Pureline. ZDD05395; Shan zi bai. Collected in Anhui, China.
- PI 587665. *Glycine max* (L.) Merr.
Pureline. ZDD05396; Huang xiao dou. Collected in Anhui, China.
- PI 587666. *Glycine max* (L.) Merr.
Pureline. ZDD05398; Er dao zao. Collected in Anhui, China.
- PI 587667. *Glycine max* (L.) Merr.
Pureline. ZDD05400; Dau huang dou. Collected in Anhui, China.
- PI 587668. *Glycine max* (L.) Merr.
Pureline. ZDD05401; Hui mei dou. Collected in Anhui, China.
- PI 587669. *Glycine max* (L.) Merr.
Pureline. ZDD05404; Zan zi bai. Collected in Anhui, China.
- 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.
- PI 587673. *Glycine max* (L.) Merr.
Pureline. ZDD05410; Ke ban jin. Collected in Anhui, China.
- PI 587674. *Glycine max* (L.) Merr.
Pureline. ZDD05411; Ba yue bai. Collected in Anhui, China.
- PI 587675. *Glycine max* (L.) Merr.
Pureline. ZDD05414; Mi feng qiu. Collected in Anhui, China.
- 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.
Pureline. ZDD05423; Jiu yue huang. Collected in Anhui, China.
- PI 587682. *Glycine max* (L.) Merr.

- Pureline. ZDD05424; Da li huang 1. Collected in Anhui, China.
- PI 587683. *Glycine max* (L.) Merr.
Pureline. ZDD05425; Hua mi yan. Collected in Anhui, China.
- PI 587684. *Glycine max* (L.) Merr.
Pureline. ZDD05426; Ai jiao huang. Collected in Anhui, China.
- PI 587685. *Glycine max* (L.) Merr.
Pureline. ZDD05427; Da li huang 2. Collected in Anhui, China.
- PI 587686. *Glycine max* (L.) Merr.
Pureline. ZDD05428; Xi li huang 1. Collected in Anhui, China.
- PI 587687. *Glycine max* (L.) Merr.
Pureline. ZDD05429; Xiao li dou 1. Collected in Anhui, China.
- PI 587688. *Glycine max* (L.) Merr.
Pureline. ZDD05430; Xi li huang 2. Collected in Anhui, China.
- PI 587689. *Glycine max* (L.) Merr.
Pureline. ZDD05436; Xiao li huang. Collected in Anhui, China.
- PI 587690. *Glycine max* (L.) Merr.
Pureline. ZDD05438; Huang da dou. Collected in Anhui, China.
- PI 587691. *Glycine max* (L.) Merr.
Pureline. ZDD05439; Hou zi mao. Collected in Anhui, China.
- PI 587692. *Glycine max* (L.) Merr.
Pureline. ZDD05441; Pi wai qing. Collected in Anhui, China.
- PI 587693. *Glycine max* (L.) Merr.
Pureline. ZDD05442; Yu shan dou. Collected in Anhui, China.
- PI 587694. *Glycine max* (L.) Merr.
Pureline. ZDD05443; Mao dou. Collected in Anhui, China.
- PI 587695. *Glycine max* (L.) Merr.
Pureline. ZDD05444; Dong huang dou. Collected in Anhui, China.
- PI 587696. *Glycine max* (L.) Merr.
Pureline. ZDD05445; Mi feng qiu. Collected in Anhui, China.
- PI 587697. *Glycine max* (L.) Merr.
Pureline. ZDD05448; Da qing dou. Collected in Anhui, China.
- PI 587698. *Glycine max* (L.) Merr.
Pureline. ZDD05449; Qing pi. Collected in Anhui, China.
- PI 587699. *Glycine max* (L.) Merr.
Pureline. ZDD05450; Qing dou. Collected in Anhui, China.
- PI 587700. *Glycine max* (L.) Merr.
Pureline. ZDD05451; Da qing dou. Collected in Anhui, China.
- PI 587701. *Glycine max* (L.) Merr.
Pureline. ZDD05452; Qing dou. Collected in Anhui, China.
- PI 587702. *Glycine max* (L.) Merr.
Pureline. ZDD05453; Qing pi dou. Collected in Anhui, China.
- PI 587703. *Glycine max* (L.) Merr.
Pureline. ZDD05455; Qing dou. Collected in Anhui, China.

- PI 587704. *Glycine max* (L.) Merr.
Pureline. ZDD05456; Qing pi dou. Collected in Anhui, China.
- PI 587705. *Glycine max* (L.) Merr.
Pureline. ZDD05457; Qing pi dou. Collected in Anhui, China.
- PI 587706. *Glycine max* (L.) Merr.
Pureline. ZDD05464; Chong ming shi shi xiang. Collected in Shanghai, China.
- PI 587707. *Glycine max* (L.) Merr.
Pureline. ZDD05465; Chong ming bai mao ba yue bai. Collected in Shanghai, China.
- PI 587708. *Glycine max* (L.) Merr.
Pureline. ZDD05466; Chong ming bai mao ba yue bai. Collected in Shanghai, China.
- PI 587709. *Glycine max* (L.) Merr.
Pureline. ZDD05469; Chong ming shi yue huang. Collected in Shanghai, China.
- PI 587710. *Glycine max* (L.) Merr.
Pureline. ZDD05471; Shang hai hong mao huang dou. Collected in Shanghai, China.
- PI 587711. *Glycine max* (L.) Merr.
Pureline. ZDD05484; Chong ming bao shi san. Collected in Shanghai, China.
- PI 587712. *Glycine max* (L.) Merr.
Pureline. ZDD05503; E dou No. 1. Collected in Hubei, China.
- PI 587713. *Glycine max* (L.) Merr.
Pureline. ZDD05505; You 70-23. Collected in Hubei, China.
- PI 587714. *Glycine max* (L.) Merr.
Pureline. ZDD05508; Jing 802. Collected in Hubei, China.
- PI 587715. *Glycine max* (L.) Merr.
Pureline. ZDD05509; Mian yang sai zhong qiu. Collected in Hubei, China.
- PI 587716. *Glycine max* (L.) Merr.
Pureline. ZDD05513; Tain men da zi huang. Collected in Hubei, China.
- PI 587717. *Glycine max* (L.) Merr.
Pureline. ZDD05514; Xiang yang ba yue zha. Collected in Hubei, China.
- PI 587718. *Glycine max* (L.) Merr.
Pureline. ZDD05515; Huang pi feng zi wo. Collected in Hubei, China.
- PI 587719. *Glycine max* (L.) Merr.
Pureline. ZDD05516; Xi shui xiao dou. Collected in Hubei, China.
- PI 587720. *Glycine max* (L.) Merr.
Pureline. ZDD05519; Song zi niu mao qing. Collected in Hubei, China.
- PI 587721. *Glycine max* (L.) Merr.
Pureline. ZDD05520; Gu cheng huang dou. Collected in Hubei, China.
- PI 587722. *Glycine max* (L.) Merr.
Pureline. ZDD05521; Gu cheng yi shu hou. Collected in Hubei, China.

- PI 587723. *Glycine max* (L.) Merr.
Pureline. ZDD05523; Gu cheng mian yang wei. Collected in Hubei, China.
- PI 587724. *Glycine max* (L.) Merr.
Pureline. ZDD05524; Da wu huang dou 1. Collected in Hubei, China.
- PI 587725. *Glycine max* (L.) Merr.
Pureline. ZDD05529; Zhong ke huang dou. Collected in Hubei, China.
- PI 587726. *Glycine max* (L.) Merr.
Pureline. ZDD05530; Wu chang huang dou. Collected in Hubei, China.
- PI 587727. *Glycine max* (L.) Merr.
Pureline. ZDD05531; Song zi ci yi zi. Collected in Hubei, China.
- PI 587728. *Glycine max* (L.) Merr.
Pureline. ZDD05533; Ji mu dou dan zhu. Collected in Hubei, China.
- PI 587729. *Glycine max* (L.) Merr.
Pureline. ZDD05534; Jun xian huang dou. Collected in Hubei, China.
- PI 587730. *Glycine max* (L.) Merr.
Pureline. ZDD05537; Ying shan mu zhu wo. Collected in Hubei, China.
- PI 587731. *Glycine max* (L.) Merr.
Pureline. ZDD05538; Yun meng hua ye dou. Collected in Hubei, China.
- PI 587732. *Glycine max* (L.) Merr.
Pureline. ZDD05539; Ying shan ji mu wo. Collected in Hubei, China.
- PI 587733. *Glycine max* (L.) Merr.
Pureline. ZDD05540; Da wu ai jiao huang. Collected in Hubei, China.
- PI 587734. *Glycine max* (L.) Merr.
Pureline. ZDD05542; Song zi yang huang dou. Collected in Hubei, China.
- PI 587735. *Glycine max* (L.) Merr.
Pureline. ZDD05548; Xiao gan huang dou. Collected in Hubei, China.
- PI 587736. *Glycine max* (L.) Merr.
Pureline. ZDD05550; Jing zhou dong huang dou. Collected in Hubei, China.
- PI 587737. *Glycine max* (L.) Merr.
Pureline. ZDD05555; Da wu huang se dou. Collected in Hubei, China.
- PI 587738. *Glycine max* (L.) Merr.
Pureline. ZDD05557; Jing huang 22. Collected in Hubei, China.
- PI 587739. *Glycine max* (L.) Merr.
Pureline. ZDD05558; Xing shan do dou. Collected in Hubei, China.
- PI 587740. *Glycine max* (L.) Merr.
Pureline. ZDD05559; Jing huang No. 7. Collected in Hubei, China.
- PI 587741. *Glycine max* (L.) Merr.
Pureline. ZDD05565; An lu niu mao huang. Collected in Hubei, China.
- PI 587742. *Glycine max* (L.) Merr.
Pureline. ZDD05567; An lu hong huang dou. Collected in Hubei, China.
- PI 587743. *Glycine max* (L.) Merr.
Pureline. ZDD05568; An lu niu pi huang dou. Collected in Hubei, China.

- PI 587744. *Glycine max* (L.) Merr.
Pureline. ZDD05569; xiang yang huang dou. Collected in Hubei, China.
- PI 587745. *Glycine max* (L.) Merr.
Pureline. ZDD05574; Tian men huang dong dou. Collected in Hubei, China.
- PI 587746. *Glycine max* (L.) Merr.
Pureline. ZDD05578; Xiang yang huang lang pi. Collected in Hubei, China
- PI 587747. *Glycine max* (L.) Merr.
Pureline. ZDD05581; Ying shan tian e dan. Collected in Hubei, China.
- PI 587748. *Glycine max* (L.) Merr.
Pureline. ZDD05584; Da wu liu yue bao. Collected in Hubei, China.
- PI 587749. *Glycine max* (L.) Merr.
Pureline. ZDD05588; Jing shan niu mao huang. Collected in Hubei, China.
- PI 587750. *Glycine max* (L.) Merr.
Pureline. ZDD05593; Jing 1026. Collected in Hubei, China.
- PI 587751. *Glycine max* (L.) Merr.
Pureline. ZDD05595; Nan zhang shan zi bai. Collected in Hubei, China.
- PI 587752. *Glycine max* (L.) Merr.
Pureline. ZDD05596; Xian ning dong huang dou jia. Collected in Hubei, China.
- PI 587753. *Glycine max* (L.) Merr.
Pureline. ZDD05597; Xian ning dong huang dou yi. Collected in Hubei, China.
- PI 587754. *Glycine max* (L.) Merr.
Pureline. ZDD05600; Wu chang dong huang dou. Collected in Hubei, China.
- PI 587755. *Glycine max* (L.) Merr.
Pureline. ZDD05607; Yi chang ba yue huang. Collected in Hubei, China.
- PI 587756. *Glycine max* (L.) Merr.
Pureline. ZDD05608; Huang pi hou zi mao. Collected in Hubei, China.
- PI 587757. *Glycine max* (L.) Merr.
Pureline. ZDD05610; Han chuan wu lu bai. Collected in Hubei, China.
- PI 587758. *Glycine max* (L.) Merr.
Pureline. ZDD05612; Wu chang huang dou. Collected in Hubei, China.
- PI 587759. *Glycine max* (L.) Merr.
Pureline. ZDD05615; Song zi ba yue cha. Collected in Hubei, China.
- PI 587760. *Glycine max* (L.) Merr.
Pureline. ZDD05616; Dang yang xiao li dou. Collected in Hubei, China.
- PI 587761. *Glycine max* (L.) Merr.
Pureline. ZDD05619; Ying shan tian e dan. Collected in Hubei, China.
- PI 587762. *Glycine max* (L.) Merr.
Pureline. ZDD05625; Wu ming 22. Collected in Hubei, China.
- PI 587763. *Glycine max* (L.) Merr.
Pureline. ZDD05627; Jing huang 36. Collected in Hubei, China.
- PI 587764. *Glycine max* (L.) Merr.

