



Plant Inventory No. 215

Plant Materials Introduced in 2006
(Nos. 641918 - 644217)



Foreword

Plant Inventory No. 215 is the official listing of plant materials accepted into the U.S. National Plant Germplasm System (NPGS) between January 1 and December 31, 2006 and includes PI 641918 to PI 644217. The NPGS is managed by the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). The information on each accession is essentially the information provided with the plant material when it was obtained by the NPGS. The information on an accession in the NPGS database may change as additional knowledge is obtained.

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The following were collected by Jon Rebman, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway, Phoenix, Arizona 85040, United States. Received 11/09/2000.

PI 641918. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 1834; PARL 168. Collected 2000 in New Mexico, United States.
Latitude 31° 56' N. Longitude 108° 56' W. Elevation 4240 m. 5.7
miles east of route 80 on route 9 toward Animas.

The following were collected by Charlotte Christy, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway Road, Phoenix, Arizona 85040, United States. Donated by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States. Received 09/1998.

PI 641919. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 2226; PARL 173; W6 20828. Collected 1994 in Texas, United States.
Latitude 27° 22' N. Longitude 98° 56' W. Elevation 244 m. SE of
Aguilares; FM 649, 6.3 miles S of jct 649/Rte. 359 and 11.4 miles N of
jct. FM 649/3073.

The following were collected by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States; Andrew Salywon, U.S. Water Conservation Laboratory, 4331 E. Broadway, Phoenix, Arizona 85040, United States. Received 11/09/2000.

PI 641920. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 4001; PARL 178. Collected 1999 in Coahuila, Mexico. Latitude
27° 35' 25" N. Longitude 101° 10' 51" W. Elevation 1294 m. Hwy
51 about 51 miles north of Monclova, km post 83, roadcut. Vegetation:
Acacia, Leucophyllum, Platyopuntia, Yucca. Limestone soils.

PI 641921. *Lesquerella argyraea* (A. Gray) S. Watson
Wild. 4004; PARL 180. Collected 1999 in Coahuila, Mexico. Latitude
28° 32' 9" N. Longitude 100° 54' 53" W. Elevation 1200 m. 20km
northwest Allende, Hwy 29 Acuna-Allende. Vegetation: Leucophyllum,
Prosopis, Platyopuntia.

PI 641922. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 4006; PARL 182. Collected 1999 in Coahuila, Mexico. Latitude
28° 54' 4" N. Longitude 100° 31' 34" W. Elevation 1000 m. On
road to Rancho Nuevo from Piedras Negras, 2km from junction Route 257.
Vegetation: Leucophyllum, Acacia, Cercidium, Cyllindropuntia, abundant
small plants.

PI 641923. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 4007; PARL 183. Collected 1999 in Coahuila, Mexico. Latitude
28° 36' 45" N. Longitude 100° 30' 8" W. Elevation 911 m. On road
to Rancho San Francisci & Rio Bravokm from junction with Rt57(Superior
Sign). 3km north of hwy 2. Rocky, limestone soils. Leucophyllum, Acacia
berlanderi, Platyopuntia lindhimeri, Caulinia, Krameria erecta
vegetation.

PI 641924. *Lesquerella fendleri* (A. Gray) S. Watson

Wild. 4024; PARL 186. Collected 1999 in Durango, Mexico. Latitude 24° 35' 29" N. Longitude 103° 55' 23" W. Elevation 1935 m. Hwy 40 11.7 miles/18km SW of Yerbanis past 103km post between Durango & Torreon. Roadside disturbed, limestone rocky soils both sides of hwy.

The following were developed by Francis K. Padi, Savanna Agricultural Research Institute, CSIR, SARI, P.O. Box 52, Tamale, Ghana; A.B. Salifu, CSIR, Savanna Agricultural Research Institute, Box 52, Tamale, Ghana; J. Kombiok, CSIR, Savanna Agricultural Research Institute, Box 52, Tamale, Ghana; K.O. Marfo, CSIR, Savanna Agricultural Research Institute, Box 52, Tamale, Ghana; A. Frimpong, CSIR, Savanna Agricultural Research Institute, P.O. Box 52, Tamale-Nyankpala, Ghana. Received 12/21/2005.

PI 641925 QUAR. *Arachis hypogaea* L.

Cultivar. Pureline. "EDORPO-MUNIKPA"; F-mix x ICG-66-3-26; SARGV-88001. CV-83. Pedigree - F5 derived line selected from a cross between F-mix as female parent and ICGS 66 as male parent. Virginia-type peanut possessing alternate branching pattern, spreading-bunch growth habit, and medium green leaves. Pods are typically two-seeded, slightly beaked, and constriction between seeds is slight with average sized seeds (65 g/100) possessing dark tan testa. Classified as an early maturing cultivar flowering at 27 d after planting (DAP) and maturing at 100 DAP. Has oil content of 48% and is moderately resistant to early and late leaf spot infections caused by *Cercospora arachidicola* and *Phaeoisariopsis personata* respectively.

PI 641926 QUAR. *Arachis hypogaea* L.

Cultivar. Pureline. "NKATIESARI"; F-mix x ICG-20-1-45; SARGV 88002. CV-84. Pedigree - F5 derived line selected from a cross between F-mix as female parent and ICG(FDRS)-20as male parent. Virginia-type peanut possessing alternate branching pattern, erect bunch habit, medium green leaves. Pods are typically two-seeded, slightly beaked, and constriction between seeds is slight with seed size of 50 g/100, possessing light tan testa. Has high kernel yields, has good fresh seed dormancy, resistant to early and late leaf spot infections caused by *Cercospora arachidicola* and *Phaeoisariopsis personata*, respectively. Average oil content of seeds is 46%. Classified as a medium maturing cultivar flowering at 29 d after planting (DAP) and maturing at 110 DAP.

The following were developed by J. Mitchell McGrath, USDA, ARS, Department of Crop and Soil Science, Michigan State University, East Lansing, Michigan 48824-1325, United States. Received 12/20/2005.

PI 641927. *Beta vulgaris* L. subsp. *vulgaris*

Breeding. Population. EL53. GP-258. Pedigree - Involves 7 released smooth-root germplasm lines, two unreleased smooth-root breeding populations and 3 traditional East Lansing germplasm releases involving SR80 (PI 607898), SR87 (PI 607899), SR94 (PI 598076), SR95 (PI 603947), SR96 (PI 628272), SR97 (PI 628273), EL0204 (PI 632750), EL50 (PI 598073), EL52 (PI 628274), USH20 (PI 631354). Germplasm substantially derived from previously released smooth-rooted, low soil tare germplasm releases with two cycles of selection for freedom from crown and root rot disease caused by *Rhizoctonia solani* AG2-2. Previous low soil tare

releases have been uniformly susceptible to *Rhizoctonia* crown and root rot, and the moderately resistant germplasm EL52 was used as a source of resistance during the development of EL53. Has shown good agronomic performance. Moderately resistant to *Rhizoctonia* crown and root rot, *Cercospora* leaf spot, and *Aphanomyces* diseases as evaluated over two years in disease nurseries. Was more susceptible, but not significantly different from the moderately resistant check.

The following were developed by Richard Percy, USDA, ARS, Maricopa Agricultural Research Ctr., 37860 W. Smith-Enke Rd., Maricopa, Arizona 85239, United States; Lloyd May, University of Georgia, Coastal Plain Experiment Station, 115 Coastal Way, Tifton, Georgia 31793-0748, United States; Roy Cantrell, Cotton Incorporated, 6399 Weston Parkway, Cary, North Carolina 27513, United States; Mauricio Ulloa, USDA, ARS, W.I.C.S. Research Unit, 17053 N. Shafter Ave., Shafter, California 93263, United States. Received 12/22/2005.

PI 641928. *Gossypium hirsutum* L.

Breeding. Pureline. AGC85. GP-860. Pedigree - FiberMax 958/SG248. Advanced generation testing of AGC85 was conducted in replicated trials at Tifton, GA, Maricopa, AZ, and Shafter, CA in 2004. Averaged over locations, the lint yield of AGC85 (2021 kg ha⁻¹) was equivalent to that of a high yielding check variety, SG747 (1938 kg ha⁻¹), and superior to the high fiber quality parent cultivar FiberMax 958 (1651 kg ha⁻¹). Lint percentage of AGC85 (42.2%) was equivalent to that of the parent cultivar Fibermax 958 (42.7%). The plant height at maturity of line AGC85 (1.24 m) exceeded that of FiberMax 958 (1.00 m). Ratings of pollen sterility due to heat stress were recorded at the Maricopa location in 2004. Averaged across three dates, AGC85 exhibited pollen sterility rates significantly lower than those of the high fiber quality cultivar Fibermax 958. Fiber length (UHM) of AGC85 was equivalent to the FiberMax 958 parent (28.7mm). Short fiber contents (HVI) of AGC85 was 9.1%. Fiber bundle strength of AGC85 (33.3cN) was stronger than the FiberMax 958 parent (31.4cN). Fiber elongation of AGC85 (4.3%) was superior to the parent cultivar FiberMax 958 (3.4%). The micronaire value of AGC85 (5.28) was equivalent to that of FiberMax 958 (5.30). Fiber fineness (AFIS) of AGC85 (181mtex) was equal to FiberMax 958 (181mtex). PCR testing of AGC85 has revealed the presence of promoter sequences sometimes associated with transgenes (<0.23% at the 95% confidence range).

PI 641929. *Gossypium hirsutum* L.

Breeding. Pureline. AGC208. GP-861. Pedigree - FiberMax958/SG248. Advanced generation testing of AGC208 was conducted in replicated trials at Tifton, GA, Maricopa, AZ, and Shafter, CA in 2004. AGC208 produced a yield (1751 kg ha⁻¹) equivalent to the high fiber quality parent, FiberMax 958 parent (1651 kg ha⁻¹). AGC208 had a lint percentage of 39.9%. The plant height of AGC208 (0.99 m) was equal to that of the parent FiberMax 958(1.00 m). Ratings of pollen sterility due to heat stress were recorded at the Maricopa location in 2004. Averaged across three dates, AGC208 exhibited pollen sterility rates significantly lower than Fibermax 958. The fiber length (UHM) of line AGC208 (30.2mm) was superior to that of the FiberMax 958 parent (28.7mm). AGC208 had a length uniformity of 83.2% and a short fiber content of 8.8%. Fiber bundle strength of AGC208 (32.9cN) was stronger than the FiberMax 958 parent (31.4cN). Fiber elongation of AGC208 (3.3%) was equivalent to

that of FiberMax 958 (3.4%). ACG208 produced a micronaire value (4.95) lower than that of FiberMax 958 (5.30) and a fiber fineness value (174mtex) lower than FiberMax 958 (181mtex). PCR testing of AGC208 has revealed the presence of promoter sequences sometimes associated with transgenes (<0.16% at the 95% confidence range).

PI 641930. *Gossypium hirsutum* L.