- Pureline. ZDD05630; Han chuan wu lu bai. Collected in Hubei, China.
- PI 587765. *Glycine max* (L.) Merr.
Pureline. ZDD05631; Xiao gan hong mao huang dou. Collected in Hubei, China.
- PI 587766. *Glycine max* (L.) Merr.
Pureline. ZDD05632; Jing 398. Collected in Hubei, China.
- PI 587767. *Glycine max* (L.) Merr.
Pureline. ZDD05633; Yun meng bai mao huang dou. Collected in Hubei, China.
- PI 587768. *Glycine max* (L.) Merr.
Pureline. ZDD05637; Tong shan da huang dou. Collected in Hubei, China.
- PI 587769. *Glycine max* (L.) Merr.
Pureline. ZDD05638; Wu chang zhu po dou. Collected in Hubei, China.
- PI 587770. *Glycine max* (L.) Merr.
Pureline. ZDD05640; Jing men da mi dou zi. Collected in Hubei, China.
- PI 587771. *Glycine max* (L.) Merr.
Pureline. ZDD05646; Jian li ai jiao huang. Collected in Hubei, China.
- PI 587772. *Glycine max* (L.) Merr.
Pureline. ZDD05655; Jing zhou gao jiao hou er bei. Collected in Hubei, China.
- PI 587773. *Glycine max* (L.) Merr.
Pureline. ZDD05656; Tian men xiao gan dou. Collected in Hubei, China.
- PI 587774. *Glycine max* (L.) Merr.
Pureline. ZDD05657; Xiao gan dou. Collected in Hubei, China.
- PI 587775. *Glycine max* (L.) Merr.
Pureline. ZDD05658; Tong shan si ji dou. Collected in Hubei, China.
- PI 587776. *Glycine max* (L.) Merr.
Pureline. ZDD05665; Han chuan wu lu bai. Collected in Hubei, China.
- PI 587777. *Glycine max* (L.) Merr.
Pureline. ZDD05668; Wu ming 28. Collected in Hubei, China.
- PI 587778. *Glycine max* (L.) Merr.
Pureline. ZDD05670; Jing huang 18. Collected in Hubei, China.
- PI 587779. *Glycine max* (L.) Merr.
Pureline. ZDD05672; Jing huang 15. Collected in Hubei, China.
- PI 587780. *Glycine max* (L.) Merr.
Pureline. ZDD05676; Jing huang No. 5. Collected in Hubei, China.
- PI 587781. *Glycine max* (L.) Merr.
Pureline. ZDD05677; Jing huang 23. Collected in Hubei, China.
- PI 587782. *Glycine max* (L.) Merr.
Pureline. ZDD05678; Jing huang 32. Collected in Hubei, China.
- PI 587783. *Glycine max* (L.) Merr.
Pureline. ZDD05679; Ji mu wo. Collected in Hubei, China.
- PI 587784. *Glycine max* (L.) Merr.
Pureline. ZDD05681. 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. ZDD05706; 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. ZDD05776; 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. ZDD05868; 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.

- Pureline. ZDD05910; Tong shan niu gan dou. Collected in Hubei, China.
- PI 587848. *Glycine max* (L.) Merr.
Pureline. ZDD05918; Wu chang hei dong dou. Collected in Hubei, China.
- PI 587849. *Glycine max* (L.) Merr.
Pureline. ZDD06045; Zei mo xiao. Collected in Zhejiang, China.
- PI 587850. *Glycine max* (L.) Merr.
Pureline. ZDD06047; Wan huang dou. Collected in Zhejiang, China.
- PI 587851. *Glycine max* (L.) Merr.
Pureline. ZDD06051; Hong mao jia. Collected in Zhejiang, China.
- PI 587852. *Glycine max* (L.) Merr.
Pureline. ZDD06053; Bai mao shu shu dou. Collected in Zhejiang, China.
- PI 587853. *Glycine max* (L.) Merr.
Pureline. ZDD06056; Duan jia ai jiao huang. Collected in Zhejiang, China.
- PI 587854. *Glycine max* (L.) Merr.
Pureline. ZDD06057; Duan jia ai jiao huang. Collected in Zhejiang, China.
- PI 587855. *Glycine max* (L.) Merr.
Pureline. ZDD06059; Jia bai jia. Collected in Zhejiang, China.
- PI 587856. *Glycine max* (L.) Merr.
Pureline. ZDD06078; You dou. Collected in Zhejiang, China.
- PI 587857. *Glycine max* (L.) Merr.
Pureline. ZDD06083; Ai zi huang. Collected in Zhejiang, China.
- PI 587858. *Glycine max* (L.) Merr.
Pureline. ZDD06086; Dao tian huang. Collected in Zhejiang, China.
- PI 587859. *Glycine max* (L.) Merr.
Pureline. ZDD06091; Xiang zi huang dou. Collected in Zhejiang, China.
- PI 587860. *Glycine max* (L.) Merr.
Pureline. ZDD06093; Qi yue bai. Collected in Zhejiang, China.
- PI 587861. *Glycine max* (L.) Merr.
Pureline. ZDD06104; Da qing dou. Collected in Zhejiang, China.
- PI 587862. *Glycine max* (L.) Merr.
Pureline. ZDD06114; Zei wu yao. Collected in Zhejiang, China.
- PI 587863. *Glycine max* (L.) Merr.
Pureline. ZDD06116; Liu yue bai. Collected in Zhejiang, China.
- PI 587864. *Glycine max* (L.) Merr.
Pureline. ZDD06117; Qing pi ai jiao. Collected in Zhejiang, China.
- PI 587865. *Glycine max* (L.) Merr.
Pureline. ZDD06120; Ba yue bai. Collected in Zhejiang, China.
- PI 587866. *Glycine max* (L.) Merr.
Pureline. ZDD06121; Ba yue bai. Collected in Zhejiang, China.
- PI 587867. *Glycine max* (L.) Merr.
Pureline. ZDD06122; Jiu yue huang. Collected in Zhejiang, China.

- PI 587868. *Glycine max* (L.) Merr.
Pureline. ZDD06123; Jiu yue huang. Collected in Zhejiang, China.
- PI 587869. *Glycine max* (L.) Merr.
Pureline. ZDD06124; Ba yue huang. Collected in Zhejiang, China.
- PI 587870. *Glycine max* (L.) Merr.
Pureline. ZDD06125; Huang pi dou. Collected in Zhejiang, China.
- PI 587871. *Glycine max* (L.) Merr.
Pureline. ZDD06126; Bao mao dou. Collected in Zhejiang, China.
- PI 587872. *Glycine max* (L.) Merr.
Pureline. ZDD06130; Ba yue bai. Collected in Zhejiang, China.
- PI 587873. *Glycine max* (L.) Merr.
Pureline. ZDD06131; Feng wo dou. Collected in Zhejiang, China.
- PI 587874. *Glycine max* (L.) Merr.
Pureline. ZDD06135; Ba yue dou. Collected in Zhejiang, China.
- PI 587875. *Glycine max* (L.) Merr.
Pureline. ZDD06136; Huang pi dou. Collected in Zhejiang, China.
- PI 587876. *Glycine max* (L.) Merr.
Pureline. ZDD06138; xi mao dou. Collected in Zhejiang, China.
- PI 587877. *Glycine max* (L.) Merr.
Pureline. ZDD06141; Jiu yue zao. Collected in Zhejiang, China.
- PI 587878. *Glycine max* (L.) Merr.
Pureline. ZDD06143; Shang tian huang. Collected in Zhejiang, China.
- PI 587879. *Glycine max* (L.) Merr.
Pureline. ZDD06144; Shang tian huang. Collected in Zhejiang, China.
- PI 587880. *Glycine max* (L.) Merr.
Pureline. ZDD06145; Huang dou. Collected in Zhejiang, China.
- PI 587881. *Glycine max* (L.) Merr.
Pureline. ZDD06149; Da dou. Collected in Zhejiang, China.
- PI 587882. *Glycine max* (L.) Merr.
Pureline. ZDD06152; Ba yue ba. Collected in Zhejiang, China.
- PI 587883. *Glycine max* (L.) Merr.
Pureline. ZDD06157; Jiu yue lao shu dou. Collected in Zhejiang, China.
- PI 587884. *Glycine max* (L.) Merr.
Pureline. ZDD06158; Ba yue huang. Collected in Zhejiang, China.
- PI 587885. *Glycine max* (L.) Merr.
Pureline. ZDD06166; Bai dou. Collected in Zhejiang, China.
- PI 587886. *Glycine max* (L.) Merr.
Pureline. ZDD06177; Bai dou. Collected in Zhejiang, China.
- PI 587887. *Glycine max* (L.) Merr.
Pureline. ZDD06181; Feng wo dou. Collected in Zhejiang, China.
- PI 587888. *Glycine max* (L.) Merr.
Pureline. ZDD06185; Bao luo huang. Collected in Zhejiang, China.
- PI 587889. *Glycine max* (L.) Merr.

- Pureline. ZDD06188; Qing pi dou. Collected in Zhejiang, China.
- PI 587890. *Glycine max* (L.) Merr.
Pureline. ZDD06190; Qi yue qing. Collected in Zhejiang, China.
- PI 587891. *Glycine max* (L.) Merr.
Pureline. ZDD06191; Qi yue ba. Collected in Zhejiang, China.
- PI 587892. *Glycine max* (L.) Merr.
Pureline. ZDD06195; Dou qing. Collected in Zhejiang, China.
- PI 587893. *Glycine max* (L.) Merr.
Pureline. ZDD06197; Kuan ban dou. Collected in Zhejiang, China.
- PI 587894. *Glycine max* (L.) Merr.
Pureline. ZDD06199; Ba yue bai. Collected in Zhejiang, China.
- PI 587895. *Glycine max* (L.) Merr.
Pureline. ZDD06205; Qing pi dou. Collected in Zhejiang, China.
- PI 587896. *Glycine max* (L.) Merr.
Pureline. ZDD06207; Qi yue dou. Collected in Zhejiang, China.
- PI 587897. *Glycine max* (L.) Merr.
Pureline. ZDD06214; Qing pi dou. Collected in Zhejiang, China.
- PI 587898. *Glycine max* (L.) Merr.
Pureline. ZDD06218; Jiang xi dou. Collected in Zhejiang, China.
- PI 587899. *Glycine max* (L.) Merr.
Pureline. ZDD06219; Ba yue bai. Collected in Zhejiang, China.
- PI 587900. *Glycine max* (L.) Merr.
Pureline. ZDD06249; Xiao huang dou. Collected in Zhejiang, China.
- PI 587901. *Glycine max* (L.) Merr.
Pureline. ZDD06256; Qing pi dou. Collected in Zhejiang, China.
- PI 587902. *Glycine max* (L.) Merr.
Pureline. ZDD06269; Zhang zi wu. Collected in Zhejiang, China.
- PI 587903. *Glycine max* (L.) Merr.
Pureline. ZDD06270; Hei da dou. Collected in Zhejiang, China.
- PI 587904. *Glycine max* (L.) Merr.
Pureline. ZDD06277; Shan bai dou. Collected in Zhejiang, China.
- PI 587905. *Glycine max* (L.) Merr.
Pureline. ZDD06281; Xiao huang dou. Collected in Zhejiang, China.
- PI 587906. *Glycine max* (L.) Merr.
Pureline. ZDD06286; Huang dou. Collected in Zhejiang, China.
- PI 587907. *Glycine max* (L.) Merr.
Pureline. ZDD06287; Ben di huang dou. Collected in Zhejiang, China.
- PI 587908. *Glycine max* (L.) Merr.
Pureline. ZDD06288; Bai mao dou. Collected in Zhejiang, China.
- PI 587909. *Glycine max* (L.) Merr.
Pureline. ZDD06292; Qiu dou. Collected in Zhejiang, China.
- PI 587910. *Glycine max* (L.) Merr.
Pureline. ZDD06293; Jin hua da dou. Collected in Zhejiang, China.

- PI 587911. *Glycine max* (L.) Merr.
Pureline. ZDD06296; You dou. Collected in Zhejiang, China.
- PI 587912. *Glycine max* (L.) Merr.
Pureline. ZDD06298; Da li qing. Collected in Zhejiang, China.
- PI 587913. *Glycine max* (L.) Merr.
Pureline. ZDD06300; You dou. Collected in Zhejiang, China.
- PI 587914. *Glycine max* (L.) Merr.
Pureline. ZDD06305; You qing dou. Collected in Zhejiang, China.
- PI 587915. *Glycine max* (L.) Merr.
Pureline. ZDD06308; Bai mao jian. Collected in Zhejiang, China.
- PI 587916. *Glycine max* (L.) Merr.
Pureline. ZDD06316; Da qing dou. Collected in Zhejiang, China.
- PI 587917. *Glycine max* (L.) Merr.
Pureline. ZDD06318; Da qing dou. Collected in Zhejiang, China.
- PI 587918. *Glycine max* (L.) Merr.
Pureline. ZDD06319; Da qing dou. Collected in Zhejiang, China.
- PI 587919. *Glycine max* (L.) Merr.
Pureline. ZDD06321; Xiao qing dou. Collected in Zhejiang, China.
- PI 587920. *Glycine max* (L.) Merr.
Pureline. ZDD06325; Jiu yue huang. Collected in Zhejiang, China.
- PI 587921. *Glycine max* (L.) Merr.
Pureline. ZDD06326; Da dou. Collected in Zhejiang, China.
- PI 587922. *Glycine max* (L.) Merr.
Pureline. ZDD06327; Tian qing dou. Collected in Zhejiang, China.
- PI 587923. *Glycine max* (L.) Merr.
Pureline. ZDD06328; Tian qing dou. Collected in Zhejiang, China.
- PI 587924. *Glycine max* (L.) Merr.
Pureline. ZDD06332; Mao peng qing. Collected in Zhejiang, China.
- PI 587925. *Glycine max* (L.) Merr.
Pureline. ZDD06333; Tian dou. Collected in Zhejiang, China.
- PI 587926. *Glycine max* (L.) Merr.
Pureline. ZDD06334; Da li qing dou. Collected in Zhejiang, China.
- PI 587927. *Glycine max* (L.) Merr.
Pureline. ZDD06336; Xiao li qing. Collected in Zhejiang, China.
- PI 587928. *Glycine max* (L.) Merr.
Pureline. ZDD06337; Xiao li qing. Collected in Zhejiang, China.
- PI 587929. *Glycine max* (L.) Merr.
Pureline. ZDD06338; Qiu dou. Collected in Zhejiang, China.
- PI 587930. *Glycine max* (L.) Merr.
Pureline. ZDD06342; Qiu dou. Collected in Zhejiang, China.
- PI 587931. *Glycine max* (L.) Merr.
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.
Pureline. ZDD06386; Sha xian huang dou. Collected in Fujian, China.
- PI 587937. *Glycine max* (L.) Merr.
Pureline. ZDD06388; Jiang le hong hua qing lan zi. Collected in Fujian, China.
- PI 587938. *Glycine max* (L.) Merr.
Pureline. ZDD06390; Jian ning huang dou. Collected in Fujian, China.
- PI 587939. *Glycine max* (L.) Merr.
Pureline. ZDD06391; Tai ning huang pi dou. Collected in Fujian, China.
- PI 587940. *Glycine max* (L.) Merr.
Pureline. ZDD06392; Ming xi gai yang huang pi. Collected in Fujian, China.
- PI 587941. *Glycine max* (L.) Merr.
Pureline. ZDD06395; Chang ting xi dou. Collected in Fujian, China.
- PI 587942. *Glycine max* (L.) Merr.
Pureline. ZDD06397; Pu tian jiu yue wu. Collected in Fujian, China.
- PI 587943. *Glycine max* (L.) Merr.
Pureline. ZDD06398; Jian yang zi hua dou. Collected in Fujian, China.
- PI 587944. *Glycine max* (L.) Merr.
Pureline. ZDD06401; Guang ze huang jia dou. Collected in Fujian, China.
- PI 587945. *Glycine max* (L.) Merr.
Pureline. ZDD06403; Shao wu ba yue pu. Collected in Fujian, China.
- 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.
Pureline. ZDD06417; Ning hua yuan dou. Collected in Fujian, China.
- PI 587950. *Glycine max* (L.) Merr.
Pureline. ZDD06438; Sha xian wu dou. Collected in Fujian, China.
- PI 587951. *Glycine max* (L.) Merr.
Pureline. ZDD06439; Jiang le wu dou. Collected in Fujian, China.
- PI 587952. *Glycine max* (L.) Merr.
Pureline. ZDD06440; Ning hua wu dou. Collected in Fujian, China.