Breeding. Pureline. AGC375. GP-862. Pedigree - FiberMax958/SG248. Advanced generation testing of AGC375 was conducted in replicated trials at Tifton, GA, Maricopa, AZ, and Shafter, CA in 2004. Averaged over locations, the lint yield of AGC375 (1874 kg ha⁻¹) was equivalent to that of a high yielding check cultivar, SG747 (1938 kg ha⁻¹), and superior to the high fiber quality parent cultivar FiberMax 958 (1651 kg ha⁻¹). Lint percentage of line AGC375 (43.4%) was equivalent to that of the Fibermax 958 parent (42.7%). The plant height of AGC375 (1.16 m) exceeded that of FiberMax 958 (1.00 m). Ratings of pollen sterility due to heat stress were recorded at the Maricopa location in 2004. Averaged across three dates, AGC375 exhibited pollen sterility rates significantly lower than those of the high fiber quality parent Fibermax 958. Fiber length (UHM) of AGC375 (29.5mm) was superior to that of FiberMax 958 (28.7mm). Fiber length uniformity of AGC375 (82.2%) was equivalent to that of FiberMax 958 (82.5%). Short fiber content (HVI) of AGC375 was 9.6%. Fiber bundle strength of AGC375 (33.6cN) were stronger than the FiberMax 958 parent (31.4cN). Fiber elongations of AGC375 (3.4%) was equivalent to that of the parent cultivar FiberMax 958 (3.4%). The micronaire value of AGC375 (5.33) was slightly higher than that of FiberMax 958 (5.30). Fiber fineness (AFIS) of AGC375 was 181mtex, equal to FiberMax 958 (181mtex). PCR testing of AGC375 has revealed the presence of promoter sequences sometimes associated with transgenes (<0.70% at the 95% confidence range).

The following were developed by Steven D. Linscombe, Louisiana State University, LSU Rice Experiment Station, 1373 Caffey Road, Rayne, Louisiana 70578, United States. Received 12/05/2005.

PI 641931 MAP. *Oryza sativa* L.

Cultivar. Pureline. "COCODRIE". PVP 9900148. Pedigree - Cypress//L202/Tebonnet. PI 641931 MAP is a new PI assignment of PI 606331 (original accession) representing one of the parents of C/M Mapping Population of Rice. The second parent is MCR01-0277, PI 641932 MAP. Cocodrie is a high yielding semidwarf long-grain rice variety with very good milling and other grain quality characteristics. It is rated as highly susceptible to *Rhizoctonia solani* (sheath blight).

The following were developed by Steven D. Linscombe, Louisiana State University, LSU Rice Experiment Station, 1373 Caffey Road, Rayne, Louisiana 70578, United States; M.C. Rush, Louisiana State University, Louisiana Agric. Exp. Station, Dept. of Plant Pathology, Baton Rouge, Louisiana, United States. Received 12/05/2005.

PI 641932 MAP. *Oryza sativa* L.

Breeding. Inbred. MCR01-0277. Pedigree - LSBR5/LMNT//KATY/3/CPRS/TQNG. PI 641932 MAP is one parent of C/M Mapping Population of Rice. The second parent is PI 606331 (orig. accession), newly assigned PI 641931 MAP. MCR01-0277 is a high yielding semidwarf long-grain rice

experimental line. It has consistently shown high levels of resistance to *Rhizoctonia solani* (sheath blight).

The following were donated by Alton Arakaki, Maui County CES, Molokai Extension Office, P.O. Box 269, Hoolehua, Hawaii 96729, United States. Received 10/2004.

PI 641933. *Ipomoea batatas* (L.) Lam. var. *batatas*

Uncertain. "Agena"; UH Agena. Purple flesh. Tan to whitish skin.

PI 641934. *Ipomoea batatas* (L.) Lam. var. *batatas*

Uncertain. "Molokai Purple"; UH 88-7 RXP; Mokuau Purple; Mokuau R x P. Purple flesh. Red skin.

The following were developed by K. B. Singh, Int. Center For Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; R.S. Malhotra, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; N. Aydin, Central Research Institute for Field Crops, Ankara, Turkey; Ismail Kusmenoglu, Exporter Union Seed and Research Company, Ergazi Mah, Koyici Serpmeleri, No. 4, Batikent, Ankara, Turkey. Received 01/04/2006.

PI 641935. *Cicer arietinum* L.

Cultivar. Pureline. "GOKCE"; FLIP 87-8C. CV-266. Pedigree - ILC 3398 / FLIP 83-13C. Plants are erect with a mean plant height of 35 cm at maturity, permitting harvest by combine. Exhibits indeterminate flowering habit and bears white flowers. Pods are generally hairy and single-seeded. Seeds weigh 45-47 g 100 seed-1, are light cream in color. 20 to 30% of seeds are above 9mm in diameter, 70-80% between 8 and 9 mm; 5% are less than 8mm diameter. Escapes drought because of early maturity.

The following were developed by R.S. Malhotra, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; G. Khalaf, ICARDA, Integrated Gene Management Program, P.O. Box 5466, Aleppo, Syria; S.H. Sabagpour, Dryland Agricultural Research Institute, Kermanshah, Iran; R. Sarparast, Dryland Agricultural Research Institute, Maragheh, Iran; M. Safikhani, Dryland Agricultural Research Institute, Maragheh, Iran; S.H. Alizadeh, Dryland Agricultural Research Institute, Maragheh, Iran; A. Jahangeri, Dryland Agricultural Research Institute, Maragheh, Iran. Received 01/04/2006.

PI 641936. *Cicer arietinum* L.

Cultivar. Pureline. "ARMAN"; FLIP 90-96C. CV-264. Pedigree - ILC 5342 / FLIP 84-93C. Plants are erect with a mean plant height of 75 cm at maturity and plants bear pods at a height of about 18 cm above ground level permitting harvest by combine. Exhibits indeterminate flowering habit and bears white flowers. Seeds weigh 37 g 100 seed-1; are beige in color. On average takes 151 d to flower and 171 d to mature. Plants bear average 23 pods per plant. Pods on average bear 1.1 seeds per pod.

The following were developed by Fred Allen, University of Tennessee, Department of Plant Sciences, 2431 Joe Johnson Drive, Knoxville, Tennessee 37996, United States; Vincent R. Pantalone, University of Tennessee,

Department of Plant Sciences, 2431 Joe Johnson Drive, Knoxville, Tennessee 37996, United States; Prakash R. Arelli, USDA-ARS, 605 Airways Blvd., Jackson, Tennessee 38301, United States; Alemu Mengistu, USDA/ARS, West Tennessee Experiment Station, 605 Airways Blvd., Jackson, Tennessee 38301, United States. Received 01/06/2006.

PI 641937. *Glycine max* (L.) Merr.

Breeding. Pureline. JTN-5303. GP-328. Pedigree - F6 derived line from cross: Caviness x Anand. Developed and released with unique combination of high yield, resistance to several predominant nematode populations and resistance to important fungal pathogens. Plants selected based on desirable agronomic traits, superior yield and resistance to soybean cyst nematode (*Heterodera glycines* Ichinohe - SCN). Selection for nematode resistance involved both molecular markers and greenhouse phenotyping with nematode populations. Was evaluated with SCN races (2,3,5,14; corresponding to HG Types 1.2.5.7; 0; 2.5.7; 1.3.6.7, respectively) and was found to be resistant at USDA-ARS, Jackson, TN. Simple sequence repeat markers (SSR) Satt 309, Satt 632, Satt 162 and Satt 082 have confirmed resistance to SCN races. Resistant to sudden death syndrome [caused by *Fusarium solani*], stem canker [caused by *Diaporthe phaseolorum* var. *caulivora*] and frog-eye leaf spot (caused by *Cercospora sojina*). Was found moderately resistant to charcoal rot [caused by *Macrophomina phaseolina*] but susceptible to root-knot nematode (caused by *Meloidogyne incognita*). Is maturity group V line (relative maturity 5.4) and has determinate growth habit. Has white flowers, tawny pubescence and seeds are yellow with imperfect black hila. Averaged 3604 kilograms/hectare seed yield slightly higher than 5002T. Produced 200 g/kg seed oil, 408 g/kg protein and 15g seed weight (100 seeds), respectively. Has great value as a parent in soybean improvement because of its broad resistance to SCN, fungal pathogens and high yield.

The following were developed by Lawrence D. Young, USDA, ARS, MSA Crop Genetics & Prod. Res. Unit, P.O. Box 345, Stoneville, Mississippi 38776-0345, United States; Prakash R. Arelli, USDA-ARS, 605 Airways Blvd., Jackson, Tennessee 38301, United States; Alemu Mengistu, USDA/ARS, West Tennessee Experiment Station, 605 Airways Blvd., Jackson, Tennessee 38301, United States. Received 01/06/2006.

PI 641938. *Glycine max* (L.) Merr.

Breeding. Pureline. JTN-5503. GP-326. Pedigree - Selection from the cross Fowler x Manokin. Is an F7 derived line. F2 plants resistant to soybean cyst nematode (SCN) (*Heterodera glycines* Ichinohe) race 2 (corresponding to HG Type 1.2-) were selected and grown in F3 rows. Progenies were advanced through mass selection for superior agronomic types with resistance to both soybean cyst nematode and predominant fungal pathogens. Marker assisted selection (MAS) identified a soybean line with combined resistance to SCN races 2,3,5,14 (corresponding to HG Types 1.2.5.7, 0, 2.5.7, 1.3.6.7 respectively). Satt 309, Satt 632, Satt 162 and Satt 082 were used for marker assisted selection. Resistance in this line was confirmed with nematode populations in greenhouse phenotyping tests at USDA-ARS, Jackson, TN. Highly resistant to stem canker [caused by *Diaporthe phaseolorum* var. *caulivora*], frog-eye leaf spot (caused by *Cercospora sojina*), cercospora leafblight [caused by *Cercospora kikuchii*] and moderately resistant to sudden death syndrome [caused by *Fusarium solani*] and charcoal rot [caused by *Macrophomina*

phaseolina]. Is a maturity group V line (relative maturity 5.4) with white flowers, tawny pubescence and a determinate growth habit. Seeds are yellow with black hila. In 2004 Tennessee State Variety Test, averaged 3808 kilograms per hectare in seed yield. In 2003-2004 USDA Southern Reg. Preliminary and Uniform Group V tests, produced 3675 kilograms per hectare in seed yield, 187 g per kilogram seed oil, 398 grams per kilogram seed protein and 13.6 g seed weight (100 seeds), respectively. The release matured 2 d later and was 5 cm shorter in height compared with 5601T. Has great value as a parent in soybean improvement because of its higher yield and high level of resistance to SCN and fungal pathogens.

The following were developed by Dolores W. Mornhinweg, USDA, ARS, Plant Science Research Laboratory, 1301 N. Western Street, Stillwater, Oklahoma 74075, United States. Received 01/06/2006.

PI 641939. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "SIDNEY". Pedigree - Otis*4/STARS 9301B. Released 2006. 2-rowed, spring, mid-season maturing, drought resistant feed barley with high tolerance to Russian wheat aphid (RWA), *Diruaphis noxia*. On Webster's scale of 1-9 (1=immune, 9=dead), Sidney rated 2 in greenhouse seedling screenings. Resistant to all currently known biotypes of RWA. Field testing has shown this resistance to persist throughout the life of the plant. Over 7 location years of testing including a wide range of temperature and moisture extremes, Sidney out yielded the recurrent parent, Otis, as well as Otis + Gaucho, both in the presence and absence of RWA. In extremely hot, dry years, only Otis and Otis derived lines survived to produce seed.

PI 641940. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "STONEHAM". Pedigree - Otis*4/STARS 9577B. Released 2006. 2-rowed, spring, early maturing, drought resistant, feed barley with high tolerance to Russian wheat aphid (RWA), *Diruaphis noxia*. On Webster's scale of 1-9 (1=immune, 9=dead) Stoneham rated 3 in greenhouse seedling screenings. Resistant to all currently known biotypes of RWA. Field testing has shown this resistance to persist throughout the life of the plant. Over 7 location years of testing including a wide range of temperature and moisture extremes, Stoneham out yielded the recurrent parent, Otis, as well as otis + Gaucho, both in the presence and absence of RWA. In extremely hot, dry years, only Otis and Otis derived lines survived to produce seed.

The following were collected by Terry Tolbert, Escalante Bureau of Land Management, 755 W. Main, Escalante, Utah 84726, United States. Received 08/25/2005.

PI 641941. *Solanum jamesii* Torr.

Wild. TOL 1; WRF 3627 - 641941 x 605361. Collected 08/18/2005 in Utah, United States. Latitude 37° 46' 35" N. Longitude 111° 34' 40" W. Elevation 1731 m. Garfield County. East of Escalante in the Escalante River Gorge; upriver from the confluence with Pine Creek; South side of river. Located in sandy soil with an overstory of *Quercus gambelii* and under some cover from *Artemisia tridentata*. About 500 plants. The aspect is NW on the toe slope beneath the Navajo sandstone ledges. The patch was 20 X 100 feet.

PI 641942. *Solanum jamesii* Torr.

Wild. TOL 2. Collected 08/18/2005 in Utah, United States. Latitude 37° 46' 35" N. Longitude 111° 34' 34" W. Elevation 1731 m. Garfield County. East of Escalante in the Escalante River Gorge; upriver from the confluence with Pine Creek; South side of river. Located in sandy loam among *Quercus gambelii*, *Chenopodium femontii*, *Bromus tectorum* and *Mirabilis oxybaphoides* as the major plants. About 150 plants. The aspect is North on fairly steep hillside in the shade of Gambel oak. The patch was 2 X 10 feet and is covered by a couple of inches of oak leaves.

PI 641943. *Solanum jamesii* Torr.

Wild. TOL 3. Collected 08/18/2005 in Utah, United States. Latitude 37° 46' 36" N. Longitude 111° 34' 38" W. Elevation 1734 m. Garfield County. East of Escalante in the Escalante River Gorge; upriver from the confluence with Pine Creek; South side of river. Located in sandy loam growing alone, with only some cheat grass on the outer most individuals. About 75 plants. The aspect is North on a very steep slope in the shade of Gabel oak. The patch was 10 X 10 feet and is covered with oak leaf duff three or four inches thick.

PI 641944. *Solanum jamesii* Torr.

Wild. TOL 4. Collected 08/22/2005 in Utah, United States. Latitude 37° 46' 36" N. Longitude 111° 34' 36" W. Elevation 1734 m. Garfield County. East of Escalante in the Escalante River Gorge; upriver from the confluence with Pine Creek; South side of river. Located in sandy and sandy loam soil. Plants concentrated in a couple of cracks in the cliff wall about three feet wide; others on flat ground or on the toe slope of the ledges. About 1000 plants. The aspect of this patch is mostly East but curves around to North facing. Most plants receive direct sunlight until later in the day. Plants flowering.

The following were donated by Matt Erasmus, ARC, Range and Forage Institute, Private Bag X05, Lynn East, South Africa. Received 02/23/1996.

PI 641945. *Acanthosicyos naudinianus* (Sond.) C. Jeffrey

Wild. 020308; Prime No. 02F4; Grif 14025. Collected in South Africa. Naboonspruit.

The following were collected by Umesh Srivastava, NBPGR, New Delhi, Delhi, India; James D. McCreight, USDA, ARS, Agricultural Research Station, 1636 East Alisal Street, Salinas, California 93905, United States; Jack E. Staub, USDA, ARS, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Donated by James D. McCreight, USDA, ARS, Agricultural Research Station, 1636 East Alisal Street, Salinas, California 93905, United States; Jack E. Staub, USDA, ARS, University of Wisconsin, Department of Horticulture, Madison, Wisconsin 53706, United States. Received 01/11/1993.

PI 641946. *Lagenaria siceraria* (Molina) Standl.

USM 115; Grif 5609. Collected 1992 in India.

The following were collected by James M. Stewart, University of Arkansas, Department of Crop, Soil, & Environmental Sciences, Fayetteville, Arkansas 72701, United States; L. Jones. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 641947. *Chamaecrista fasciculata* (Michx.) Greene
9021656; MS 4828; Grif 7787. Collected 10/01/1980 in Arkansas, United States. MLRA 134, Woodruff County, Arkansas.

The following were donated by Cindy Wildeus, University of Virgin Islands, Kingshill, St. Croix 008850, Virgin Islands (U.S.). Received 08/22/1989.

PI 641948. *Clitoria ternatea* L.
VI 21; Grif 5546. Collected 1982 in St. Croix, Virgin Islands (U.S.). Highway 83, near junction with highway 62, St. Croix, V.I. Roadside.

PI 641949. *Teramnus labialis* (L. f.) Spreng.
VI 46; Grif 5582. Collected 07/29/1988 in St. Croix, Virgin Islands (U.S.). Pangola grass (*Digitaria decumbens*) pasture near junction of highways 58 and 765, St. Croix, V.I.

The following were developed by H. Thomas Stalker, North Carolina State University, Department of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; Hassan A. Melouk, USDA, ARS, Oklahoma State University, Department of Plant Pathology, Stillwater, Oklahoma 74078, United States; Thomas G. Isleib, North Carolina State University, Department of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; P.W. Rice, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; B.B. Shew, North Carolina State University, Dept. of Plant Pathology, Raleigh, North Carolina 27695-7629, United States; R.W., Ii Mozingo, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; S.C. Copeland, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; J.B. Graeber, North Carolina State University, Dept. of Crop Science, box 7629, Raleigh, North Carolina 27695-7629, United States; D.L. Smith, North Carolina State University, Dept. of Plant Pathology, Box 7903, Raleigh, North Carolina 27695-7903, United States. Received 01/19/2006.

PI 641950. *Arachis hypogaea* L.
Breeding. Pureline. N96076L. GP-125. Pedigree - F4 derived line selected from cross X91053 using breeding line N90004 as female and leaf spot-resistant germplasm line GP NC WS 13 as male. N96076L is a large-seeded Virginia-type peanut (*Arachis hypogaea* L. subsp. *hypogaea* var. *hypogaea*) germplasm line with resistance to multiple diseases including early leaf spot caused by *Cercospora arachidicola* S. Hori, *Cylindrocladium* black rot (CBR) caused by *Cylindrocladium parasiticum* Crous, Wingfield & Alfenas [syn. *C. crotalariae* (Loos) D.K. Bell & Sobers], *Sclerotinia* blight caused by *Sclerotinia minor* Jagger, and tomato spotted wilt caused by tomato spotted wilt virus (TSWV). N96076L was released by the N. C. Agric. Research Service (NCARS) in 2005. N96076L was tested by the NCARS, by the Virginia Agric. Exp. Station (VAES), and the USDA-ARS Wheat, Peanut and Other Field Crops Research Unit at Stillwater, OK. N96076L has alternate branching pattern, runner

growth habit, medium green foliage, large seeds with dull tan testa averaging 880 mg seed l, approximately 70% jumbo pods and 22% fancy pods.

The following were developed by A. Doug Brede, J.R. Simplot Co., 5300 West Riverbend Avenue, Post Falls, Idaho 83854-9499, United States; Mark J. Sellmann, J.R. Simplot Co., 5300 West Riverbend Avenue, Post Falls, Idaho 83854-9499, United States. Received 01/23/2006.

PI 641951. *Festuca rubra* L. subsp. *rubra*

Cultivar. Population. "AUDUBON". CV-95. Pedigree - Developed from maternal progenies of 21 lines. Germplasm sources are 81% Simplot experimental lines collected in old cemeteries around the U.S., and 19% from old Medalist America experimentals. During early stages of development of 21 lines, open-pollinated selections from spaced-plant nurseries were used. In later stages of development, isolated synthetic polycrosses were used. Initial selection criteria for progenies were similar maturity, parentage, moderate plant height, fine leaf texture, darker leaf color, tolerance to stem rust, and increased seed yield. In production, Audubon demonstrated a mean heading date from 8 to 11 May, with initial anthesis ~ 10 to 14 d later. Audubon demonstrated a mean plant height to the inflorescence tip from 55.3 to 59.9 cm; mean panicle length from tip of panicle to panicle node ranged from 10.0 to 11.2 cm; flagleaf length ranged from 7.3 to 9.0 cm; flagleaf width was 2.9 to 3.0 mm; lemma length (straight) ranged from 5.5 to 5.8 mm. Audubon appears most similar to Cindy, however, Audubon has a shorter lemma length. Audubon has shown good turf quality in the shade in U.S. trials. It has exhibited good resistance to red thread [caused by *Laetisaria fucimormis* (McAlpine)], melting out [caused by *Bipolaris sorokiniana* (H. sorokinianum Sacc. in Sorokin) (syn. *H. sativum* Pammel, C.M. King and Bakke)] and summer patch [caused by *Magnaporthe poae* Landschoot and Jackson]. Audubon exhibits good mowing quality, early spring green up and dark rich fall color. Audubon is recommended for home lawns, parks, and golf course roughs and out-of-play areas where strong creeping red fescue is suitable for turf.

The following were developed by David A. Van Sanford, University of Kentucky, Department of Plant & Soil Sciences, 327 Plant Science Bldg., Lexington, Kentucky 40546-0312, United States; Sue Cambron, USDA-ARS, 901 W. State St., Purdue University, West Lafayette, Indiana 47907, United States; Harold E. Bockelman, USDA, ARS, National Small Grains Collection, 1691 S 2700 W, Aberdeen, Idaho 83210, United States; D.L. Long, USDA, ARS, Cereal Disease Lab, St. Paul, Minnesota, United States; C.S. Swanson, University of Kentucky, Kentucky Agric. Exp. Station, Lexington, Kentucky, United States; L.J. Tomes, University of Kentucky, Dept. of Agronomy, Kentucky Agric. Exp. Station, Lexington, Kentucky 40546-0091, United States; D.E. Hershman, Kentucky Agric. Exp. Station, Dept. of Plant Pathology, University of Kentucky, Lexington, Kentucky 40546-0091, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; C. Gaines, USDA-ARS, Soft Wheat Quality Lab, Wooster, Ohio 44691, United States; J. Connelley, University of Kentucky, Dept. of Plant and Soil Sciences, Lexington, Kentucky 40546-0312, United States; B. Kennedy, University of Kentucky, Dept. of Plant and Soil Sciences, Lexington, Kentucky 40546-0312, United States; C.R. Tutt, University of Kentucky, Dept. of Plant

and Soil Sciences, Lexington, Kentucky 40546-0312, United States. Received 01/23/2006.