- 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 zhua dou. 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 587995. *Glycine max* (L.) Merr.
Pureline. ZDD13362; Tian kan dou -1. Collected in Sichuan, China.
- PI 587996. *Glycine max* (L.) Merr.
Pureline. ZDD13368; Ji wo dou. Collected in Sichuan, China.
- PI 587997. *Glycine max* (L.) Merr.
Pureline. ZDD13369; Ba yue huang. Collected in Sichuan, China.
- PI 587998. *Glycine max* (L.) Merr.
Pureline. ZDD13371; Cheng guan ba yue huang. Collected in Sichuan, China.
- PI 587999. *Glycine max* (L.) Merr.
Pureline. ZDD13373; Liu yue huang. Collected in Sichuan, China.
- PI 588000. *Glycine max* (L.) Merr.
Pureline. ZDD13374; Shi yue huang. Collected in Sichuan, China.
- PI 588001. *Glycine max* (L.) Merr.
Pureline. ZDD13381; Xiao yang wei ba. Collected in Sichuan, China.
- PI 588002. *Glycine max* (L.) Merr.
Pureline. ZDD13391; Yin hua dou. Collected in Sichuan, China.
- PI 588003. *Glycine max* (L.) Merr.
Pureline. ZDD13411; Zao huang dou. Collected in Sichuan, China.
- PI 588004. *Glycine max* (L.) Merr.
Pureline. ZDD13412; Zao dou zi. Collected in Sichuan, China.
- PI 588005. *Glycine max* (L.) Merr.
Pureline. ZDD13443; Da bai mao. Collected in Sichuan, China.
- PI 588006. *Glycine max* (L.) Merr.
Pureline. ZDD13445; Xi bai mao dou -1. Collected in Sichuan, China.
- PI 588007. *Glycine max* (L.) Merr.
Pureline. ZDD13451; Chi bai mao. Collected in Sichuan, China.
- PI 588008. *Glycine max* (L.) Merr.
Pureline. ZDD13463; Bai mao zi. Collected in Sichuan, China.
- PI 588009. *Glycine max* (L.) Merr.
Pureline. ZDD13469; Yong xing huang dou. Collected in Sichuan, China.
- PI 588010. *Glycine max* (L.) Merr.
Pureline. ZDD13478; Xi mao zi. Collected in Sichuan, China.
- PI 588011. *Glycine max* (L.) Merr.
Pureline. ZDD13482; Xi bai mao dou. Collected in Sichuan, China.
- PI 588012. *Glycine max* (L.) Merr.
Pureline. ZDD13488; Huang pi dou. Collected in Sichuan, China.
- PI 588013. *Glycine max* (L.) Merr.
Pureline. ZDD13491; Ai shi zao. Collected in Sichuan, China.
- PI 588014. *Glycine max* (L.) Merr.
Pureline. ZDD13492; Da bai mao. Collected in Sichuan, China.
- PI 588015. *Glycine max* (L.) Merr.
Pureline. ZDD13493; Bai mao dou. Collected in Sichuan, China.

- PI 588016. *Glycine max* (L.) Merr.
Pureline. ZDD13494; Liang shan ba yue huang. Collected in Sichuan, China.
- PI 588017. *Glycine max* (L.) Merr.
Pureline. ZDD13496; Xiao ru bai se. Collected in Sichuan, China.
- PI 588018. *Glycine max* (L.) Merr.
Pureline. ZDD13497; Da nai bai se. Collected in Sichuan, China.
- PI 588019. *Glycine max* (L.) Merr.
Pureline. ZDD13504; Xiao luo wu. Collected in Sichuan, China.
- PI 588020. *Glycine max* (L.) Merr.
Pureline. ZDD13507; Ma zhua dou -2. Collected in Sichuan, China.
- PI 588021. *Glycine max* (L.) Merr.
Pureline. ZDD13511; Bai jie luo. Collected in Sichuan, China.
- PI 588022. *Glycine max* (L.) Merr.
Pureline. ZDD13512; Luo qu wa zi. Collected in Sichuan, China.
- PI 588023. *Glycine max* (L.) Merr.
Pureline. ZDD13525; Gao shan huang dou. Collected in Sichuan, China.
- PI 588024. *Glycine max* (L.) Merr.
Pureline. ZDD13529; Da bai dou. Collected in Sichuan, China.
- PI 588025. *Glycine max* (L.) Merr.
Pureline. ZDD13530; Pu le lu lan zi -2. Collected in Sichuan, China.
- PI 588026. *Glycine max* (L.) Merr.
Pureline. ZDD13534; Luo xi. Collected in Sichuan, China.
- PI 588027. *Glycine max* (L.) Merr.
Pureline. ZDD13541; Da huang ke. Collected in Sichuan, China.
- PI 588028. *Glycine max* (L.) Merr.
Pureline. ZDD13550; Mei zao dou. Collected in Sichuan, China.
- PI 588029. *Glycine max* (L.) Merr.
Pureline. ZDD13551; Er huang mao. Collected in Sichuan, China.
- PI 588030. *Glycine max* (L.) Merr.
Pureline. ZDD13554; He ba dou -2. Collected in Sichuan, China.
- PI 588031. *Glycine max* (L.) Merr.
Pureline. ZDD13556; Da bai huang mao. Collected in Sichuan, China.
- PI 588032. *Glycine max* (L.) Merr.
Pureline. ZDD13558; Da bai shui dou -1. Collected in Sichuan, China.
- PI 588033. *Glycine max* (L.) Merr.
Pureline. ZDD13559; Xiao bai dou -1. Collected in Sichuan, China.
- PI 588034. *Glycine max* (L.) Merr.
Pureline. ZDD16856; Le chang huang dou. Collected in Guangdong, China.
- PI 588035. *Glycine max* (L.) Merr.
Pureline. ZDD16857; Lan ren dou. Collected in Guangdong, China.
- PI 588036. *Glycine max* (L.) Merr.
Pureline. ZDD16858; Nan xiong ba yue huang. Collected in Guangdong,

China.

- 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.
Cultivar. Pureline. "Da li huang". Collected in China.
- PI 588051. *Glycine max* (L.) Merr.
Cultivar. Pureline. "Sui dao huang". Collected in China.
- PI 588052. *Glycine max* (L.) Merr.
Cultivar. Pureline. "Yue dou No. 1". Collected in China.
- PI 588053. *Glycine max* (L.) Merr.
Cultivar. Pureline. "Xiao li huang". Collected in China.

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

slope, open woods. Pedigree - Wild. Medium - leaf senescence.

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
Wild. Pulliat (NA51082). Collected 09/17/1982 in Japan. Elevation 230 m. Abashiri National Forest, Urbar, Abashiri-shi, Hokkaido. Snow cover 50cm or deeper for 20 days. Minimum temperature -29C. Climber woody, with strong tendrils, climbing over shrubs and trees, 3-4.6m tall. Leaves deep green above and rugulose, brownish beneath. Fruit turning purple. Growing in field no. 122.

PI 588057. *Vitis coignetiae* Pulliat ex Planchon
Wild. Pulliat (NA51082). Collected 09/17/1982 in Japan. Elevation 230 m. Abashiri National Forest, Urbar, Abashiri-shi, Hokkaido. Snow cover 50cm or deeper for 20 days. Minimum temperature -29C. Climber woody, with strong tendrils, climbing over shrubs and trees, 3-4.6m tall. Leaves deep green above and rugulose, brownish beneath. Fruit turning purple. Growing in field no. 122.

PI 588058. *Vitis coignetiae* Pulliat ex Planchon
Wild. Pulliat (NA51082). Collected 09/17/1982 in Japan. Elevation 230 m. Abashiri National Forest, Urbar, Abashiri-shi, Hokkaido. Snow cover 50cm or deeper for 20 days. Minimum temperature -29C. Climber woody, with strong tendrils, climbing over shrubs and trees, 3-4.6m tall. Leaves deep green above and rugulose, brownish beneath. Fruit turning purple. Growing in field no. 122.

PI 588059. *Vitis coignetiae* Pulliat ex Planchon
Wild. Pulliat (NA51082). Collected 09/17/1982 in Japan. Elevation 230 m. Abashiri National Forest, Urbar, Abashiri-shi, Hokkaido. Snow cover 50cm or deeper for 20 days. Minimum temperature -29C. Climber woody, with strong tendrils, climbing over shrubs and trees, 3-4.6m tall. Leaves deep green above and rugulose, brownish beneath. Fruit turning purple. Growing in field no. 122.

PI 588060. *Vitis coignetiae* Pulliat ex Planchon
Wild. Pulliat (NA51082). Collected 09/17/1982 in Japan. Elevation 230 m. Abashiri National Forest, Urbar, Abashiri-shi, Hokkaido. Snow cover 50cm or deeper for 20 days. Minimum temperature -29C. Climber woody, with strong tendrils, climbing over shrubs and trees, 3-4.6m tall. Leaves deep green above and rugulose, brownish beneath. Fruit turning purple. Growing in field no. 122.

PI 588061. *Vitis coignetiae* Pulliat ex Planchon
Wild. Pulliat (NA51082). Collected 09/17/1982 in Japan. Elevation 230 m. Abashiri National Forest, Urbar, Abashiri-shi, Hokkaido. Snow cover 50cm or deeper for 20 days. Minimum temperature -29C. Climber woody, with strong tendrils, climbing over shrubs and trees, 3-4.6m tall. Leaves deep green above and rugulose, brownish beneath. Fruit turning purple. Growing in field no. 122.

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

Colobel. Collected in Ardeche, France. Pedigree - Seibel 6150 X Seibel 5455. Berries round, blue-black, small, not very juicy, lightly colored juices. Cluster long, narrow, cylindrical, compact. Medium vine vigor, moderate production. Mid-season maturity. Somewhat winter tender.

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

Teleki 5. Pedigree - V. berlandieri X V. riparia. Male with some fruit set, small, blue berry. Very small loose cluster. Very vigorous vine. True-to-type?.

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

Aurore. Collected in Ardeche, France. Pedigree - Seibel 788 X Seibel 29 - V. lincecumii, V. rupestris, V. vinifera Introduced to the United States in the 1940's. Berries golden white, oblate, 1.2 cm, pulpy. Cluster: long, 20 cm, cylindrical, compact. At times promoted for table use but berries are non-persistent. Early budbreak and maturity. Susceptible to downy mildew and black rot. Moderately vigorous vine. Moderately winter hardy.

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

Ventura. Collected in Ontario, Canada. Pedigree - Chelois X Elvira Cross made in 1951. Selected in 1959. Named in 1974 by O. A. Bradt. Cluster: size medium, medium compact usually shouldered. Berry: small, round; skin whit, resistant to cracking; flesh somewhat astringent; ripens Sept.30 (few days before Concord) with soluble solids 18.1 titratable acidity 1.37 and pH 3.01 Recommended for a quality dry white

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. aestivalis, 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

Chelois. Pedigree - Seibel 5163 X Seibel 5593. *V. aestivalis*, *V. cinerea*, *V. labrusca*, *V. riparia*, *V. rupestris*, *V. vinifera*. Berries small, round, blue, slightly pulpy, acid. Cluster medium; long and narrow, compact. Moderately productive. Late budbreak; poor yield on secondaries. Good disease resistance. Poor response to drought.

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

Chancellor. Pedigree - Seibel 5163 X Seibel 880. Berries round, slightly oval, black, pulpy. Cluster small to medium, compact and cylindrical. Early budbreak, bears well on secondaries. Early - midseason maturity. High productivity. Some resistance to downy mildew. Before planted most cultivated HDP in France. Winter hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 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

Ontario. Pedigree - Winchell X Diamond. Large green berries.

PI 588075. Vitis hybrid

Chamborcin. Collected in France. Pedigree - Unknown. Berries blue-black, medium, oval and pulpy. Cluster large, shouldered, loose, often with shot berries. Vine very vigorous. Good resistance to downy mildew. Sensitive to lime soils. Somewhat winter tender.

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.

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 Blackrot 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

Delaware. Collected in New Jersey, United States. Taken from garden of Paul Provost of Frenchtown, NJ. Propagated and disseminated from Delaware, Ohio in 1849. Pedigree - Likely *Labrusca - aestivalis - vinifera*. Berries round, medium, pink, fragrant and pulpy. Clusters medium-small, cylindrical to conical. Vine non-vigorous, fairly productive.

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 astringent; 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

Canada Muscat. Pedigree - Muscat Hamburg X Hubbard Crossed in 1928. Selected in 1933. Widely tested 1937. Named in 1961. Cluster size medium, compact; berry greenish-yellow, Muscat flavor. Vine: of moderate vigor and productivity; may suffer winter injury below -15 F; fairly susceptible to downy mildew. Recommended for making sweet, muscatel wine. Grown commercially on limited scale in Ontario grape district, Canada.

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

Alwood. Pedigree - Fredonia X Athens Cross made in 1949, first fruited in 1953. Selected in 1955. Named in 1967. Cluster size medium,

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: vigor 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

Teleki 5A. Pedigree - *V. berlandieri* X *v. riparia*. Female. Hungarian rootstock. Small blue berry, small loose cluster.

PI 588083. Vitis hybrid

FS4. Small-medium green berry. Tight cluster. Vigorous vine. Winter hardy.

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

Millardet 101-14. Collected in France. Cross made in 1882 in association with Marquis de Grasset. Pedigree - *V. riparia* X *V. rupestris*. Female - Rootstock - small clusters with small round black berries. Medium vigor, preferable for early ripening situations. Does well in fresh clay soil, lime tolerant. Roots and grafts easily. Short vegetative cycle.