PI 641952. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "ALLEGIANCE"; KY90C-054-6. CV-993. Pedigree - Pioneer Brand 2548 / SS 555. Released 2002. Soft red winter wheat developed by the Kentucky Agricultural Experiment Station and released in 2002 for excellent grain yield potential and its moderate resistance to *Fusarium* head blight. Is a white-chaffed, awned soft red winter wheat with lax, fusiform spikes and intermediate size kernels. Coleoptiles are white and juvenile plant growth habit is semi-erect. Plant color at boot stage is green. Flag leaf at boot stage is erect and without waxy bloom. Kernels are oval with rounded cheeks, a shallow crease and a short brush. Midseason in maturity with heading date approximately 123 d after 1 January under Kentuckys growing conditions. Tall and winter-hardiness is intermediate. In the seven-location Kentucky state variety trial from 2000-2002, Allegiance was the top yielding entry with grain yield of 5833 kg ha⁻¹,. Test weight was 743 kg m⁻³. In 2 yr of testing over 37 locations in 2000 - 2001 Allegiance yielded 5220 kg ha⁻¹ (ranking 7th) and 4985 kg ha⁻¹ (ranking 14th), respectively. In milling and baking tests of Allegiance, at the USDA Soft Wheat Quality Lab in Wooster, flour yield was 718 g kg⁻¹ and cookie diameter slightly was 18.5 cm. Gluten strength as indicated by lactic acid retention capacity, was intermediate 105.2. In 3 yr of *Fusarium* head blight testing in irrigated, inoculated nurseries in KY from 2002-2004, was rated as having low to moderately low disease severity and index. Has shown a reaction ranging from moderate resistance to susceptibility to powdery mildew, (caused by *Erysiphe graminis* f.sp. *tritici*). Reaction to leaf rust (caused by *Puccinia recondita*) similarly had varied from resistant to susceptible. Possesses LR 10 plus additional unknown leaf rust resistance genes. Has demonstrated moderate susceptibility to leaf blotch (caused by *Septoria tritici*), moderate resistance to stripe rust, (*Puccinia striiformis*) moderate resistance to wheat spindle streak mosaic virus, and resistance to stem rust (caused by *Puccinia graminis*).

The following were developed by Holden's Foundation Seeds, Inc., United States. Received 12/19/2005.

PI 641953 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "LH326". PVP 200600016.

PI 641954 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "LH334". PVP 200600017.

PI 641955 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "LH390". PVP 200600018.

The following were developed by Syngenta Seeds, Inc., United States. Received 01/18/2006.

PI 641956 PVPO. *Citrullus lanatus* (Thunb.) Matsum. & Nakai var. *lanatus*

Cultivar. "90-4262". PVP 200600019.

PI 641957. *Pisum sativum* L.

Cultivar. "ATITLAN". PVP 200600050.

The following were developed by Syngenta Seeds, Inc., Idaho 83711-4188, United States. Received 01/11/2006.

PI 641958 PVPO. Phaseolus vulgaris L.
Cultivar. "STAYTON". PVP 200600051.

PI 641959 PVPO. Phaseolus vulgaris L.
Cultivar. "RENEGADE". PVP 200600052.

PI 641960 PVPO. Phaseolus vulgaris L.
Cultivar. "HAYDEN". PVP 200600053.

The following were developed by D. Gogas, N.AG.RE.F. - Cereal Institute, PO Box 60411, 57001 Thermi-Thessaloniki, Greece; S. Stratilakis, N..G.RE.F - Cereal Institute, P.O. Box 60411, 570 01 Thermi, Thessaloniki, Greece. Received 01/31/2006.

PI 641961. Triticum aestivum L. subsp. aestivum
Cultivar. Pureline. "ELISSAVET"; CM66246-C-1M-1Y-2Y-OM. CV-1003.
Pedigree - Developed by single plant selection, applied in F7 lines of the cross [JCAM-EMU"S" X CHR'S'S' (IAS20 X WTEC3) - NAR/KVK'S')] of the 17th Int'l Bread Wheat Screening Nursery of CIMMYT. CIMMYT's pedigree for this cross: CM66246-C-1M-1Y-2Y-OM. Single plant selection repeated in F7:8 F7:9 F7:10 head rows. Elissavet derived from F10 head row, selected summer of 1987 and multiplied in F11 and F12 head rows. Released 2000. Short mid-season spring bread wheat with height of 100 cm. Needs 176 d to reach maturity. Has white, parallel, symmetric compact spikes with long white awn and ovate brown and medium hard seeds. 1000 kernel weight is 33 gm. Resistant to lodging and tolerant to drought conditions. Proved to be resistant to 3 rusts: Puccinia graminis f. sp. tritici (stem rust), Puccinia triticina (leaf rust) and Puccinia striiformis (yellow or stripe rust). Gives a mean grain yield of 4680 kg/ha-1, compared to 4400 kg/ha-1 and 4580 kg/ha-1 for the 2 national checks Vergina and Yecora-S; has a grain volume weight equal to 793 gm/L-1, compared to 769 gm/L-1 for best national check, Yecora-S. Mean dry flour protein concentration is 150 gm/kg-1 compared to 152 gm/kg-1 for the mean of the 2 national checks Vergina and Yecora-S and mean flour extraction rate of 69.7% compared to 68.3% for best national check, Yecora-S. Mean sedimentation value equal to 37.1 compared to 35.3 for mean of 2 national checks Vergina and Yecora-S and gluten index equal to 99, compared to 96.4 for best national check. Gives a loaf volume equal to 602 cm³ per 100 gm of dry flour, compared to 567, 582 and 630 cm³ per 100 gm of dry flour for 3 national checks Vergina, Dio and Yecora-S.

The following were collected by John Durling, USDA-NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823, United States; John Leif, USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823, United States; David W. Burgdorf, USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 49036, United States; Bill Veldt, United States. Developed by USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823-9420, United States; John Durling, USDA-NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823, United

States. Donated by USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823-9420, United States. Received 03/29/2005.

PI 641962. *Elymus canadensis* L.

Cultivar. "Icy Blue"; 9084347; W6 27722. GP-95. Collected 10/1999 in Indiana, United States. Along an abandoned railroad grade in La Porte county, Indiana. R4 W, T 36 N, Section 8 which is in MLRA 98. Icy Blue is a native perennial bunchgrass that grows to four feet tall with erect or arching culms and flat, wide pointed leaves that from the base of the stem to the spike. Icy Blue has a whitish, waxy bloom, giving it a distinctive "icy blue" color on the leaf surface and the stems.

The following were developed by USDA, SCS, Upper Colorado Env. Pl. Ctr., Meeker, Colorado, United States. Donated by Gary Noller, USDA-NRCS, Upper Colorado Environmental Plant Center, 5538 RBC #4, Meeker, Colorado 81641, United States. Received 12/2005.

PI 641963. *Elymus elymoides* (Raf.) Swezey

Cultivar. "Wapiti"; 9040189; W6 27723.

PI 641964. *Elymus elymoides* (Raf.) Swezey

Cultivar. "Pueblo"; 9040187; W6 27724.

The following were developed by Frederic L. Kolb, University of Illinois, Department of Crop Sciences, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States; Charles M. Brown, University of Illinois, Department of Agronomy, 1102 South Goodwin Avenue, Urbana, Illinois 61801, United States; Leslie L. Domier, USDA-ARS, Department of Crop Sciences, University of Illinois, Urbana, Illinois 61801, United States; N.J. Smith, University of Illinois, Dept. of Crop Sciences, 1102 S. Goodwin Avenue, Urbana, Illinois 61801, United States. Received 01/31/2006.

PI 641965. *Avena sativa* L.

Breeding. Pureline. IL2815. GP-87. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641966. *Avena sativa* L.

Breeding. Pureline. IL2838. GP-88. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant

oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641967. *Avena sativa* L.

Breeding. Pureline. IL2858. GP-89. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641968. *Avena sativa* L.

Breeding. Pureline. IL2901. GP-90. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641969. *Avena sativa* L.

Breeding. Pureline. IL3303. GP-91. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected

based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641970. *Avena sativa* L.

Breeding. Pureline. IL3555. GP-92. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641971. *Avena sativa* L.

Breeding. Pureline. IL3587. GP-93. Pedigree - IL86-5698/IL86-1156 // Ogle/IL86-6404. Released 2003. The seven spring oat (*Avena sativa* L.) germplasm lines (IL2815, IL2838, IL2858, IL2901, IL3303, IL3555, IL3587) have a very high level of tolerance to barley yellow dwarf virus (BYDV). A population from a four-way cross was used to develop the BYDV tolerant oat germplasm lines. The four-way cross involved four BYDV tolerant parents: IL86-1156, IL86-5698, IL86-6404 and Ogle. Two of the parents (IL86-5698 and IL86-6404) were previously released as BYDV tolerant germplasm lines, and Ogle is a well-known spring oat cultivar with good BYDV tolerance. The seven lines were selected based on excellent tolerance to BYDV. In addition to BYDV tolerance, lines were selected based on high grain yield in infected and uninfected conditions, high test weight, good kernel morphology and absence of awns. The lines differ somewhat in height, maturity, other agronomic traits, and virus titer detected with ELISA.

PI 641972. *Avena sativa* L.

Breeding. Pureline. IL2246-5. GP-94. Pedigree - Clintland 64*5/IL86-1156 . Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-1156 is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641973. *Avena sativa* L.

Breeding. Pureline. IL2246-15. GP-95. Pedigree - Clintland 64*5/IL86-1156. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-1156 is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641974. *Avena sativa* L.

Breeding. Pureline. IL2246-16. GP-96. Pedigree - Clintland 64*5/IL86-1156. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-1156 is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641975. *Avena sativa* L.

Breeding. Pureline. IL2246-20. GP-97. Pedigree - Clintland 64*5/IL86-1156. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-1156 is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641976. *Avena sativa* L.

Breeding. Pureline. IL2250-3. GP-98. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641977. *Avena sativa* L.

Breeding. Pureline. IL2250-14. GP-99. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641978. *Avena sativa* L.

Breeding. Pureline. IL2250-15. GP-100. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641979. *Avena sativa* L.

Breeding. Pureline. IL2250-18. GP-101. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641980. *Avena sativa* L.

Breeding. Pureline. IL2256-2. GP-102. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of six near-isogenic lines

differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641981. *Avena sativa* L.

Breeding. Pureline. IL2256-8. GP-103. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641982. *Avena sativa* L.

Breeding. Pureline. IL2256-12. GP-104. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641983. *Avena sativa* L.

Breeding. Pureline. IL2256-17. GP-105. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641984. *Avena sativa* L.

Breeding. Pureline. IL2256-20. GP-106. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641985. *Avena sativa* L.

Breeding. Pureline. IL2256-22. GP-107. Pedigree - Clintland 64*5/IL86-5698. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-5698 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641986. *Avena sativa* L.

Breeding. Pureline. IL2273-5. GP-108. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is

tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641987. *Avena sativa* L.

Breeding. Pureline. IL2273-6. GP-109. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641988. *Avena sativa* L.

Breeding. Pureline. IL2273-23. GP-110. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641989. *Avena sativa* L.

Breeding. Pureline. IL2273-26. GP-111. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641990. *Avena sativa* L.

Breeding. Pureline. IL2273-27. GP-112. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641991. *Avena sativa* L.

Breeding. Pureline. IL2273-29. GP-113. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of six near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

PI 641992. *Avena sativa* L.

Breeding. Pureline. IL2277-1. GP-114. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

- PI 641993. *Avena sativa* L.**
Breeding. Pureline. IL2277-2. GP-115. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.
- PI 641994. *Avena sativa* L.**
Breeding. Pureline. IL2277-3. GP-116. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.
- PI 641995. *Avena sativa* L.**
Breeding. Pureline. IL2277-16. GP-117. Pedigree - Clintland 64*5/Ogle. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. Ogle is tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.
- PI 641996. *Avena sativa* L.**
Breeding. Pureline. IL2294-1. GP-118. Pedigree - Clintland 64*5/IL86-6404. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-6404 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.
- PI 641997. *Avena sativa* L.**
Breeding. Pureline. IL2294-2. GP-119. Pedigree - Clintland 64*5/IL86-6404. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-6404 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.
- PI 641998. *Avena sativa* L.**
Breeding. Pureline. IL2294-3. GP-120. Pedigree - Clintland 64*5/IL86-6404. Released 2003. This is a set of four near-isogenic lines differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-6404 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.
- PI 641999. *Avena sativa* L.**
Breeding. Pureline. IL2294-8. GP-121. Pedigree - Clintland 64*5/IL86-6404. Released 2003. This is a set of four near-isogenic lines

differing in the level of BYDV tolerance present in the lines. Clintland 64, the recurrent parent, is BYDV susceptible. This is one of six groups of near-isogenic lines developed with the Clintland 64 background. IL86-6404 is very tolerant to BYDV. These lines will be useful primarily for research purposes, but will not be useful for cultivar development.

The following were donated by Texas A&M University, Texas Agricultural Exp. Station, College Station, Texas 77841, United States. Received 1961.

PI 642000. Ricinus communis L.

Cultivar. "HALE"; REG NO 3; RA 348 T 53222-11-7-6-1-1-B-; NSL 4773. CV-3

The following were developed by Hazera Genetics, Israel. Received 12/07/2005.

PI 642001. Solanum lycopersicum L.

Cultivar. "PNINALY". PVP 200500295.

The following were developed by Pure Seed Testing, Inc., United States. Received 12/07/2005.

PI 642002 PVPO. Festuca rubra L.

Cultivar. "SEABREEZE GT". PVP 200600011.

The following were developed by University of Georgia Research Foundation, Inc., Athens, Georgia, United States; Florida Agricultural Experiment Station, Florida, United States. Received 12/07/2005.

PI 642003 PVPO. X Triticosecale sp.

Cultivar. "342". PVP 200600020.

The following were developed by Paragon Seed, Inc., United States. Received 12/07/2005.

PI 642004 PVPO. Lactuca sativa L.

Cultivar. "NAVAJO". PVP 200600021.

The following were developed by North Dakota State University Research Foundation, North Dakota, United States. Received 12/07/2005.

PI 642005 PVPO. Avena sativa L.

Cultivar. "STARK". PVP 200600022. Pedigree - ND900677/Paul.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 12/07/2005.

PI 642006 PVPO. Brassica oleracea var. botrytis L.

Cultivar. "CMA511540". PVP 200600024.

The following were developed by Seed Source, Inc., United States. Received 12/07/2005.

PI 642007 PVPO. *Gossypium hirsutum* L.
Cultivar. "LINWOOD". PVP 200600025.

The following were developed by 3 Star Lettuce, LLC, United States. Received 12/07/2005.

PI 642008. *Lactuca sativa* L.
Cultivar. "TRIPLE PLAY". PVP 200600026.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 12/07/2005.

PI 642009 PVPO. *Agrostis stolonifera* var. *palustris* (Huds.) Farw.
Cultivar. "KINGPIN". PVP 200600038.

The following were developed by Progeny Advanced Genetics, Inc., Salinas, California, United States. Received 12/07/2005.

PI 642010 PVPO. *Lactuca sativa* L.
Cultivar. "TSUNAMI". PVP 200600039.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 12/07/2005.

PI 642011 PVPO. *Brassica oleracea* var. *capitata* L.
Cultivar. "WPR561779". PVP 200600041.

PI 642012 PVPO. *Cucumis melo* L.
Cultivar. "WSH 39-1046 AN". PVP 200600042.

The following were developed by Minnesota Agricultural Experiment Station, United States. Received 12/07/2005.

PI 642013 PVPO. *Glycine max* (L.) Merr.
Cultivar. "SD1092RR". PVP 200600015.

The following were developed by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States; James R. Steadman, University of Nebraska, Department of Plant Pathology, 406 Plant Science Hall, Lincoln, Nebraska 68583, United States; Jim D. Kelly, Michigan State University, Department of Crop & Soil Science, 370 Plant & Soil Sci. Bldg. MSU, East Lansing, Michigan 48824-1325, United States; J. Rennie Stavely, USDA, ARS, Microbiology and Plant Pathology Lab., Room 252, Building 011A, BARC-West, Beltsville, Maryland 20705-2350, United States; Marcial Pastor-Corrales, USDA, ARS, Vegetable Laboratory, Building 010A, Room 240, BARC-West, Beltsville, Maryland 20705-2350, United States; D. Lindgren, University of Nebraska,

PI 642014. *Phaseolus vulgaris* L.

Breeding. Pureline. BMN-RMR-8; BelMiNeb-RMR-8; 5-4051. GP-247. Pedigree - Derived from crossing an F5 pinto plant with resistance genes Ur-3, Ur-6, Ur-11 for rust and bc-3 and I for BCMV/BCMNV with pollen from great northern germplasm line BMN-RMR-3 with Ur-4, Ur-11, bc-3 and I. High yielding, upright short vine, type II, white seeded, great northern dry bean germplasm line BelMiNeb (BMN)-Rust and Mosaic Resistant (RMR)-8. One of first six and only great northern beans in the world to combine four genes (Ur-3, Ur-4, Ur-6 and Ur-11) for resistance to all known races of the hyper variable bean rust pathogen, *Uromyces appendiculatus*, with two genes (I and bc-3) for resistance to all known strains of the highly variable bean common mosaic (BCMV) and bean common mosaic necrosis (BCMNV) potyviruses. Most important source of rust resistance in BMN-RMR-8 is the Ur-11 gene effective against 89 of 90 races of *U. appendiculatus* maintained at Beltsville. PI 1818996 and PI 190078 were sources of Ur-11. The single race of *U. appendiculatus* for which Ur-11 is not effective, is controlled by Ur-3 and Ur-4. The Ur-3 rust resistance gene is effective against 44 races maintained at Beltsville. The Ur-3 gene has remained effective against rust pathogen races in the U.S. since its introduction into dry bean cultivars. The Ur-4 gene that controls race 108 is effective against 29 races of *U. appendiculatus* maintained at Beltsville. This line contains the independent Ur-6 gene that is effective against 22 races. Michigan pinto breeding lines P94207 (released as Kodiak) and P94232 are the sources of the Ur-3 and Ur-6 genes. The source of the Ur-4 gene was the snap bean Early Gallatin. Pinto line P 94232 and great northern line G 94567 were the sources of bc-3. Several lines and cultivars in the pedigree of BMN-RMR-8 were the sources of the I gene. Combination of dominant I and recessive bc-3 genes with distinctly different mechanisms of resistance offer complete, and probably durable, resistance to all known strains of BCMV and BCMNV. BelMiNeb-RMR-8 produced under field conditions erect plants with moderately early maturity, high yield, good pod-to-ground clearance, and large, attractive, dull, white, great northern seeds that averaged 33.9 grams/100 seeds.

PI 642015. *Phaseolus vulgaris* L.

Breeding. Pureline. BMN-RMR-9; BelMiNeb-RMR-9; 5-4059. GP-248. Pedigree - Derived from crossing an F5 pinto plant with resistance genes Ur-3, Ur-6, Ur-11 for rust and bc-3 and I for BCMV/BCMNV with pollen from great northern germplasm line BMN-RMR-3 with Ur-4, Ur-11, bc-3 and I. High yielding, upright short vine, type II, white seeded, great northern dry bean germplasm line BelMiNeb (BMN)-Rust and Mosaic Resistant (RMR)-9. One of the first six and only great northern beans in world to combine 4 genes (Ur-3, Ur-4, Ur-6 and Ur-11) for resistance to all known races of the hyper variable bean rust pathogen, *Uromyces appendiculatus*, with two genes (I and bc-3) for resistance to all known strains of highly variable bean common mosaic (BCMV) and bean common mosaic necrosis (BCMNV) potyviruses. Most important source of rust resistance in BMN-RMR-9 is Ur-11 gene effective against 89 of the 90 races of *U. appendiculatus* maintained at Beltsville. PI 1818996 and PI 190078 were sources of Ur-11. The single race of *U. appendiculatus* for which Ur-11 is not effective, is controlled by Ur-3 and Ur-4. Ur-3 rust resistance gene also effective against 44 races maintained at Beltsville. The Ur-3 gene has remained effective against rust pathogen races in U.S. since

its introduction into dry bean cultivars. Ur-4 gene that controls race 108 is effective against 29 races of *U. appendiculatus* maintained at Beltsville. Contains independent Ur-6 gene effective against 22 races. Michigan pinto breeding lines P94207 (released as Kodiak) and P94232 are sources of Ur-3 and Ur-6 genes. Source of Ur-4 gene was snap bean Early Gallatin. Pinto line P 94232 and great northern line G 94567 were sources of bc-3. Several lines and cultivars in pedigree of BMN-RMR-9 were sources of the I gene. Combination of dominant I and recessive bc-3 genes with distinctly different mechanisms of resistance offer complete, and probably durable, resistance to all known strains of BCMV and BCMNV. BelMiNeb-RMR-9 produced under field conditions erect plants with moderately early maturity, high yield, good pod-to-ground clearance, and white, large great northern seeds that averaged 34.3 grams/100 seeds.

PI 642016. *Phaseolus vulgaris* L.