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

Ill 179-1. Pedigree - Seyve Villard 20-365 X Seibel 11342 Selected from population of 15 seeds. Medium to large, amber, seeded berry. Medium to large, average compact cluster. Vigorous vine.

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

Sovereign Coronation. Collected in British Columbia, Canada. Pedigree - Lady Patricia X Himrod Crossed in 1966. Selected in 1971. Tested as sel. 361. Berry medium (2.8 gr) slipskin, seedless, black-blue, firm flesh. Clusters cylindrical, well-filled, 120 gr. Vine vigor medium - weak, productive. Table grape of Concord type.

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

Couderc 1616. Collected in France. Pedigree - Solonis (riparia-rupestris-candrianis) X V. riparia. Female - rootstock. Small clusters with small, round, black berries. Riparia like leaf. Weak variety, advances maturity. Good phylloxera and lime resistance. Excellent salt resis- tance. Roots and grafts well; Produces much wood.

PI 588088. Vitis hybrid

Couderc 1202. Collected in France. Pedigree - V. vinifera X V. rupestris - Mourvedre X V. rupestris 'Martin' Cross made in 1883. Hermaphrodite very fertile. Small, loose clusters of small, round, black, seedy berries. Upright growth habit. Vinifera type leaf. Phylloxera susceptible. Resistance to lime. Roots well. Grafts average.

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

Shakoka. Pedigree - Lady X V. riparia from Bismark N.D. Black, round, large berry. Size of Concord. Seed separate readily. Good production, vigorous vine.

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

Vinered. 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, product.

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

Joannes Seyve 23416. Collected in France. Pedigree - Bertille Seyve 4825 X Seibel 7053 - V. cinerea, V. labrusca, V. lincecumii, V. riparia, V. rupestris, V. vinifera. Small pinkish white, oval berries. Large 20cm cluster, narrow, slightly winged and loose. Budbreak is late with early mid season maturity. Good resistance to downy mildew Vine vigorous. Moderately winter hardy.

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...

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 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 tomentosa* X *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* X *Niagara*) X VPI 5-32 (*Fredonia* X *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* X *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, Aubenais, 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

Rougeon. Collected in France. Pedigree - *Jueger 70* X *Seibel 3011* or *Seibel 880* X *Seibel 4202* Cross made late 1800's. Berries round, medium, black with bloom, sweet, slightly pulpy. Cluster small cylindrical sometimes with a short wing Vigorous vine, medium productivity. Early budbreak. Early-midseason maturity. Good production on secondaries. Medium to poor disease resistance. Winter hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York

State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 588101. Vitis hybrid

Concord Seedless. Pedigree - Seedless Sport of Concord. Medium - small, blue, seedless berry. Small compact clusters Weak vine. Ripens a week earlier than Concord.

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

Alden. Pedigree - Ontario X Grosse Guillaume Crossed made in 1925. Selected in 1932. Named in 1952. Clusters large, tapering, loose, conical, shouldered; berries large, oval, reddish-black, non-slip-skin; flesh juicy, meaty, tender, pleasing aroma, quality very good; season just after Concord. Vine: vigorous, productive, tends to overbear, adapted to wide range of soils, some winter injury Recommended for home and local market use.

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

Maleque 4453. Pedigree - V. riparia 'Grand Glabre' X Maleque 144 (V. cordifolia X V. rupestris). Male - rootstock. Always sterile. Good resistance to phytophthora, tolerates lime. Drought tolerant but suffers magnesium deficiency. Not resistant to Fan Leaf Virus as once claimed. Roots and grafts well. Good wood producer.

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

Niagara. Pedigree - Concord X Cassidy Seed planted in 1868. White berries. Medium-large compact clusters. Very vigorous vine, productive. Moderately winter hardy.

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

Marechal Foch. Collected in France. Pedigree - Millardet 101-14 (riparia-rupestris) X Goldriesling Some say Oberlin 595 X Pinot Noir. Berries small, blue-black and round. Cluster short 7-10 cm, winged, cylindrical, loose. Vine vigorous, early ripening. Fairly resistant to diseases. Poor production on secondaries Winter hardy.

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

Dutchess. Pedigree - (Concord X Unknown) X (Delaware X Walter). Berries medium round-oval, yellow-green to amber, firm. Clusters large-medium, long, slender, cylindrical, shoulder-ed, medium to compact. Vigor medium, inconsistent production.

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

Ives. Pedigree - V. labrusca X Unknown Seed planted 1840. Jet-black berries, medium size, round. Small, loose clusters Small vine. Very susceptible to ozone injury. Winter hardy.

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

Leon Millot. Collected in France. Pedigree - riparia-rupestris X vinifera (Goldriesling). Berries blue-black, small, round, juicy. Cluster small 7-10 cm, winged, cylindrical, compact. Vine vigorous. Very early maturity - good for short growing seasons. Good disease resistance. Very winter hardy.

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 Eumelan; 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 meaty; 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

Richter 99. Pedigree - V. berlandieri "Las Sorres" X V. rupestris dulot "St. George". Male-rootstock. Occasionally fruitful. Small, black, oblate berries. Very vigorous-not recommended in Northerly regions-delays ripening. Good phylloxera resistance. Lime tolerant, but not salt tolerant. Less drought resistance than 110 R. Some nematode resistance. Good rooting, average grafting.

PI 588116. Vitis hybrid

Okanagan Reisling. Pedigree - V. labrusca hybrid. Medium green berry. Small-medium, well-filled cluster. Medium vine vigor. Winter hardy.

The following were developed by A.W. Pearson. 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 588117. Vitis hybrid

Ironclad. Collected in New Jersey, United States. Found on grounds of Colonel Scott, President of Pennsylvania Railroad Company. Pedigree - Unknown. *V. labrusca*, *V. riparia*. Probably originated in 1700's. Was originally cultivated by the name Ash. Good for breeding, very disease resistant. Berries small, round, jet-black, glossy. Dark purplish juice. Clusters small and short, conical, single shouldered. Ripens with Concord. Very vigorous vine, productive. Good cold hardiness.

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

Couderc 1613. Collected in France. Pedigree - Solonis (*riparia-rupestris-cardicans*) X Othello (*Labrusca-riparia-vinifera*). Female-rootstock. Small clusters with small, round, black, juicy, foxy berries. Nematode resistant in CA. Vigorous in fresh fertile soil. No phylloxera or lime tolerance. Roots and grafts easily.

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

Diamond. Pedigree - Concord X Iona. Berries medium, ovate, green-yellow, glossy. Clusters medium to short, broad slightly conical, compact. Vine somewhat vigorous, productive.

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

Campbells Early. Pedigree - Moore Early X (Belvidere X Muscat Hamburg). Berries large round, dark purplish-black, moderately firm. Skin medium, tough adheres to pulp. Not foxy. Clusters large to medium, cylindrical, compact to slightly loose. Vine vigorous, very productive. Winter hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 588123. Vitis sp.

Salt Creek. Female-rootstock. Small-medium blue berries. Very vigorous. Zinc deficiency shows up on this. Very late vegetative cycle Small loose cluster.

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.

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 588127. Vitis hybrid

Ill 796-1. Pedigree - Jaeger 70 X Victorias Choice from population of 66 seeds. Small, blue berry. Cluster medium size, very loose. Vigorous vine. Average production. Winter hardy.

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

Vergennes. Berries medium, oval-round, red. Clusters medium, inclined to be loose. Medium vine vigor. Medium production. Marginally hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 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

Winchell. Pedigree - Unknown. V. labrusca, V. vinifera, V. aestivalis. Berries medium, round, light green, soft. Clusters medium, long, slender, cylindrical, single shouldered; loose to medium compactness. Vine vigorous, very productive. Cold hardy.

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.

GBC 5. Collected in Pennsylvania, United States. Bucks County, Pennsylvania, Remaily Farm. Female. Small, blue, acid, herbacious berries. Excellent downy mildew resistance.

PI 588134. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

Ill 45. Collected 1952 in Illinois, United States. Northeast of Middletown, Illinois, Logan County on "Dude Ranch" of Charley Binus. Pedigree - Wild *V. cinerea*. Male. Large shouldered inflorescence (9 1/2 inches long). Vigorous, used in breeding. Late blooming.

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

Ill 471-1. Pedigree - *V. cordifolia* 'B15' X *V. rupestris* 'Ganzin' from seed population of 86. Female. Small, blue berries. Long loose cluster. Early bloom Very vigorous vine. Downy mildew resistant.

PI 588136. *Vitis* hybrid

Ill 885-1. Pedigree - *V. cinerea* 'B47' X *V. rupestris* 'Pillans' from population of 79 seeds. Male. Medium vine vigor. Clean foliage. Winter tender.

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

Ill 885-2. Pedigree - *V. cinerea* 'B47' X *V. rupestris* 'Pillans' from population of 79 seeds. Female. Small blue berries. Medium, very loose clusters. Late bloom. Very vigorous vine.

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 588138. *Vitis labrusca* L.

Male.

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 588139. *Vitis* hybrid

Eona. Pedigree - Lady Washington X Beta. Female. Fruit white to pinkish. Berry 1.2 cm diameter (med.) Very productive. Quality fair for table use. Small, loose cluster. Winter hardy.

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.

PI 588141. *Vitis acerifolia* Raf.

Female. Blooms very early. Small blue berries.

PI 588142. *Vitis vulpina* L.

GBC 28. Collected in New Jersey, United States. Princeton, New Jersey. Male. Good downy mildew 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 588143. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

Ill 41. Collected 1953 in Illinois, United States. Southeast of New Holland, Illinois, Logan County, Sheridan Township, section 29. Pedigree - Wild. Female. Very large compound clusters. Small blue berries. Vigorous vine.

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.

GBC 12. Collected in Pennsylvania, United States. Bucks County, Pennsylvania. West boundary of Remaily Farm. Female. Medium-large, round, blue berry. Small, very loose cluster. Very vigorous vine. Excellent downy mildew 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 588146. *Vitis rupestris* Scheele

R-66-4. Collected in Missouri, United States. On Taum Sauk Mountain. Northwest of Hogan, Missouri, in Iron County. Pedigree - Wild. Female. Most northerly *rupestris*. Small, blue berry. Small-medium, well-filled cluster.

PI 588147. *Vitis rupestris* Scheele

R-65-36. Collected in Arkansas, United States. Between Hiwasse and Bella Vista in Benton County, Arkansas. Pedigree - Wild. Male. Early

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

Beta. Pedigree - *V. labrusca* X *V. riparia* ? Carver X Concord. Fair quality, blue fruit. Early. Productive. Very winter hardy. Heavy phylloxera leaf galls.

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

Herbert. Pedigree - Carter X Black Hamburg formerly Rogers No.44. Berries medium-large, irregular, dull black, covered with thick bloom. Clusters medium-large, broad, slightly conical, single shouldered, loose to medium. Vine vigorous, productive. Moderately winter hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 588151. *Vitis* hybrid

Niagara Seedless. Small white, seedless berry. Medium, loose cluster. Vigorous vine.

PI 588152. *Vitis* sp.

RU-66-1. Collected in Missouri, United States. Pike County, Missouri - Northern limit of *V. rubra*. Northeast Missouri, swamp in Mississippi River Valley. Pedigree - Wild. Male. Most vigorous *V. rubra* available. Very late bloom, after July 12. Downy mildew resistant.

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

Ill 559-4. Pedigree - *V. riparia* B50 X *V. cinerea* 'B9' from population of 25 seeds. Female. Small, blue berry. Medium size cluster. Poor fruit set. Vigorous vine. Downy mildew resistant.

PI 588154. *Vitis cinerea* (Engelm.) Engelm. ex Millardet

B 9. Collected in Illinois, United States. Southeast of New Holland, Illinois, Logan County, Sheridan Township, Section 29. Male. Very large inflorescence, compound, very vigorous. Best male vine of this species

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, Illinois. Hard creek bottoms. Pedigree - Wild. Male. Very weak vine. 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

B 38. Collected in Texas, United States. Unknown, probably Texas. Pedigree - Wild. Female. Early bloom, small blue berries. Heavy phylloxera galls.

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

Massasoit. Pedigree - Carter X Black Hamburg formerly Rogers No.3. Berries large-medium, round to oval, dark brownish-red, dull Clusters variable size, medium length, broad, cylindrical, single shouldered. Very vigorous vine, medium production. Moderately cold hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 588162. *Vitis* hybrid

Remaily 63-33A. Pedigree - Baco Noir X *V. argentifolia*. Female. Small, blue berries. Small, compact clusters. Good downy mildew resistance.

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

Worden. Pedigree - Concord X Unknown Seed planted in 1863. Berries larger than Concord, round, dark purplish-black, glossy, foxy flavor. Clusters larger than Concord, medium, broad, single shouldered, compact. Vine vigorous, very productive. Fruit ripens 2 weeks before Concord. Cold hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 588165. *Vitis labrusca* L.

Alba. Fruit: medium, white berry; cluster small, loose. Vine: vigorous.

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

Salem. Pedigree - Carter X Black Hamburg. Female. Berries large to medium, round, dark red, dull, soft, foxy flavor. Clusters medium to large, short, broad, single shouldered, compact. Ripens before Concord. Vine: medium vigor, poor production. Very susceptible to mildew. Very cold hardy.

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

Montreal. Collected in Ontario, Canada. Near Montreal, Quebec, Canada. Female. Early wood maturity. Small blue berries; Small loose clusters. Heavy phylloxera leaf galls. Very vigorous vine. Good downy mildew resistance. Early leaf senescence.

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

Remaily 63-35-1. Pedigree - Baco Noir X V. cordifolia. Female. Small blue berries. Clusters small, loose. Vigorous vine. Clean foliage. Early bloom.

PI 588169. Vitis hybrid

Gladwin 113. Red, medium size berry, obovoid. Small, compact cluster. Vigorous vine. Winter hardy.

PI 588170. Vitis hybrid

Ill 796-4. Medium, red berry. Small, loose cluster. Moderately winter hardy.

The following were developed by S.A. Beach. Donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

PI 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

Lomanto. Pedigree - *V. champini*, *V. labrusca*, *V. vinifera-bourguiniana*
Salado X Pense. Hermaphrodite- Black berries, round, medium-large.
Medium, well-filled cluster. Very vigorous vine. Winter hardy.