Breeding. Pureline. BMN-RMR-10; BelMiNeb-RMR-10; 6-1911. GP-249. Pedigree - Derived from crossing an F5 pinto plant with resistance genes Ur-3, Ur-6, Ur-11 for rust and bc-3 and I for BCMV/MCMNV with pollen from great northern germplasm line BMN-RMR-3 with Ur-4, Ur-11, bc-3 and I. High yielding, upright short vine, type II, white seeded, great northern dry bean germplasm line BelMiNeb (BMN)-Rust and Mosaic Resistant (RMR)-10. One of first six and only great northern beans in world to combine four genes (Ur-3, Ur-4, Ur-6 and Ur-11) for resistance to all known races of the hyper variable bean rust pathogen, *Uromyces appendiculatus*, with two genes (I and bc-3) for resistance to all known strains of highly variable bean common mosaic (BCMV) and bean common mosaic necrosis (BCMNV) potyviruses. Most important source of rust resistance in BMN-RMR-10 is Ur-11 gene effective against 89 of 90 races of *U. appendiculatus* maintained at Beltsville. PI 1818996 and PI 190078 were sources of Ur-11. The single race of *U. appendiculatus* for which Ur-11 is not effective, is controlled by Ur-3 and Ur-4. Ur-3 rust resistance gene is effective against 44 races maintained at Beltsville. Ur-3 gene has remained effective against rust pathogen races in U.S. since its introduction into dry bean cultivars. Ur-4 gene that controls race 108 is effective against 29 races of *U. appendiculatus* maintained at Beltsville. This line contains independent Ur-6 gene effective against 22 races. Michigan pinto breeding lines P94207 (released as Kodiak) and P94232 are sources of the Ur-3 and Ur-6 genes. Source of the Ur-4 gene was snap bean Early Gallatin. Pinto line P 94232 and great northern line G 94567 were sources of bc-3. Several lines and cultivars in pedigree of BMN-RMR-10 were sources of the I gene. Combination of dominant I and recessive bc-3 genes with distinctly different mechanisms of resistance offer complete, and probably durable, resistance to all known strains of BCMV and BCMNV. BelMiNeb-RMR-10 produced under field conditions erect plants with moderately early maturity, high yield, good pod-to-ground clearance, and white, large great northern seeds that averaged 33.3 grams/100 seeds.

The following were developed by Marcial Pastor-Corrales, USDA, ARS, Vegetable Laboratory, Building 010A, Room 240, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 02/02/2006.

PI 642017. *Phaseolus vulgaris* L.

Breeding. Pureline. BMN-RMR-11; BelMiNeb-RMR-11; 6-2267. GP-250. Pedigree - Derived from crossing an F5 pinto plant with resistance genes Ur-3, Ur-6, Ur-11 for rust and bc-3 and I for BCMV/BCMNV with pollen

from great northern germplasm line BMN-RMR-3 with Ur-4, Ur-11, bc-3 and I. High yielding, upright short vine, type II, white seeded, great northern dry bean germplasm line BelMiNeb (BMN)-Rust and Mosaic Resistant (RMR)-11. One of first six and only great northern beans in world to combine four genes (Ur-3, Ur-4, Ur-6 and Ur-11) for resistance to all known races of the hyper variable bean rust pathogen, *Uromyces appendiculatus*, with two genes (I and bc-3) for resistance to all known strains of the highly variable bean common mosaic (BCMV) and bean common mosaic necrosis (BCMNV) potyviruses. Most important source of rust resistance in BMN-RMR-11 is Ur-11 gene effective against 89 of 90 races of *U. appendiculatus* maintained at Beltsville. PI 1818996 and PI 190078 were sources of Ur-11. Single race of *U. appendiculatus* for which Ur-11 is not effective, is controlled by Ur-3 and Ur-4. Ur-3 rust resistance gene also effective against 44 races maintained at Beltsville. Ur-3 gene has remained effective against rust pathogen races in U.S. since its introduction into dry bean cultivars. Ur-4 gene that controls race 108 is effective against 29 races of *U. appendiculatus* maintained at Beltsville. This line contains the independent Ur-6 gene effective against 22 races. Michigan pinto breeding lines P94207 (released as Kodiak) and P94232 are sources of the Ur-3 and Ur-6 genes. Source of the Ur-4 gene was snap bean Early Gallatin. Pinto line P 94232 and great northern line G 94567 were sources of bc-3. Several lines and cultivars in pedigree of BMN-RMR-11 were sources of the I gene. Combination of dominant I and recessive bc-3 genes with distinctly different mechanisms of resistance offer complete, and probably durable, resistance to all known strains of BCMV and BCMNV. BelMiNeb-RMR-11 produced under field conditions erect plants with moderately early maturity, high yield, good pod-to-ground clearance, and white, rather large great northern seeds that averaged 36.7 grams/100 seeds.

The following were developed by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States; James R. Steadman, University of Nebraska, Department of Plant Pathology, 406 Plant Science Hall, Lincoln, Nebraska 68583, United States; Jim D. Kelly, Michigan State University, Department of Crop & Soil Science, 370 Plant & Soil Sci. Bldg. MSU, East Lansing, Michigan 48824-1325, United States; J. Rennie Stavelly, USDA, ARS, Microbiology and Plant Pathology Lab., Room 252, Building 011A, BARC-West, Beltsville, Maryland 20705-2350, United States; Marcial Pastor-Corrales, USDA, ARS, Vegetable Laboratory, Building 010A, Room 240, BARC-West, Beltsville, Maryland 20705-2350, United States; D. Lindgren, University of Nebraska, Dept. of Agronomy and Horticulture, Lincoln, Nebraska 68583, United States. Received 02/02/2006.

PI 642018. *Phaseolus vulgaris* L.

Breeding. Pureline. BMN-RMR-12; BelMiNeb-RMR-12; 6-1772. GP-251. Pedigree - Derived from crossing an F5 pinto plant with resistance genes Ur-3, Ur-6, Ur-11 for rust and bc-3 and I for BCMV/BCMNV with pollen from great northern germplasm line BMN-RMR-3 with Ur-4, Ur-11, bc-3 and I. High yielding, upright short vine, type II, white seeded, great northern dry bean germplasm line BelMiNeb (BMN)-Rust and Mosaic Resistant (RMR)-12. One of the first six and only great northern beans in world to combine four genes (Ur-3, Ur-4, Ur-6 and Ur-11) for resistance to all known races of the hyper variable bean rust pathogen, *Uromyces appendiculatus*, with two genes (I and bc-3) for resistance to all known strains of the highly variable bean common mosaic (BCMV) and

bean common mosaic necrosis (BCMV) potyviruses. Most important source of rust resistance in BMN-RMR-12 is Ur-11 gene effective against 89 of 90 races of *U. appendiculatus* maintained at Beltsville. PI 1818996 and PI 190078 were sources of Ur-11. Single race of *U. appendiculatus* for which Ur-11 is not effective, controlled by Ur-3 and Ur-4. Ur-3 rust resistance gene effective against 44 races maintained at Beltsville. Ur-3 gene has remained effective against rust pathogen races in U.S. since its introduction into dry bean cultivars. Ur-4 gene that controls race 108 is effective against 29 races of *U. appendiculatus* maintained at Beltsville. This line contains the independent Ur-6 gene effective against 22 races. Michigan pinto breeding lines P94207 (released as Kodiak) and P94232 are sources of the Ur-3 and Ur-6 genes. Source of Ur-4 gene was snap bean Early Gallatin. Pinto line P 94232 and great northern line G 94567 were sources of bc-3. Several lines and cultivars in the pedigree of BMN-RMR-12 were the sources of the I gene. The combination of dominant I and recessive bc-3 genes with distinctly different mechanisms of resistance offer complete, and probably durable, resistance to all known strains of BCMV and BCMNV. BelMiNeb-RMR-12 produced under field conditions erect plants with moderately early maturity, high yield, good pod-to-ground clearance, and white and large great northern seeds that averaged 35.7 grams/100 seeds.

PI 642019. *Phaseolus vulgaris* L.

Breeding. Pureline. BMN-RMR-13; BelMiNeb-RMR-13; 6-2298. GP-252. Pedigree - Derived from crossing an F5 pinto plant with resistance genes Ur-3, Ur-6, Ur-11 for rust and bc-3 and I for BCMV/BCMV with pollen from great northern germplasm line BMN-RMR-3 with Ur-4, Ur-11, bc-3 and I. High yielding, upright short vine, type II, white seeded, great northern dry bean germplasm line BelMiNeb (BMN)-Rust and Mosaic Resistant (RMR)-13 One of first six and only great northern beans in world to combine four genes (Ur-3, Ur-4, Ur-6 and Ur-11) for resistance to all known races of hyper variable bean rust pathogen, *Uromyces appendiculatus*, with two genes (I and bc-3) for resistance to all known strains of the highly variable bean common mosaic (BCMV) and bean common mosaic necrosis (BCMV) potyviruses. Most important source of rust resistance in BMN-RMR-13 is Ur-11 gene effective against 89 of 90 races of *U. appendiculatus* maintained at Beltsville. PI 1818996 and PI 190078 were sources of Ur-11. Single race of *U. appendiculatus* for which Ur-11 is not effective, controlled by Ur-3 and Ur-4. Ur-3 rust resistance gene also effective against 44 races maintained at Beltsville. Ur-3 gene has remained effective against rust pathogen races in the U.S. since its introduction into dry bean cultivars. Ur-4 gene that controls race 108 is effective against 29 races of *U. appendiculatus* maintained at Beltsville. This line contains independent Ur-6 gene effective against 22 races. Michigan pinto breeding lines P94207 (released as Kodiak) and P94232 are sources of the Ur-3 and Ur-6 genes. Source of Ur-4 gene was snap bean Early Gallatin. Pinto line P 94232 and great northern line G 94567 were sources of bc-3. Several lines and cultivars in pedigree of BMN-RMR-13 were sources of the I gene. Combination of dominant I and recessive bc-3 genes with distinctly different mechanisms of resistance offer complete, and probably durable, resistance to all known strains of BCMV and BCMNV. BelMiNeb-RMR-13 produced under field conditions erect plants with moderately early maturity, high yield, good pod-to-ground clearance, and white and large great northern seeds that averaged 36.3 grams/100 seeds.

The following were developed by Elias M. Elias, North Dakota State University, Department of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States; F.A. Manthey, North Dakota State University, Dept. of Cereal Science, Fargo, North Dakota 58105, United States. Received 02/08/2006.

PI 642020. *Triticum turgidum* subsp. *durum* (Desf.) Husn.

Cultivar. Pureline. "ALKABO"; D96604. PVP 200600105; CV-1008; REST 642020. Pedigree - D901247/D89263. Released 2005. High yielding, large kernel size, strong gluten, high protein, day length sensitive durum wheat. Plants are medium in height and maturity. Spikes are middense, awned, oblong, and erect. Kernels are amber color and large-sized (37.4 mg). Has very strong gluten and 136 g kg⁻¹ semolina protein. Resistant to stem rust (*Puccinia graminis tritici*) and leaf rust (*Puccinia triticina*).

PI 642021. *Triticum turgidum* subsp. *durum* (Desf.) Husn.

Cultivar. Pureline. "DIVIDE"; D9715-11. PVP 200600106; CV-1009; REST 642021. Pedigree - Ben/D901282//Belzer. Released 2005. High yielding, large kernel size, strong gluten, high protein, and day length sensitive durum wheat. Plants are medium in height and maturity. Spikes are middense, awned, oblong, and erect. Kernels are amber color and large-sized (38.7 mg). Has very strong gluten and 142 g kg⁻¹ semolina protein. Resistant to stem rust (*Puccinia graminis tritici*) and leaf rust (*Puccinia triticina*). Has moderate resistance to *Fusarium* head blight caused by *Fusarium graminearum*.

PI 642022. *Triticum turgidum* subsp. *durum* (Desf.) Husn.