The following were donated by Bruce I. Reisch, Cornell University, New York State Agric. Exp. Station, Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 03/1985.

- PI 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
Remaily 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
R-66-9.
- PI 588189. *Vitis hybrid*
Remaily 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
R-66-15.

PI 588229. *Vitis rupestris* Scheele
R-66-24.

PI 588230. *Vitis rupestris* Scheele
R-66-31.

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
Joannes Seyve 25-874. Collected in France.

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
62-9-39.
- 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
Rudelin 20. Collected in France.
- 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
Remaily 66-54-2. Collected in France.
- PI 588333. *Vitis rupestris* Scheele
R-67-2.
- PI 588334. *Vitis* hybrid
Remaily 66-54-3. Collected in France.
- PI 588335. *Vitis* hybrid
- PI 588336. *Vitis* hybrid
Millardet 219A. Collected in France.
- PI 588337. *Vitis* hybrid
Remaily 66-54-5. Collected in France.
- PI 588338. *Vitis* hybrid
Remaily 6-54-4. Collected in France.
- PI 588339. *Vitis* hybrid
Remaily 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*
Ill 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*
Ill 191-1.
- PI 588359. *Vitis hybrid*
Ill 251-1.
- PI 588360. *Vitis hybrid*
Ill 815A-2.
- PI 588361. *Vitis hybrid*
Bailey Alicante.
- PI 588362. *Vitis hybrid*
Ill 199-6.
- PI 588363. *Vitis hybrid*
Ill 892-1.
- PI 588364. *Vitis hybrid*
Ill 762-1.
- PI 588365. *Vitis hybrid*
Ill 204-2.
- PI 588366. *Vitis hybrid*
Tajoznyt Izumrud.
- PI 588367. *Vitis hybrid*
Ill 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

PI 588408. *Vitis* hybrid
PI 588409. *Vitis* hybrid
PI 588410. *Vitis* hybrid
PI 588411. *Vitis* hybrid
PI 588412. *Vitis* hybrid
PI 588413. *Vitis* hybrid
PI 588414. *Vitis* hybrid
PI 588415. *Vitis rupestris* Scheele
Constantia.
PI 588416. *Vitis* hybrid
PI 588417. *Vitis* hybrid
PI 588418. *Vitis* hybrid
PI 588419. *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.
Remaily 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
Damothe 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
Couderc 157-11. Collected in France.
- 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.*
Remaily 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*
Reinohli.

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*
Longyan 1986. Collected in China.

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*
Longyan 1987. Collected in China. Comments:: 1 seedling out of 50 germinated (in W2).

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*

R 67-76.

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.

PI 588639. *Vitis amurensis* Rupr.

PI 588640. *Vitis amurensis* Rupr.

PI 588641. *Vitis amurensis* Rupr.

PI 588642. *Vitis amurensis* Rupr.
Coignetiae Pulliat.

PI 588643. *Vitis amurensis* Rupr.
Coignetiae Pulliat.

PI 588644. *Vitis amurensis* Rupr.

PI 588645. *Vitis amurensis* Rupr.

The following were donated by Richard Grem, RD #2, Box 264, Terryville, Connecticut 06786, United States. Received 04/10/1989.

PI 588646. *Vitis acerifolia* Raf.

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
Okobojii.

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 588691. *Vitis hybrid*
Saperavi. Collected in Former Soviet Union.
- PI 588692. *Vitis hybrid*
Dupont #1.
- PI 588693. *Vitis hybrid*
Ivan. Collected in Hungary.
- PI 588694. *Vitis hybrid*
SV 56-411. Collected in France.
- PI 588695. *Vitis hybrid*
Watkins.
- PI 588696. *Vitis hybrid*
SV 46-77. Collected in France.
- PI 588697. *Vitis hybrid*
SV 64-209. Collected in France.
- PI 588698. *Vitis hybrid*
SV 46-434.
- PI 588699. *Vitis hybrid*
SV 41-471. Collected in France.
- PI 588700. *Vitis hybrid*
SV 46-475. Collected in France.
- PI 588701. *Vitis hybrid*
Challenger.
- PI 588702. *Vitis hybrid*
SV 34-211. Collected in France.
- PI 588703. *Vitis hybrid*
SV 39-525. Collected in France.
- PI 588704. *Vitis hybrid*
SV 39-997. 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*
SO4-Germany.

PI 588723. *Vitis hybrid*
SO4-California.

PI 588724. *Vitis hybrid*
SO4-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: 1 cm diameter, red, sweet; 80 berries per cluster, 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: 0.5 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. 52' 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. 52' 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: 1 cm diameter, red; loose 6 inch cluster, nice cluster size; flavor good, acid, water; height 5 m, climbing on *Celtis caucasica*, up hill on steep SW facing slope, loose rocky soil; rainfall 350 mm.

PI 588737. *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, 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 588738. *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, 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 588739. *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, near City of Chimkent, upstream, well exposed, flat, low plateau, 3-4 m above stream. Pedigree - Wild. Comments:: Fruit: 1 cm diameter; red, pinkish, some immaturity; large shouldered cluster, 150 berries per cluster, 1 ft. long; flavor sour; height 3 m, climbing on *Crataegus pontica*; sandy soil with some rocks, flat area, 25 ft. from stream.

PI 588740. *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, 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 588741. *Vitis vinifera* L.

Collected 09/21/1993 in Kazakhstan. Latitude 42 deg. 52' N. Longitude

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 up- hill 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, near City of Chimkent, 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 neolyp- sianus; rainfall 350 m.

The following were donated by Rutgers Fruit Research Center, Cream Ridge, New Jersey 08514, United States. Received 04/05/1984.

PI 588744. *Malus domestica* Borkh.
Cestra Belferkitaika.

PI 588745. *Malus domestica* Borkh.
Pohorka.

PI 588746. *Malus domestica* Borkh.
Mislimka.

The following were donated by I.N.R.A./ Station de Recherches, d'Arboriculture Fruitiere, Beaucouze, Angers, France. Received 03/20/1979.

PI 588747. *Malus domestica* Borkh.
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.

PI 588748. *Malus domestica* Borkh.
BII Umbrella, Low Vigor.

PI 588749. *Malus domestica* Borkh.
BII Wide Angle Branching, Low Vigor.

PI 588750. *Malus domestica* Borkh.
BII Upright, Low Vigor.

PI 588751. *Malus domestica* Borkh.
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

08/20/1984.

- PI 588752. *Malus x 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 x 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

The following were donated by Curator, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97330, United States. Received 08/20/1984.

- 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 588769. *Malus baccata* (L.) Borkh.
Gracilis.

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.

PI 588772. *Malus domestica* Borkh.

Monroe. Pedigree - Jonathan x Rome Beauty Seed produced 1910, intro: 1947, named 1949. Comments:: Size medium 69:57 mm; shaped flat, truncate-conic, convex ribbed at eye; Skin: pale greenish yellow, flushed and streaked brownish crimson. Flesh: fine, soft, creamy; flavor sweet subacid, juicy. Good dessert quality, excellent for pies, sauce, baking. Resembles Baldwin in shape & texture, but superior in flavor and beauty. Tree: medium, vigorous, upright, spreading, reliable annual bearer very productive, subject to powdery mildew which is readily eradicated by including sulfur in spray schedule to terminal growth. LIT.CIT. Whealy K. 1989. Fruit, Berry & Nut p 65.

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.

PI 588775. *Malus hybrid*

Osman. Collected in Canada. Pedigree - (*baccata* x Osimoe Apple). Cross made 1904. Named 1911. Comments:: One of the hardiest and best of the Saunders hybrids.

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.

PI 588776. *Malus domestica* Borkh.

Connell Red. Pedigree - Red sport of Fireside. Intro: 1957. Plant patent: 1,602, May 14, 1958. Bud mutation of Fireside, dis. in 1949. Comments:: Fruit: large, about 3 in. in diam, slightly conic; skin dark red, usually smooth, thin, glossy; flesh creamy white, juicy, firm,

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.

Bellefleur Kitaika. Pedigree - American Yellow Bellefleur x Kitaika. Comments:: Fruit: small medium, bright red, darker stripes with dots in middle. Flesh: very white, acid, spicy, fine, pleasant strong fragrance. Very large seeds, Vigorous, frost hardy, large leaves.

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.

Virginiagold. Pedigree - Golden Delicious x Olbemarle Pippin. Cross made 1944, selected from crossed made in the 1950's; first fruited 1952. Tested as VPI 8. Comments:: Smooth, clear, waxy skin. Crisp, juicy, mildly subacid flesh, much firmer than either parent. Flavor less sweet than Golden Delicious, less sprightly than Albemarle Pippin. Quality comparable to Albemarle Pippin. Does not ripen to maximum quality and flavor unless in cold storage until late Jan. Excellent sauce & pies. Heavily productive tree-alter- nate bearing if allowed to overbear. Ripens very late;some- what susceptible to late summer rot;very tolerant of condit- ions causing severe lenticel & skin russetting on Golden Del. {Addendum & Registers: List 27. HortSci. V7(5) 10/72}.

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,

crisp, tender, yellow; flavour sub- acid, aromatic, dessert apple for connoisseurs. Season mid- very late (Oct.); short spurs. Best at Xmas, keeps until May. Biennial. Pollinator required. Susceptible to fire blight, scab and canker. Thomas Jefferson's favorite apple. Add. LIT.CIT. 1992-93 H Apple Tsolum Rvr Frt Tree Cat. p. 18.

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

Red Jade. Pedigree - Open-pollinated seedling of Excellence Theil. Intro: 1957 Plant patent 1,497, 7/15/56; assigned to Brooklyn Botanical Garden, Brooklyn Institute of Arts and Sciences. Comments:: Fruit: crab; small; skin bright currant-red; resembles tea. Tree: flowering; habit strongly weeping, very vigorous and strong grower. Red buds, white flowers, scarlet fruit.

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

Snowdrift. Pedigree - A chance seedling of unknown parentage. Named and intro: 1965. Comments:: Flowers; single, expanding buds red, open white. Fruit: orange red, approx. 1 cm. in diam.

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.

The following were collected by Roy A. Bisbee, Hood River, Oregon, 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 588790. *Malus domestica* Borkh.

Bisbee. Collected 1953 in United States. Hood River, Oregon. Pedigree - Whole tree variation of Starking. Intro: 1956 Patent 1,565, 12:2:57 assigned to Stark Bros. Nurseries. Comments:: Trademark Variety: As Starking, but a little taller, skin solid red blush; season as Starking or slightly earlier.

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.

Grimes Golden. Collected in Unknown. Mountains of Brook County, West Virginia. Pedigree - Known in 1804. Possible parent of Yellow Delicious. Comments:: Size medium 57-61:57 mm; shape intermediate, rectangular to truncate-conic, convex, slightly ribbed; skin golden yellow with a little russet; flesh soft, coarse, cream tinged orange; flavor subacid, rich, aromatic. Excellent juicy cider apple. Good for all kitchen uses except for baking. Season late to very late. Keeps until January. Productive tree, med vigor, bears young and annually, self pollinating Graft 8-12" above ground to avoid collar rot. Moderately resistant to fire blight and Cedar-Apple Rust. Add. LIT.CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Catalogue. p. 19.

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 588792. *Malus domestica* Borkh.

Hawaii. Pedigree - Golden Delicious x Gravenstein Intro: 1963; crossed 1945; selected 1959. Plant patent 2,512 5/11/65. Comments:: Gourmet dessert apple with a flavor and aroma like pine-apple. Large yellow fruit with light pinkish orange strip- ing which gives overall orange appearance. Exceptionally sweet flavor is largely influenced by Gravenstein. Growth habit is moderately spreading and easily trained. Tends to bear heavily one year and lightly the next. Tree: vigorous rapid and upright grower. Susceptible to scab. Additional LIT.CIT. 1992-93 H. apple. Tsolum River Fruit Trees Catalog- ue. p. 20.

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.

MM.109. Collected in England, United Kingdom.

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 hardiest 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.

Chestnut Crab. Pedigree - Open pollinated seedlings of M. cv. Malinda. Selected 1921. Intro: 1946. Formerly Minnesota 240. Disease free. Comments:: Large cooking and dessert crab apple. Attractive, reddish, bronze fruit. Crisp, juicy, sweet flesh with a pleasing nut like flavor. Excellent fresh; Tree: vigorous, upright but a little weeping. Large white blossoms with good shape and aroma; medium pollen producer. Fruit hangs well and ripens over a long period. Annual bearer. Cedar-apple rust resistant. No disease problems. Hardy to -50 degrees F with occasional winter injury.

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.

Wolf River. Collected in United States. Originated near Wolf River, Fremont County, Wisconsin; recorded 1875. Pedigree - Said to be Alexander x Entered in Catalogue of American Pomological Soc. in 1881.
Comments:: Size large 108:76 mm; shape flat, rectangular to truncate-conic, convex, ribbed at eye and on body, asymmetric; skin very pale yellow almost covered with brilliant red flush and stripes russet dots, russet at base, a little greasy. Flesh soft, tender, a little mealy, creamy white; flavour subacid; season mid to late. Resistant to scab, mildew, fire blight and cedar apple rust. Tree: vigorous, very spreading; flat headed. Does not produce spurs very freely. Excellent cooking. Additional LIT.CIT. 1992-93. H. Apple. Tsolum River Frt.Trees Cat p32; Bultitude J, 1983 Apples p.315.

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.
M.20. Collected in England, United Kingdom.

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.
McIntosh Summerland Red. Pedigree - Intro: 1929. Comments:: One of the most attractively colored red sports of McIntosh. Blushed color pattern with very little striping. Attains its color early. Crisp, juicy, distinctive flavor. Widely adapted. Especially desirable for higher elevations. Early blooming. Excellent pollinator. Ripens mid-season.

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.

PI 588819. *Malus domestica* Borkh.

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.

PI 588820. *Malus domestica* Borkh.

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.

PI 588821. *Malus domestica* Borkh.

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

Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588824. 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.

The following were developed by Central Experiment Sta. Agric. Canada, 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 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.

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 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.

M.1. Collected in England, United Kingdom.

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 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 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.

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.