Cultivar. Pureline. "GRENORA"; D97780. PVP 200600107; CV-1010; REST 642022. Pedigree - D901260/D901419. Released 2005. High yielding, large kernel size, strong gluten, high protein, and day length sensitive durum wheat. Plants are medium in height and maturity. Spikes are middense, awned, oblong, and erect. Kernels are amber color and large-sized (38.4 mg). Has very strong gluten and 137 g kg⁻¹ semolina protein. Resistant to stem rust (*Puccinia graminis tritici*) and leaf rust (*Puccinia triticina*).

The following were developed by C.A. Rose-Fricker, Pure Seed Testing, Inc., 3057 G Street, Hubbard, Oregon 97032, United States; Melodee L. Fraser, Pure Seed Testing, Inc., P.O. Box 176, 606 Main Street, Rolesville, North Carolina 27571, United States; Joseph K. Wipff, Barenbrug USA, Inc., West Coast Research Station, 36030 Tennessee Road, Albany, Oregon 97322, United States. Received 02/13/2006.

PI 642023. *Poa pratensis* L.

Cultivar. Population. "PROSPERITY"; PST-Y2K-59. PVP 200600068; CV-93. Pedigree - PST-107-8 X Brilliant. A single apomictic plant hybrid determined to have moderately high levels of apomixis and good turf performance. Has flag leaf sheath length 9.6 cm, 1.2 cm longer than Brilliant. Has panicle length 6.8 cm, 0.8 cm shorter than Brilliant. Has tiller leaf width 3.6 mm, 0.7 mm longer than Brilliant. Has flag leaf width 3.3 mm, 0.6 mm wider than Brilliant. Has good resistance to diseases. Plant height 49.5 cm, tiller leaf length 6.2 cm.

The following were donated by Sweet Auburn Market, 209 Edgewood Avenue, Atlanta, Georgia, United States. Received 01/2005.

PI 642024. *Senna alexandrina* Mill.

Uncertain.

The following were developed by Harold E. Pattee, USDA, ARS, North Carolina State University, Box 7625, Raleigh, North Carolina 27695-7625, United States; Thomas G. Isleib, North Carolina State University, Department of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; R. Walton Mozingo, Tidewater Agricultural Research, and Extension Center, 6321 Holland Road, Suffolk, Virginia 23437, United States; P.W. Rice, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; Timothy H. Sanders, USDA, ARS, North Carolina State University, Box 7631, Raleigh, North Carolina 27695-7624, United States; Dennis L. Coker, Virginia Tech, 6321 Holland Road, Suffolk, Virginia 23437, United States; R.W., Ii Mozingo, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; S.C. Copeland, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; J.B. Graeber, North Carolina State University, Dept. of Crop Science, box 7629, Raleigh, North Carolina 27695-7629, United States. Received 02/15/2006.

PI 642025. *Arachis hypogaea* L. var. *hypogaea*

Cultivar. Pureline. "PHILLIPS"; N98003. CV-85; PVP 200600070. Pedigree - F5 derived line selected from a cross between N90014E(female) and N91024(male). Large-seeded virginia-type peanut cultivar with high yield of bright fancy pods. Possesses alternate branching pattern, intermediate runner growth habit, medium green foliage, large seeds with tan testa averaging 835 mg seed l, approximately 34% jumbo pods and 45% fancy pods. In 40 trials in the joint VAES-NCARS Peanut Variety and Quality Evaluation (PVQE) program over 2000-2004, Phillips had similar pod yield and fancy pod content compared with NC V 11 but greater jumbo pod content, jumbo pod brightness, fancy pod brightness, average pod brightness, extra large kernel (ELK) content, sound mature kernel content, meat content, and crop value at federal support price. Although the ratio of oleic to linoleic fatty acid in seed oil of Phillips was greater than that of NC V 11, both cultivars have low oleic acid levels even within the normal range for virginia-type peanuts. In 16 trials conducted by the NCARS breeding program over 1998-2004, Phillips had greater brightness of fancy pods than NC V 11, greater average pod brightness, greater ELK content, and greater meat content. Susceptible to early leafspot caused by *Cercospora arachidicola*, to *Cylindrocladium* black rot (CBR) caused by *C. parasiticum*, to *Sclerotinia* blight caused by *S. minor* and to tomato spotted wilt caused by tomato spotted wilt virus (TSWV).

The following were developed by Harold E. Pattee, USDA, ARS, North Carolina State University, Box 7625, Raleigh, North Carolina 27695-7625, United States; Thomas G. Isleib, North Carolina State University, Department of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; R. Walton Mozingo, Tidewater Agricultural Research, and Extension Center, 6321 Holland Road, Suffolk, Virginia 23437, United States; P.W. Rice, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North

Carolina 27695-7629, United States; W.P. Novitzky, USDA, ARS, North Carolina State Univ., Dept. of Crop Sci., Raleigh, North Carolina 27695-7631, United States; Timothy H. Sanders, USDA, ARS, North Carolina State University, Box 7631, Raleigh, North Carolina 27695-7624, United States; R.W., Ii Mozingo, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; S.C. Copeland, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; J.B. Graeber, North Carolina State University, Dept. of Crop Science, box 7629, Raleigh, North Carolina 27695-7629, United States; D.L. Coker, Tidewater Agricultural Research Extension Center, Dept. of Soil and Environment Sciences, 6321 Holland Rd., Suffolk, Virginia 23437, United States. Received 02/15/2006.

PI 642026. *Arachis hypogaea* L. var. *hypogaea*

Cultivar. Pureline. "BRANTLEY"; N00090ol. PVP 200600071; CV-86; Utility Patent 5922390; Utility Patent 6063984; Utility Patent 6121472. Pedigree - Brantley is a BC4F2-derived line developed by backcrossing the high-oleic trait patented by the University of Florida (US Patent Nos. 5,922,390, 6,063,984, and 6,121,472) into the NC 7 cultivar. The initial cross was made using NC 7 as a female and F435-2-3-B-2-1-b4-B-B-3-b3-b3-1-B, a spanish-type line that was identified with the high-oleic trait, as a male. Four backcrosses were made using high-oleic selections from the previous cycle of crossing as the female and NC 7 as the male. Large-seeded virginia-type peanut cultivar with high oleic acid content in its seed oil, essentially derived from the NC 7 cultivar. Possesses alternate branching pattern, intermediate runner growth habit, medium green foliage, large seeds with tan testa averaging 895 mg seed 1, approximately 65% jumbo pods and 24% fancy pods, and extra large kernel content of approximately 50%. Because it was essentially derived from NC 7 by backcrossing, most characteristics of Brantley are comparable with those of NC 7. Brantley is susceptible to early leafspot caused by *Cercospora arachidicola*, to *Cylindrocladium* black rot caused by *C. parasiticum*, to *Sclerotinia* blight caused by *S. minor*, and to tomato spotted wilt caused by tomato spotted wilt virus. Has high-oleic oil chemistry. The high-oleic trait produces an array of changes in the fatty acid composition of peanut oil compared with normal-oleic NC 7, most notably the elevation of oleic acid content (79.1 vs. 55.9%, $P < 0.05$), and the reduction of linoleic acid content (4.3 vs. 25.1%, $P < 0.05$) and palmitic acid content (5.7 vs. 8.8%, $P < 0.05$).

The following were developed by Mark Uebersax, Michigan State University, 135 Food Science Building, East Lansing, Michigan 48824-1224, United States; George L. Hosfield, USDA, ARS, Michigan State University, Department of Crop & Soil Science, East Lansing, Michigan 48824-1325, United States; Jim D. Kelly, Michigan State University, Department of Crop & Soil Science, 370 Plant & Soil Sci. Bldg. MSU, East Lansing, Michigan 48824-1325, United States; Gregory M. Varner, Dry Edible Bean Research, Advisory Board, 3066 S. Thomas Road, Saginaw, Michigan 48603, United States; J. Taylor, Michigan State University, Dept. of Crop and Soil Sci., East Lansing, Michigan 48824, United States. Received 02/14/2006.

PI 642027. *Phaseolus vulgaris* L.

Cultivar. Pureline. "CAPRI"; C99833. CV-262. Pedigree - Developed from the cross: Cardinal/K94803. Capri has an upright determinate Type I growth habit and plants average 48 cm in height with moderate resistance

to lodging. Capri has typical lavender flowers of cranberry beans and blooms 37 d after planting. Capri is a midseason bean, maturing 95 d after planting and has a range in maturity from 90 to 98 d, depending on season and location. Capri carries the dominant I gene for resistance to Bean Common Mosaic Virus (BCMV), and displays resistance to the indigenous bean rust races bean prevalent in Michigan. Capri is susceptible to the common races (7 and 73) of bean anthracnose, Michigan isolates of root rot, common bacterial blight and white mold. Capri produces a highly-desirable large-sized cranberry seed that averages 60 g 100 seed⁻¹. The seed has significantly lower incidence (15%) of internal black spot as compared to Cardinal (49%). Capri scored 4.1 on a seven-point hedonic scale (where 7 is most desirable, 1 is least desirable, and 4 is average), but it produces a slightly firmer cooked bean texture.

PI 642028. Phaseolus vulgaris L.

Cultivar. Pureline. "SEDONA"; S00809. CV-263. Pedigree - Developed from the cross: X94076/R94142. Upright pink bean cultivar. Plants averages 50 cm in height and exhibits the Type II upright indeterminate growth habit, with gives it moderate resistance to lodging. Has white flowers and blooms 41-44 d after planting. Is a midseason bean, maturing 93 d after planting and has a range in maturity from 90 to 95 d, depending on season and location. Matures uniformly about 2 d earlier than Merlot, and 5 d earlier than Brooks and Rufus. Possesses the bc-12 gene that conditions resistance to certain strains of BCMV, and exhibits delayed mild mosaic symptoms to the temperature-insensitive necrosis-inducing strains of BCMNV such as NL 3. Displays resistance to the indigenous bean rust races prevalent in Michigan, but is susceptible to the common races (7 and 73) of bean anthracnose. Tolerant to Michigan isolates of root rot but is susceptible to common bacterial blight. Exhibits similar levels of tolerance or plant avoidance to white mold. Produces a medium-sized pink seed that averages 37 g 100 seed⁻¹. In canning trials, Sedona scored 5.4 on a seven-point hedonic scale (where 7 is most desirable, 1 is least desirable, and 4 is average). After processing, Sedona retains size and color equivalent to that of small red beans. Does not differ significantly from the small red bean cultivars in seed hydration, and drained weight ratios, but it produces a slightly softer cooked bean texture.

The following were developed by Holden's Foundation Seeds, Inc., United States. Received 12/09/2005.

PI 642029 PVPO. Zea mays L. subsp. mays

Cultivar. "LH299". PVP 200600028.

PI 642030 PVPO. Zea mays L. subsp. mays

Cultivar. "LH307". PVP 200600029.

PI 642031 PVPO. Zea mays L. subsp. mays

Cultivar. "LH333BT1". PVP 200600030.

PI 642032 PVPO. Zea mays L. subsp. mays

Cultivar. "LH341". PVP 200600031.

PI 642033 PVPO. Zea mays L. subsp. mays

Cultivar. "LH342". PVP 200600032.