Carroll. Pedigree - (Morden 5029.E152) Moscow Pear seedling x Melba, selected in 1941; tested as Morden 366. Intro: 1961. Comments:: Fruit: 6-7 cm(standard), pale green, mottled and streaked rosy red. Texture soft to very soft. Flavor mild, good dessert, good sauce and apple pies. Ripens Sept. 1 and keeps 2-3 months. Manitoba Centennial Fruit (1970). Strong branching habit. Annual bearer; ripens early. Hardy to -50 degrees F. with occasional winter injury.

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.

Burgundy. Collected in United States. Pedigree - Monroe x N.Y. 18491 (Macoun x Antonovka) Intro: 1974; cross made by R.C. Lamb 1953; first fruited 1960. Selected by R.D. Way 1961, tested as N.Y. 161. Comments:: Large round, blackish, red fruit with solid blush, but without stripes. Skin is smooth and glossy. Crisp, subacid flesh. Very good eating quality. Fruits hang well for three weeks after harvest ripe. Storage life is short - not more than one month. Ripens in mid-September 2 1/2 weeks before McIntosh. Tree: vigorous, moderately productive, fruit borne mainly on spurs. Bears annually, no overcropping; blooms early mid-season. Should make good pollinator for other varieties. Susceptible to apple scab and cedar apple rust, highly susceptible to fire blight.

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.

Gravenstein Washington Red. Pedigree - 1669. Comments:: Important in California. Improved red strain of the old favorite. Tender, juicy, highly flavored flesh. Fine for applesauce. Triploid, has sterile pollen.

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.

Nova Easygro. Collected in United States. Pedigree - Spartan x Prog. 565[Ill.5(Fanny x Jefferies) x PRI 27-435 (Wealthy x R12740-7A)]. Cross made in 1956. Tested as Pn6-16. Intro: 1971. Comments:: Large, flattened fruit with 80% red stripe over greenish yellow background. Firm, crisp, slightly juicy flesh. Fair somewhat sweet flavor. Flesh is slightly tough at picking time, but mellows in storage. Similar to Cortland. Moderately productive, vigorous tree. Blooms one day after Mc-Intosh. Excellent scab and cedar apple rust resistance; moderate mildew and fire blight resistance. Ripens early October. Tree: spreading, vigor and productivity moderate, regular bearer. Additional LIT.CIT. 1992-93. H. Apple. Tsolum River Fruit Trees Catalogue. p. 26.

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,

Center for Plant Health, 8801 East Saanich Road, Sidney, British Columbia V8L 1H3, Canada. Received 08/24/1984.

PI 588841. *Malus domestica* Borkh.

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 slightly 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.

PI 588842. *Malus domestica* Borkh.

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. Additional 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.

PI 588844. *Malus domestica* Borkh.

Fuji Red Sport Type 2. Collected in Japan. Comments:: Mutation of Fuji; reported to have more red pigment in fruit skin.

PI 588845. *Malus domestica* Borkh.

M.8. Collected in England, United Kingdom.

PI 588846. *Malus domestica* Borkh.

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.

Cortland. Collected in United States. Pedigree - Ben Davis x McIntosh. Developed 1898. Intro: 1915. Comments:: Standard size fruit similar to McIntosh, but lighter red skin color. "Highly resistant to browning - too tender for most Alverta regions" per Manchester. Excellent for eating. Bears early-ripens October--best for drying. Vigorous, long lived tree is annually productive. Excellent pollinator. Ripens 203 weeks before McIntosh; does not drop as readily. Very winter hardy to -40 degrees F. Storage 120 days at 31 degrees F. Additional lit.cit.: Whealy, K. 1989, Fruit, Berry & Nut Inv. p.37; 1992-93. H. Apple. Tsolum River Fruit Trees Cat. p.16; 1991 Edible Apples Prairie Canada p.22.

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, per- fumed; season very late; late flowering.

PI 588850. *Malus domestica* Borkh.

Rome Beauty Law. Collected in Unknown. Lawrence County, Ohio. Pedigree - 1848. Sport of the original Rome Beauty. US Plant Patent No. 4096. Comments:: In 1991, second New York variety. Red Sport of Rome Beauty with all qualities of old Rome, plus extremely high color producing almost 100% extra fancy grade. Crisp white flesh, sometimes streaked with red. Excellent baking apple. Large vigorous, hardy tree. Heavy annual producer, hardy and vig- orous. Needs thinning for larger apples. Excellent apple for fresh market and processing. Superior bruise resistance makes it a very profitable shipping variety. Ripens early.

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 dwarfing clonal rootstock with greater winter hardi- ness 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

The following were developed by C. Turner, The Royal Nurseries, Slough, 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 588853. *Malus domestica* Borkh.

Cox's Orange Pippin. Collected in England, United Kingdom. Widely grown in Britain, Europe, Australia, New Zealand. Pedigree - Raised circa 1825; intro; circa 1850. Said to be a seedling of Ribston Pippin, possibly crossed by Blenheim Orange. Comments:: Size medium 62;56 mm; shape intermediate, truncate-conic, convex, not ribbed; skin golden yellow flushed brownish red, faint striped russet; flesh tender, crisp, yellow; flavor sweet, slightly subacid, aromatic. Attractive, richly-flavored dessert apple. Scab & canker susceptible, ripens from mid-Sept to mid-Oct. Requires 600 hours of chilling. Tree: moderately vigorous, upright-spreading. Produces spurs freely. Additional LIT.CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Catalogue. p. 16.

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 588854. *Malus domestica* Borkh.

Maigold Schin-H-6. Pedigree - 1964. Fraurotacher x Golden Delicious. Comments:: Crisp, juicy flesh; mildly subacid sweet flavor; bruise resistant; early bearing. Blooms same time as Golden Delicious for pollination of Red Delicious strain. Keeps well in storage. Ripens Oct., keeps until March. Tree: vigorous. Needs warm spot to ripen.

PI 588855. *Malus domestica* Borkh.

Tydeman Red.

PI 588856. *Malus hybrid*

Ottawa 8.

The following were developed by L.P.S. Spangelo. 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 588857. *Malus domestica* Borkh.

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 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 588858. *Malus domestica* Borkh.

Jonamac. Collected in United States. Pedigree - Jonathan x McIntosh Intro: 1972; cross made 1944; selected 1955; tested as New York 44428-5. Comments:: McIntosh-type dessert apple with improved color. 90% red.

Firm, crisp, high quality flesh. Flavor similar to McIntosh. Superior to McIntosh in eating quality. Medium size, productive, medium vigor tree. Fruit hangs well on tree. Ripens in late September. Hardy to -50 degrees F with occasional winter injury. Susceptible to apple scab, moderately tolerant to fireblight; good pollinator for early and midseason varieties. {Addendums & Revisions-Apple List 28, Regstr New Fruit & Nut Var. 2nd Ed.; HortSci V8(5) 10/73}.

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.

Spigold. Collected in United States. Pedigree - Green Spy x Golden Delicious Selected 1956; intro: 1962 Tested as N.Y.E. 6. Comments:: Size large, somewhat irregular; skin red, striped; Flesh very firm, fine grained sweetness of Golden Delicious; tender skin. Exceptionally high quality for roadside and local sale. Stores well. Large tree, growth habit is strong, upright, requires early training. Biennial bearer. Season very late; ripens during October. Triploid. Tree needs pollinator and it is not a pollinator. Storage 140 days at 31 degrees F. Additional LIT.CIT.: Way, R.D. 1971. Apple Cultivars. NYSAES, Search V 1, No. 2 p. 53; Bultitude, J. 1983. Apples. p. 293;1992-93 H Apple Tsolum Rv Tr Ct p 30.

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.

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.

Alnarp 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

but milder flavor. Vigor fair, yield good. Walter Manchester notes, "Tree ripened fruits become dark purple-red with heavy dark bloom. Exceptionally juicy and sweet.. Resistant to browning..fruit will stand late frosts while on tree.. does not drop." White flowers. Add. LIT.CIT. 1992- 93. H. Apple. Tsolum River Fruit Trees Catalogue. p. 35.

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*
Dolgo. Collected in Unknown. Pedigree - Open-pollinated, M. *baccata*, M. *prunifolia* origin. Intro: to U.S. 1917. Comments:: Fruit: 3.5 cm (crab apple), purple red with heavy bloom, elongated. Jelly. Dependable pollinator; interplanted in old orchards or grafted into tree tops throughout the United States. "One of the most beautiful and useful crabs ever developed" according to Smithfield Exp. Farm, Trenton, Ontario, Canada. Resistant to cedar apple rust, mildew, scab, sun scald and fire blight. Ripens in late Aug. or Sept. Requires 400 hours of chilling. White flowers, early blooming. Add. LIT.CIT. 1992-93. H. Apple. Tsolum River Fruit Trees Cat. p.34; Whealy, K. 1989. Fruit, Berry & p.39.

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.
Spartan. Pedigree - McIntosh x Yellow Newton Pippin. Raised: 1926; original tree planted: 1928; First fruit: 1932; intro: 1936. Selected by A.J. Mann. Excellent pollinator for Jonagold M9 & M26 are best

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. Resist- ant 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.

Northern Spy. Collected in United States. Originated at East Bloomfield, NY, in a seedling orchard of Herman Chapin; seed brought from Salisbury, CT. Pedigree - Raised about 1800. Introduced about 1840. Seedling. Comments:: Size large 81:70 mm; shape flat, truncate-conic, convex, ribbed at eye, slightly ribbed on body; skin greenish yellow flushed pinkish red with occasional russet patches; flesh firm, fine, yellowish white; flavor subacid; season very late; tree upright. Very hardy. Tends to bear biennially. Keeps into March; the month of May if temperature is regu- lated. Remarkably fresh after storage. Excellent quality. Additional LIT.CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Catalogue. p. 26.

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 bear- ing.

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.

Lodi. Collected in United States. Pedigree - Montgomery x White Transparent Raised 1911; intro: 1924 Requires cross pollination. Additional LIT.CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Catalogue. p. 23. Comments:: Size large to medium; shape intermediate conic, convex; skin pale yellow sometimes flushed deeper yellow; flesh coarse white; flavor acid. Fine white applesauce, great for early pies. Season early-ripens during July. Tree: large, dependable, productive; tends to bear in alternate years, can be made annually productive through proper use of blossom thinning sprays. Needs thinning. Resistant to Apple Scab. Additional LIT.CIT.: Way, R.D. 1971. Apple Cultivars, NYSAES Search VI 1, No. 2. p. 30; Bultitude J. 1983. Apples p. 227.

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.

M.25. Collected in England, United Kingdom.

PI 588880. *Malus domestica* Borkh.

Granny Smith. Collected in Unknown. Chance seed thrown out by Mrs. Thomas Smith, Eastwood, Ryde, Paramotta River, New South Wales, Australia brought from Tasmania. Pedigree - Thought to be French Crab x Aulre fruited in 1868. Comments:: Size medium, 65:57 mm; shape intermediate, rectangular, to truncate-conic, convex, ribbed at eye; skin green to greenish yellow with some fine netted russet. Flesh: hard, crisp, greenish to yellowish-white. Flavor: subacid, moderately sweet. Superb eating and cooking qualities. Season late to very late. Tree: very vigorous, small, annual & bearing (sometimes biennial), strong grower, heavy producer. Keeps 180 days in cold storage. Requires 500-600 hours chilling. Add. LIT.CIT. 1992-93 H. Apple. Tsolum River Fruit Trees Catalogue. p. 19.

The following were developed by Raymond L. Granger, Agriculture Canada, Research Station, 430 Gouin Blvd. St.-Jean-sur-Richelieu, Saint-Jean, Quebec J3B 3E6, 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*

Ottawa 3. Pedigree - Robin crab x Malling 9. Intro: 1974 as hardy dwarfing rootstock. Not patented. Comments:: Standard fruit, green-yellow with red, 20% dwarfing rootstock. Will Bilozir notes. "The best dwarfing interstem"; quite hardy, resistant to phytophthora virus. Reaches 2.3 m tall. Winter kills to ground but recovers and okay when used as an interstem. Very efficient fruit production. Non-brittle, completely free of spines. Micropropagation efficient; very poor rooting in stoolbed. Susceptible to fire blight and woolly aphids. Sensitive to apple stem grooving virus. Highly useful parent for rootstock breeding. Transmits phytophthora resistance. 5 carpld fruit prod 25-35 seed.

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
Demir. Collected in Turkey. Comments:: Very late bud break. Edible ornamental. White flowers. Late fruit, late blooming. Crab apple.

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 588889. *Malus prunifolia* (Willd.) Borkh.
Pendula.

PI 588890. *Malus hybrid*
Red Jewel. Comments:: Dirr 317-Patent No. 3267:Brewer 27:AABGA Bull.
15:38, 1981; Amer. Nurs. Oct. 1982.

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 588893. *Malus spectabilis* (Aiton) Borkh.
Plena. Comments:: Perhaps oldest ornamental crab apple. Flower: double pink, about 15 petals. 20 mm dian., showy. Fruit: yellow, 25 mm diam.

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, Saledad, 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 confused with Siberian Crab and wrongly called that name.. identification is hazardous.

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 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-yel- lowish 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".

The following were collected by F.C. Stern, Sussex, Goring-by-Sea, Highdown, England, United Kingdom. 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 588906. Malus toringoides (Rehder) Hughes

Macrocarpa. Collected 1939 in Unknown. Goring-by-the-Sea, Sussex, England. Pedigree - Raised from *M. toringoides* 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.

Himalaica. Collected 1919 in Unknown. Western Himalayas; Southwestern China. Material of known wild origin from seed collected in Yetsi Valley, North of Kulu in Muli territory, Szechwan, China, during the Univ. of California Bot. Garden Expedition. Pedigree - Wild Introduced 6/27/1933. Comments:: At one time, assigned PI No. 103288. Disease free.

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-yel- low; 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 toringoides* (Rehder) Hughes

Cut-Leaved Crab.

PI 588921. *Malus spectabilis* (Aiton) Borkh.
Alboplana.

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
Thomas Green, The Morton Arboretum, Lisle, Illinois 60532, United States.
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.
Jonared. Collected 1930 in United States. Peshastin, Washington, United 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.

The following were developed by Cornell University, New York Agr. Exp. Station, Geneva, New York 14456, United States. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/30/1984.

PI 588941. *Malus domestica* Borkh.

Jonagold. Pedigree - Golden Delicious x Jonathan. Cross made 1943. First fruited 1953, described by L.G. Klein. Intro: 1968. Comments:: Large fruit, striped red over bright yellow. Firm cracking, juicy, slightly tart flesh. Superb, rich full flavor. Finest dessert eating quality; good cooking properties. Will store in common refrigerator for 3 months. Tree: very productive, excellent orchard behavior, sturdy vigorous, fairly wide spreading. Triploid, requires pollinator. Susceptible to scab and mildew. Ripens from mid-Sept. to late Oct, depending on location. Requires 700-800 hrs chilling. Additional LIT.CIT. 1992-93. H. Apple. Tsolum River Fruit Trees. p. 21.

The following were developed by G.W. Schneider. Donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/30/1984.

PI 588942. *Malus domestica* Borkh.

Julyred. Pedigree - Developed in New Jersey as the result of a long and complex breeding program. NJ8 (Petral x Early McIntosh x [Melba x {Williams x Star}]). Selected 1955; Intro: 1962. Tested as NJ21. Comments:: Medium size red fruit. Firm, tasty flesh. Ripens late in July. Attractive; firmer, has better shelf life, better shipping ability than most other early summer apple varieties. Ripens about with Melba.

The following were donated by Irrigated Agric. Research Ext. Center, P.O. Box 30, Washington State University, Prosser, Washington 99350, United States. Received 08/30/1984.

PI 588943. *Malus domestica* Borkh.

Liberty. Pedigree - In existence 1895; described 1867. Macoun x Purdue 54-12 Intro: 1978. Comments:: Size medium; shape tall to intermediate conic to rectangular convex; skin yellow flushed and striped red; flesh firm, fine, yellowish; flavor sweet, juicy, subacid. Good for eating fresh, cooking; stores until Feb with flavor intensified. Tree: hardy, vigorous, productive, annual; requires thinning. Most disease resistant apple developed; scab fire blight, mildew and cedar apple rust; No spraying needed. Ripens early Oct. Requires 800 hours of chilling.

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 glabrous. Not ornamental. Flowers: single; 2 cm diameter; white. Fruit: 1 cm diameter; yellow.

**PI 588945. *Malus toringoides* (Rehder) Hughes
Cutleaf Crab.**

The following were donated by Curator, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97330, United States. Received

01/21/1985.

PI 588946. *Malus domestica* Borkh.

Bonum. Collected in Unknown. Davidson County, North Carolina. Pedigree - Before 1854.

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

Radiant. Pedigree - A chance seeling presumably *M. cv. Hopa* open pollinated; Selected 1940; named 1957; intro. 1958. Comments:: Indicator for Stem Pitting Virus. Flowers: single, expanding buds deep red, open deep pink. Fruit: bright red, approx. 1.3 cm. in diameter.

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 588948. *Malus domestica* Borkh.

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 semifirm, 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.

PI 588949. *Malus domestica* Borkh.

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.

PI 588950. *Malus domestica* Borkh.

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 anthers; 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 long, 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.

PI 588958. *Malus domestica* Borkh.

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.

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 588959. *Malus x magdeburgensis* Hartwig

Pedigree - *M. spectabilis* 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.

PI 588961. *Malus domestica* Borkh.

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.

PI 588962. *Malus domestica* Borkh.

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 crop- ping; 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 588963. *Malus* hybrid

Pink Wood.

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: Indistinguishable from Stayman Winesap. Similar to Stayman Winesap. 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 variety in Northeastern U.S. --R.D. Way, 1992.

The following were developed by W.B. Harper. 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 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. Way, 1993.

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

Ribston. 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 588971. *Malus domestica* Borkh.

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 Russet --R.D. Way, 1992. Perhaps even better tasting than Golden Russet. Late winter dessert. Jan. to June. Additional LIT.CIT. 1992-93. H. Apple. Tsolum River Fruit Trees Catalogue. p. 28.

The following were developed by Iowa Agr. Expt. Sta., 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 588972. *Malus domestica* Borkh.

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.

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 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.

The following were developed by Scheidecker Nursery, 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 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-oblate; 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

University, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456-0462, United States. Received 06/24/1985.

PI 588975. Malus domestica Borkh.

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

Midjet 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.

PI 588977. Malus domestica Borkh..

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.

PI 588978. Malus domestica Borkh.

Charlamoff. Pedigree - Known in Russia in 1700's or earlier. Comments:: Size large 71: 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.

PI 588979. Malus domestica Borkh.

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.

The following were developed by Albert F. Etter, Ettersburg, 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 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.

The following were developed by Rutgers University, New Jersey Agr. Exp. Sta., New Brunswick, New Jersey 08903, 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 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.

The following were developed by Mountain Grove 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 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.

The following were developed by Karl Sax. 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 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.

The following were developed by South Dakota State University, 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 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 bit- ter, 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.

PI 588986. *Malus domestica* Borkh.

Hotle Rome. Pedigree - A red-fruited mutation of Rome Beauty. Comments:: Fruit and tree: indistinguishable from Rome Beauty, except fruit 90% red, less red than Cox Rome, much less red than Law Rome. A red-fruited mutation of Rome Beauty.

PI 588987. *Malus baccata* (L.) Borkh.

Comments:: Flowers: pure white. Fruit: size 30 mm; color light red. Tree: very flobiferous. Ornamental flowering crab apple. (Durand-Eastman 98).

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.

PI 588988. *Malus domestica* Borkh.

Wagener. Collected in Unknown. USA, originated at Penn Yan, NY. Pedigree - Unknown; originated 1791. Comments:: Fruit: medium to rather large; shape oblate to roundish- oblate. Skin: bright light red, thin, tough, smooth, glossy pinkish striped. Flesh: whitish, slightly tinged with yellow, moderately firm, rather fine; grained, crisp, tender, juicy to very juicy, subacid, aromatic, sprightly, very good to best. Harvest season Oct of Nov to Feb or later. Tree: small, moderately vigorous, biennial, requires thinning. Eating quality good; grown commercially. 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 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, Geneva, New York 14456-0462, United States. Received 06/24/1985.

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 crab.

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, Department of Horticulture, Geneva, New York 14456-0462, United States. 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 flowering crab tree. 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 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.

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-oblata. 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 sdg. 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.

MacSpur. Pedigree - McIntosh spur habit mutation. Discovered in 1964. Intro. 1970 by Hilltop Nurseries, Hartford, MI. Plant patent 2982. Comments:: Indistinguishable from Summerland McIntosh, except spur habit of tree growth. Many commercial orchards of MacSpur are nonspur, either because of genetic reversion, or selection of nonspur budwood during propagation. Spur type McIntosh. 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 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

Korea. Comments:: Flowers: white. Fruit: 25-30 mm; 90% attractive pink; round. Tree: vigorous. Flowering crab apple.

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 dro 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

Mathews. 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 whit-ish 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 bi-ennial. 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

Spontanea. Collected in Unknown. Japan, Kyushu Mountains. Introduced into US by Arnold Arboretum in 1919 from a plant collected by E.H. Wilson in Japan. Comments:: Flowers: single; white; blooms in alternate years. Tree: small. See *Malus halliana*.

PI 589014. *Malus coronaria* (L.) Miller

Elonga. Pedigree - Introduced about 1912. Comments:: Flowers: light pink, attractive. Tree: heavily cropping branches spiny; leaves lobed. Similar to *coronaria*.

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.

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 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.

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 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.

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 589020. *Malus domestica* Borkh.

Sweet McIntosh. Pedigree - Way, R.D. 1971. Apple Cultivars. NYSAES Search Vol. 1. No. 2 pg. 57; Brooks, R.M. and H.P. Olmo. 1972. Register of New Fruit and Nut Varieties. 2nd Ed. p. 107. Comments:: Fruit: size large, up to 80 mm; skin 90% red, striped, scarfskin, heavy bloom; shape oblate, symmetrical; flesh semifirm, nearly white; flavor sweet, aromatic, does not resemble McIntosh; eating quality good; harvest season mid-October, 10 days after Delicious. Tree: large, vigorous; moderately productive; biennial cropping; diploid (Proc. Am. Soc. Hort. Sci. 53:197. 1949). Sweet, does not resemble McIntosh. 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 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 - Ywllow 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

Delicious. Tree: size medium; spreading; very productive; annual cropping; blossoms with Golden Delicious; diploid (J. Am. Soc. Hort. Sci. 103:690. 1978). Large, red good quality. R.D. Way, 1993.

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 crop-ping; fruits drop as they ripen. Cox type flavor. Substitute 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, Munchenberg 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; introd. 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 wks 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 65-75 mm; 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 wks 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.

PI 589033. *Malus domestica* Borkh.

Loop Rome 2-2-2-4. Pedigree - Large-fruited mutation of Rome Beauty; originally as a tree planted about 1922; discovered about 1930; never introduced. Comments:: Fruit: large; asymmetrical; quality similar to parent. A periclinal cytochimera 2-2-2-4. Tree: good cropper; tends to revert to diploid. Chimeral nature determined at the New York State Agr. Exp. Sta., Geneva, NY; accessioned in 1931 by this Sta. Large-fruited mutation of Rome Beauty.

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.

PI 589034. *Malus domestica* Borkh.

Gallia Beauty. Pedigree - Sport of Rome Beauty: Weeden, N.F. and R.C. Lamb. 1985. Identification of Apple Cultivars by Isozyme Phenotypes. J. Amer. Soc. Hort. Sci. 110:509-515. Discovered 1862; introduced about 1915 by Ohio State Hort. Soc. Comments:: Fruit and Tree: indistinguishable from Rome Beauty, except redder fruit. Red-fruited sport of Rome Beauty.

The following were developed by W.M. Trumbull. 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 589035. *Malus domestica* Borkh.

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.

The following were developed by D. M. Laurie, Hummingford, Quebec, 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 589036. *Malus domestica* Borkh.

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.

The following were developed by F. Warren Carnefix, 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 589037. *Malus domestica* Borkh.

Idaho Spur Delicious. Pedigree - A red-fruited, spur-habit mutation of Delicious; discovered about mid-1960's. Comments:: Fruit: indistinguishable from Delicious, except much redder 100% red. Tree: spur growth habit. A red-fruited spur mutation of Delicious.

The following were developed by J.E. Burton, Unknown. 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 589038. *Malus domestica* Borkh.

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.

Golden Delicious (Smoothee). Pedigree - A less-russeting mutation of Golden Delicious; introduced 1967; assigned to Nursery Corp., Hartford, MI. Comments:: Fruit and tree: indistinguishable from Golden Delicious, except less russet (Cummins, J.N. et al. 1977. HortScience 12:241) A less-russeting sport of Golden Delicious.

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.

Middleton Fameuse. Comments:: Fruit and tree indistinguishable from Fameuse; not a red-fruited mutation. Same as fameuse. 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 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; skin 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.

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.

The following were developed by Asa Kelley, Fordsville, Kentucky, 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 589049. *Malus domestica* Borkh.

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.

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 589050. *Malus domestica* Borkh.

Dunning. Pedigree - Early Mc Intosh 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.

The following were developed by G.M. Hudson. 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 589051. *Malus domestica* Borkh.

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.

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 589052. *Malus domestica* Borkh.

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.

The following were developed by Forest of Apis, France. 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 589053. *Malus domestica* Borkh.

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 perfumed. 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 attractive; 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;

annual bearer. Ornamental Flowering Crab.

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, some- times 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-coniuc; 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.

PI 589067. *Malus domestica* Borkh.

Redgold. Pedigree - Golden Delicious x Richared Delicious; selected about 1936; intro. 1946; Plant patent 720. Comments:: Fruit: size medium, 65-80 mm; skin 90-100% dark red, blush-ed and striped, attractive; shape round, blocky; flesh firm, yellow, water core; flavor subacid; eating quality good; harvest season mid-October, 1 wk after Delicious. Tree: very productive; slightly biennial cropping; diploid (Proc. Am. Soc. Hort. Sci. 82:56. 1973). Medium size, fully red, good quality. --R.D. Way, 1992.

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.

PI 589068. *Malus domestica* Borkh.

Earlibrite Delicious. Pedigree - An early coloring mutation of Ryan Red Delicious. Introd. 1969. Plant Patent 3025, Feb. 2, 1971, assigned to Stark Bros. Nursery, Louisiana, Missouri. Comments:: Fruit: large: conic; skin develops solid bright red blush very early; flesh characteristics same as Ryan Red; ripens mid-Sept. in Zillah. Tree: large; spreading; vigorous; hardiness similar to Red Delicious; productivity heavy. Early coloring mutation of Ryan Red Delicious.

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 seed- ling 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 wees after Golden Delicious. Tree: vigorous; spreading; spurry-type growth; productive. Yellowish, late ripening.

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 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 -0.5DC 180 days. Tree: medium vigor; medium productivity; biennial cropping, Red, firm, late.

The following were developed by Martin Ingram, Springfield, 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 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.

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 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).

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 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. *niedzwetzka* 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

14456-0462, United States. Received 06/24/1985.

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 flat-ter 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, late October, 3 wks after Delicious. Tree: very productive; biennial cropping; fruits hanve 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) Sarg. 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 pollinated?. 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, fire-blight, 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, striped, 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.

The following were developed by A. Simpson. 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 589090. *Malus domestica* Borkh.

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 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 589091. *Malus domestica* Borkh.

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.

PI 589093. *Malus domestica* Borkh.

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 developed by E. Wellington. 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, occasionally 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 hardier; 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.

Perrine Yellow Transparent. Pedigree - Yellow transparent bud mutation; discovered about 1930; intro. 1961. Comments:: Fruit: Indistinguishable from Yellow Transparent, except larger, 70-80 mm. Tree: smaller, more spreading than Yellow Transparent; periclinal cytochimera 2-4-4-4 and 2-2-4-4 (Proc. Amer. Soc. Hort. Sci. 53:197. 1949). Tetraploid Yellow Transparent. --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 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.

Sweet Bough. Pedigree - Unknown; Origin unknown; described by Coxe in 1817. Comments:: Greenish yellow to yellowish white. Medium, large, 80 mm; juicy, tender flesh, honey sweet, eating quality fair. Harvest season late August, 5 wks before Delicious. Tree: productive; diploid (Proc.Am.Soc.Hort.Sci. 53:197.1949). Grown in Europe and USA (as Sweet Bough). Early, yellow-green, sweet. R.D. Way, 1993.

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.

Colby Baldwin. Pedigree - A red-fruited mutation of Baldwin; discovered about 1916; tested by Stark Bros. Nursery; never introduced. Comments:: A red sport of Baldwin. Fruit and tree indistinguishable from Baldwin, except fruit 90% dull, very dark, nearly black blush, not attractive. R. D. Way, 1990.

The following were developed by A. Smith, Unknown. 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 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 developed 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 coinciding 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.

The following were developed by Idaho Agr. Expt. Sta., Moscow, 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 589108. Malus domestica Borkh.

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.

PI 589110. Malus domestica Borkh.

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.

PI 589112. Malus domestica Borkh.

Melba. Pedigree - McIntosh x Raised 1898; intro: 1909. Comments:: Size medium 57-63;44-51mm; shape flat to intermediate, rectangular to truncate-conic, convex, ribbed on body and at eye; skin pale yellow with pinkish stripes and flecks; white bloom; flesh firm, crisp, very white; flavour subacid, sweet season early. "Tender, but good breeder", Coutts (1991). Shelf life short. Additional LIT.CIT. 1992-93. H. Apple. Tsolum River Fruit Trees Catalogue. p. 25.

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.

Steady. 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 seedling 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, glossy, 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

purplish red, almost black. Flesh yellowish, very firm, fine-grained, crisp, moderately juicy, sprightly, sub-acid, very good. Tree: moderately vigorous upright spreading. Not a heavy cropper. Dec. to April.

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.

PI 589124. *Malus domestica* Borkh.

McClintock Grimes. Pedigree - Large-fruited mutation of Grimes Golden. Comments:: Fruit: indistinguishable from Grimes Golden, except size much larger, 85-100mm; severe bitter pid. Tree: productive. Periclinal Diploid-tetraploid chromosomal chimera, type 2 (2-2-4-4) identified by J. Einset. Large-fruited Grimes Golden.

The following were developed by D. Sergeant. 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 589125. *Malus domestica* Borkh.

Sergeant Russet Golden Delicious. Collected in Unknown. Sodus, New York, United States. Pedigree - Whole-tree, russet fruit mutation of Golden Delicious; discovered 1964. Comments:: Fruit and tree indistinguishable from Golden Delicious, except 50-90% fruit surface russeted with occasional non-russeted sector. Russet Golden Delicious. 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 589126. *Malus domestica* Borkh.

Golden Nugget.

The following were developed by John Potter, Director, Nat. Fruit Trials,

Faversham, 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 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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Helianthus pauciflorus ssp. subrhomboides (586908-586909)
Helianthus petiolaris ssp. petiolaris (586910-586934)
Hesperis matronalis (586611-586612)
Hibiscus acetosella (585139, 585162)
Hibiscus amoenus (585137)
Hibiscus arnhemensis (585151)
Hibiscus asper (585165, 585168)
Hibiscus bacalusius (585143)

Hibiscus byrnesii (585152)
Hibiscus cannabinus (586657)
Hibiscus diversifolius (585133-585134, 585147-585148, 585161, 585163-585164)
Hibiscus fryxellii var. *fryxellii* (585131-585132, 585153)
Hibiscus fryxellii var. *mollis* (585125-585130)
Hibiscus furcellatus (585122-585124, 585144-585145, 585156-585158)
Hibiscus greenwayi (585167)
Hibiscus marenitensis (585140)
Hibiscus mastersianus (585154, 585166)
Hibiscus menzeliae (585150)
Hibiscus meraukensis (585120-585121, 585149)
Hibiscus minutibracteolus (585135)
Hibiscus nigricaulis (585155)
Hibiscus orarius (585142)
Hibiscus radiatus (585159-585160)
Hibiscus stewartii (585141)
Hibiscus surattensis (585138)
Hibiscus zonatus (585136)
Hordeum vulgare (585233-585234, 586965)
Hordeum vulgare ssp. *vulgare* (584760-584766, 584784-584788, 584799-584823, 584831, 584842-584910, 584936-584983, 585036, 586961-586962)
Humulus lupulus (586658-586659)
Ipomoea batatas var. *batatas* (585051-585076, 585081-585111)
Ipomoea hederifolia (587177)
Ipomoea obscura (587179-587180)
Ipomoea purpurea (587178)
Ipomoea sp. (585077-585080)
Ipomoea triloba (587181)
Lactuca sativa (585218-585219, 585229, 586967-586968, 587190)
Lavatera thuringiaca (586613-586616)
Lens culinaris (587175-587176)
Leucaena esculenta (587170)
Leucaena leucocephala (587169)
Leucanthemum vulgare (586617-586619)
Lolium perenne (585221, 586971, 586974, 587192)
Lupinus albus (587203)
Malus angustifolia (588928)
Malus baccata (588765, 588769, 588771, 588874, 588896, 588903, 588907, 588960, 588987, 588989, 588996, 589019)
Malus coronaria (588929, 588966, 589005, 589014)
Malus domestica (588744-588751, 588772-588773, 588776-588781, 588783-588785, 588788-588794, 588796-588803, 588805-588808, 588810-588821, 588826, 588828-588846, 588848-588851, 588853-588855, 588857-588861, 588863, 588865, 588867, 588871-588872, 588877-588880, 588884, 588886, 588939-588943, 588946, 588948-588956, 588958, 588961-588962, 588964, 588967-588973, 588975, 588977-588982, 588985-588986, 588988, 588992, 588995, 588997-589002, 589004, 589006-589007, 589012, 589015, 589017-589018, 589020-589021, 589023-589084, 589086-589088, 589090-589130)
Malus florentina (588868, 588938)
Malus floribunda (588918)
Malus fusca (588764, 588931)
Malus halliana (589013)
Malus hupehensis (588760)
Malus hybrid (588755-588756, 588763, 588766-588768, 588774-588775, 588786-588787, 588795, 588804, 588809, 588822-588824, 588856, 588862, 588864, 588866, 588869-588870, 588873, 588875-588876, 588881-588883, 588885, 588887, 588890-588891, 588899-588900, 588902, 588909-588910, 588912-588913, 588915, 588927, 588932, 588947, 588957, 588963, 588983-588984, 588990, 589009-589010)
Malus ioensis (588759, 588925, 588934-588935, 588991)
Malus kansuensis (588852, 588923, 588944)
Malus mandshurica (588753-588754)
Malus micromalus (588976)

Malus prattii (588933)
Malus prunifolia (588758, 588889, 588914, 588994)
Malus pumila (588827, 588916)
Malus sargentii (588761, 588770, 588782, 588901, 588919, 588937, 589011)
Malus sieboldii (588892)
Malus sikkimensis (589089)
Malus sp. (588924, 589008)
Malus spectabilis (588893, 588917, 588921, 589022)
Malus sylvestris (588908, 588926)
Malus toringoides (588906, 588920, 588930, 588945)
Malus x *adstringens* (588898)
Malus x *arnoldiana* (589085)
Malus x *astracantha* (588895)
Malus x *hartwigii* (588757)
Malus x *magdeburgensis* (588959)
Malus x *platycarpa* (588752, 588847)
Malus x *purpurea* (588888, 588894, 588911, 589016)
Malus x *robusta* (588825, 588904, 588936, 588965, 588993, 589003)
Malus x *scheideckeri* (588974)
Malus x *soulardii* (588897)
Malus x *sublobata* (588922)
Malus x *zumi* (588905)
Malus yunnanensis (588762)
Malva moschata (586620)
Medicago sativa (587183, 587194, 587205-587206)
Medicago sativa ssp. *sativa* (584990-584992, 586638)
Nicotiana tabacum (587094)
Oryza sativa (584542-584653, 584659-584757, 585040-585043, 585045-585049)
Pennisetum glaucum (584758, 586660, 586990-587025)
Phalaris arundinacea (587092, 587193)
Phaseolus vulgaris (585216-585217, 585237, 586656, 586681, 586970, 586973, 586983-586984, 587159)
Pisum sativum (587191)
Poa pratensis (587195, 587197, 587207)
Potentilla recta (586621-586624)
Puccinellia distans (586978)
Saccharum spontaneum (586793-586805)
Sanvitalia angustifolia (586625-586626)
Sanvitalia ocyroides (586627-586628)
Sanvitalia procumbens (586629)
Secale cereale (584781-584782)
Solanum brachistotrichum (587123)
Solanum colombianum (586950-586951, 587117-587118)
Solanum fendleri (585112-585115)
Solanum jamesii (585116-585119)
Solanum microdontum (587112-587113)
Solanum paramoense (587114, 587116)
Solanum phureja (584993-584995)
Solanum polytrichon (586946-586947, 586949)
Solanum sp. (587047, 587061-587062, 587084-587085)
Solanum stoloniferum (586948)
Solanum tuberosum (587046, 587048-587060, 587063-587083, 587086, 587111, 587115, 587119-587122)
Solanum tuberosum ssp. *tuberosum* (587107-587110)
Sorbaria sorbifolia (586630)
Sorbaria tomentosa (586631)
Sorghum bicolor (584989, 584998-584999, 585279-586583, 586787-586792)
Spinacia oleracea (587182)
Spiraea miyabei (586632)
Spiraea salicifolia (586633)
Tagetes lucida (586959)
Tagetes patula (586960, 586966)
Trifolium cherleri (587087)
Trifolium diffusum (587088)

Trifolium hybridum (587089)
Trifolium pallidum (587090)
Trifolium pratense (586963)
Tripsacum dactyloides (585050)
Triticum aestivum (584525-584526, 584759, 584789-584798, 584911-584935,
584984-584986, 584996-584997, 585016, 585019, 585022, 585024,
585026-585027, 585030, 585032-585033, 585035, 585037-585039, 585044,
585169-585175, 585177-585179, 585181-585182, 585184-585189, 585193,
585197-585198, 585200, 585202, 585204, 585206, 585208-585209, 585211,
585213, 585231-585232, 586682-586683, 586687, 586750-586758, 586806,
586954-586957, 587026-587033, 587160-587168, 587171, 587198-587200)
Triticum carthlicum (585017-585018)
Triticum dicoccon (585196)
Triticum durum (584655-584658, 584832-584841, 585009-585013, 585020-585021,
585023, 585025, 585029, 585031, 585034, 585176, 585180, 585183,
585190-585192, 585195, 585199, 585201, 585203, 585205, 585207, 585210,
585212, 585214)
Triticum jakubzineri (585014)
Triticum monococcum (584654)
Triticum petropavlovskyi (585015)
Triticum sp. (585028)
Triticum spelta (585008, 587201-587202)
Triticum turgidum (585194)
Vigna unguiculata ssp. sesquipedalis (586964)
Vitis acerifolia (588141, 588324, 588393, 588448-588449, 588646)
Vitis aestivalis (588626, 588677)
Vitis aestivalis var. argentifolia (588145, 588182)
Vitis amurensis (588382, 588385, 588399, 588420, 588629-588645, 588725)
Vitis betulifolia (588450)
Vitis cinerea (588134, 588143, 588154, 588186, 588197-588199, 588208,
588217-588222, 588328-588329, 588352, 588372, 588398, 588446-588447,
588575, 588587, 588678, 588685, 588688-588689)
Vitis cinerea var. helleri (588205, 588210, 588216, 588443-588445, 588466,
588625)
Vitis coignetiae (588056-588061, 588451)
Vitis flexuosa (588453)
Vitis hybrid (588062-588122, 588124-588132, 588135-588137, 588139-588140,
588148, 588150-588151, 588153, 588156-588159, 588161-588164, 588166,
588168-588172, 588175-588180, 588183-588184, 588187, 588189,
588191-588193, 588195-588196, 588200, 588202-588203, 588206-588207,
588209, 588211-588213, 588215, 588234-588235, 588237-588256,
588263-588268, 588277-588281, 588283-588303, 588305-588306,
588308-588323, 588326-588327, 588332, 588334-588343, 588348, 588351,
588357-588368, 588370, 588375-588377, 588379, 588381, 588383-588384,
588386-588390, 588394, 588396-588397, 588402-588403, 588405,
588407-588414, 588416-588419, 588424-588434, 588461-588464,
588468-588475, 588477-588482, 588484-588500, 588502-588507, 588509,
588511-588528, 588530-588539, 588541-588548, 588550-588561, 588563,
588566-588567, 588569-588573, 588576-588578, 588593-588624,
588651-588652, 588654-588676, 588681-588682, 588690-588709,
588712-588713, 588717, 588719-588724)
Vitis labrusca (588138, 588165, 588173, 588194, 588307, 588583-588585,
588647-588648)
Vitis monticola (588454, 588627)
Vitis piasezkii var. piasezkii (588465)
Vitis riparia (588167, 588190, 588204, 588214, 588258-588262, 588269-588276,
588304, 588344-588347, 588349-588350, 588353-588354, 588369,
588373-588374, 588400, 588404, 588406, 588435-588437, 588510, 588562,
588564-588565, 588568, 588580-588582, 588586, 588653, 588710-588711,
588718)
Vitis rupestris (588146-588147, 588160, 588174, 588181, 588188, 588223-588232
, 588330-588331, 588333, 588355, 588395, 588415, 588540, 588574, 588649,
588683-588684, 588687)
Vitis sp. (588054, 588123, 588144, 588152, 588155, 588201, 588233, 588325,

588371, 588378, 588380, 588391, 588401, 588421-588422, 588438-588442,
588455-588460, 588467, 588476, 588483, 588501, 588508, 588529, 588549,
588588-588592, 588628, 588650, 588714-588716, 588726)
Vitis thunbergii (588055, 588423, 588452)
Vitis tiliifolia (588686)
Vitis vinifera (588236, 588579, 588727-588743)
Vitis vulpina (588133, 588142, 588185, 588282, 588356, 588679-588680)
Vitis x andersonii (588392)
Vitis x doaniana (588149)
Vitis x novae-angliae (588257)
X Triticosecale sp. (587219-587549)
Zea mays ssp. *mays* (584528-584529, 585223-585228, 585230, 586640-586655,
586679, 586689-586749, 586759-586786, 586935-586944, 586958,
587034-587038, 587102-587106, 587124-587155, 587157-587158, 587188)
Zinnia violacea (586634-586637)
Zoysia japonica (587156)