- PI 642034 PVPO. *Zea mays* L. subsp. *mays***
Cultivar. "LH362". PVP 200600033.
- PI 642035 PVPO. *Zea mays* L. subsp. *mays***
Cultivar. "LH372". PVP 200600034.
- PI 642036 PVPO. *Zea mays* L. subsp. *mays***
Cultivar. "LH381". PVP 200600035.
- PI 642037 PVPO. *Zea mays* L. subsp. *mays***
Cultivar. "LH391". PVP 200600036.
- PI 642038 PVPO. *Zea mays* L. subsp. *mays***
Cultivar. "LH400". PVP 200600037.

The following were donated by Robert L. Jarret, USDA, ARS, Plant Genetic Resources Conservation Unit, University of Georgia, Griffin, Georgia 30223-1797, United States. Received 02/13/2006.

- PI 642039. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "APPLE"; Carolina Seeds No. 31401.
- PI 642040. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "BUSHEL BASKET"; Carolina Seeds No. 31402.
- PI 642041. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "CALABASH"; Carolina Seeds No. 31403.
- PI 642042. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "SNAKE"; Carolina Seeds No. 31431.
- PI 642043. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "LONG HANDLE DIPPER"; Carolina Seeds No. 31410.
- PI 642044. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "MARANKA (CAVEMAN'S CLUB)"; Carolina Seeds No. 31429.
- PI 642045. *Lagenaria siceraria* (Molina) Standl.**
Uncertain. "SPECKLED SWAN"; Carolina Seeds No. 31435.

The following were developed by Michael J. Ottman, University of Arizona, Arizona Agric. Exp. Station, College of Agriculture, Tucson, Arizona 85721, United States. Received 02/17/2006.

- PI 642046. *Hordeum vulgare* L. subsp. *vulgare***
Cultivar. Pureline. "SOLAR"; ENTRY 2. Pedigree - An F6 selection made in 1999 from a population released as Composite Cross XXXIX. Spring barley with erect early growth, mid-tall height, and early maturity. Spikes are lax and erect with rough awns. Glumes are more than one-half the length of the lemma and have long hairs confined to a band. Glume awns are longer than the length of the glumes. Kernels are covered, white, and mid-long to long with semi-wrinkled hulls. In tests under reduced water use conditions from 2002 to 2004 at Maricopa, AZ, Solar averaged 3097

lbs/acre grain yield, 51.9 lbs/bushel test weight, 15% lodging, 35 inches plant height, March 2 heading date and April 14 maturity date.

The following were developed by Gail Dahlquist, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway Road, Phoenix, Arizona 85040, United States; P.M. Tomasi, USDA-ARS, U.S. Water Conservation Lab., 4331 E. Broadway Rd., Phoenix, Arizona 85040-8832, United States; David Dierig, USDA, ARS, U.S. Arid Land Agricultural Research Center, 21881 N. Cardon Lane, Maricopa, Arizona 85239, United States. Received 02/15/2006.

PI 642047. *Lesquerella fendleri* (A. Gray) S. Watson

Breeding. Population. WCL-LO3. GP-33. Pedigree - WCL-LO3 / WCL-LY2 PI 613131 / WCL-LO1 PI 596363 / PI 311165, PI 293005, PI 293006, PI 293007, 293009, PI 293010, PI 293012, PI 293013, PI 293015, PI 293016. Has 33% seed oil content and lesquerolic fatty acid (C20:2 OH) content of 58 %. Seed yields average 40 grams per plant. Plant height and plant biomass at early flowering state (March 15) is 19 cm and 35 grams per square meter, respectively, and at maturity (May 15) is 32 cm and 137 grams per square meter, respectively. Harvest index is 28.9. Seed weight for 1000 seeds is 0.72 grams. Population has intermediate plant growth habits. Plants begin flowering in early February and reach full flowering by mid-April when planted in October in Arizona. Plants require pollinators for seed-set. Plant characteristics were measured under irrigated conditions. Plant yields did not appear to be reduced due to insect pests or diseases.

The following were developed by Andrew Salywon, U.S. Water Conservation Laboratory, 4331 E. Broadway, Phoenix, Arizona 85040, United States; David Dierig, USDA, ARS, U.S. Arid Land Agricultural Research Center, 21881 N. Cardon Lane, Maricopa, Arizona 85239, United States; D. Jasso de Rodriguez, Universidad Autonoma Agraria Antonio Narro Buenavista, Saltillo, Coahuila 25315, Mexico. Received 02/15/2006.

PI 642048. *Lesquerella fendleri* (A. Gray) S. Watson

Genetic. Population. WCL-CF1. GS-13. Pedigree - WCL-CF1 / 4005-1 / 4005 (Parl 181). Has 18% seed oil content and lesquerolic fatty acid (C20:2 OH) content of 53%. Seed yields average 8 grams per plant. Plant height and plant biomass at early flowering stage (March 15) is 16 cm and 14 grams per square meter, respectively, and at maturity (May 15) is 20 cm and 45 grams per square meter, respectively. Harvest index is 16. Seed weight for 1000 seeds is 0.72 grams. Population has intermediate plant growth habits. Plants begin flowering in early February and reach full flowering by mid-April when planted in October in Arizona. Plants require pollinators for seed-set. Plant characteristics were measured under irrigated conditions.

The following were developed by Bayer Cropscience, United States. Received 12/30/2005.

PI 642049 PVPO. *Gossypium hirsutum* L.

Cultivar. "FM 958LL". PVP 200500134.

PI 642050 PVPO. *Gossypium hirsutum* L.

Cultivar. "FM 966LL". PVP 200500135.

PI 642051 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 981LL". PVP 200500136.

PI 642052 PVPO. *Gossypium hirsutum* L.
Cultivar. "FM 832LL". PVP 200500137.

The following were developed by Pure Seed Testing, Inc., United States.
Received 12/30/2005.

PI 642053 PVPO. *Poa pratensis* L.
Cultivar. "DENALI". PVP 200600043.

The following were developed by Novel Ag, Inc., United States. Received
12/30/2005.

PI 642054 PVPO. *Agrostis stolonifera* var. *palustris* (Huds.) Farw.
Cultivar. "AUTHORITY". PVP 200600044.

The following were developed by Jeff Tyler, Delta and Pine Land Company, P.O. Box 157, 100 Main Street, Scott, Mississippi 38772, United States; J. Rusty Smith, USDA-ARS, Crop Genetics and Production Research Unit, P.O. Box 345, Stoneville, Mississippi 38776, United States; Alemu Mengistu, USDA/ARS, West Tennessee Experiment Station, 605 Airways Blvd., Jackson, Tennessee 38301, United States; R.L. Paris, The American Chestnut Foundation, 14005 Glenbrook Avenue, Meadowview, Virginia 24361, United States. Donated by J. Rusty Smith, USDA-ARS, Crop Genetics and Production Research Unit, P.O. Box 345, Stoneville, Mississippi 38776, United States. Received 03/07/2006.

PI 642055. *Glycine max* (L.) Merr.
Breeding. Pureline. DT97-4290; SY 601001. GP-320. Pedigree - DT97-4290 was derived from the cross Asgrow 'A5979' x Delta Pine "DP3478". A5979 was selected from the cross 'Young' x 'A5474'. Released 02/01/2006. DT97-4290 has an indeterminate growth habit, purple flowers, tawny pubescence, and tan pod walls. Seed are shiny yellow with black hila. DT97-4290 is classified as Maturity Group IV (relative maturity 4.8), and matures about 2 d earlier than 'Manokin?'. In three years of USDA Uniform tests, plant height of DT97-4290 averaged 91 cm compared to 75 cm for that of Manokin. The plant lodging score of 2.0 (where 1 all plants upright and 5 all plants prostrate) and seed quality score of 2.2 (where 1 excellent and 5 poor) of DT97-4290 were similar to those of Manokin. Seed weight of DT97-4290 averaged 144 mg/seed compared to 122 mg/seed for Manokin. Seed of DT97-4290 averaged 415 g/kg protein (zero moisture basis) and 197 g/kg oil (zero moisture basis), which is 11 g/kg more protein and 9 g/kg less oil than that of Manokin. DT97-4290 is moderately resistant to charcoal rot based on field evaluations from 2002 to 2004 in artificially infested sandy loam soil at Stoneville, MS. The severity of internal discoloration for stem and root was measured on a scale of 1-5 (where 1 = resistant, >1 to 2 = moderately resistant, >2 to <3 = moderately susceptible, and 3 to 5 = susceptible). The severity value for DT97-4290 over the three year stged 1.6, whereas susceptible check Manokin averaged 3.6. DT97-4290 is the first soybean germplasm line to be released specifically for its resistance to charcoal rot. It is a valuable source of resistance for soybean breeders

and producers in areas experiencing yield losses due to charcoal rot. DT97-4290 is resistant to southern stem canker (similar to resistant check cultivar Manokin), soybean mosaic virus, and races 2, 4, and 10 of phytophthora rot [caused by *Phytophthora sojae* (M.J. Kaufmann and J.W. Gerdemann)]. DT97-4290 is also moderately resistant to frog-eye leaf spot [caused by *Cercospora sojae* Hara].

The following were developed by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Received 02/24/2006.

PI 642056. *Helianthus annuus* L.

Genetic. SuMV-1; VR-1. GS-33. Pedigree - PI 435424/2*HA 89//PI 435424/2*HA 89, F5. Single-headed, black seed with gray stripes. Flowers in 80 d after planting, has a plant height of 111 cm, head diam. of 14.0 cm, 1000-seed weight of 44 g and self-pollinated seed set of 57%. Will provide source of resistance should sunflower mosaic virus become an economic problem.

PI 642057. *Helianthus annuus* L.

Genetic. SuMV-2; VR-2. GS-34. Pedigree - PI 435418/3*HA 89, F5. Single-headed, black seed with gray stripes and segregating for gray-mottled and brown seeds. Homozygous resistant to the sunflower mosaic potyvirus (SMV). Flowers in 76 d after planting, has a plant height 101 cm, head diam. of 12.6, 1000-seed weight of 60, and self-pollinated seed set of 70%. Will provide source of resistance should sunflower mosaic virus become an economic problem.

PI 642058. *Helianthus annuus* L.

Genetic. SuMV-3; VR-3. GS-35. Pedigree - PI 435437/2*HA 89//PI 435437/2*HA 89, F5. Homozygous resistant to the SMV, branched, and segregates for gray-mottled and brown seeds. Flowers in 74 d after planting, has a plant height of 81 cm, head diam. of 3.7 cm and 1000-seed weight of 17 g, and self-pollinated seed set of 32%, indicating low level of self-compatibility.

The following were developed by Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Gerald Seiler, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, University Station, Fargo, North Dakota 58105, United States; Gerhardt N. Fick, Seeds 2000, Inc., P. O. Box 200, 115 3rd Street North, Breckenridge, Minnesota 56520, United States. Received 02/24/2006.

PI 642059. *Helianthus annuus* L.

Genetic. cms RIGX-HA 89. GS-36. Pedigree - RIGX/HA 89//WA/3/7*HA 89. Non-branched, with plant height of 96 cm, flowers 79 d after planting (DAP), head diam. of 12.9 cm. Seeds are black with gray stripes, with a 1000-seed weight of 60g. Expected to provide cytoplasmic diversity for hybrid sunflower production. In field tests, 89 plants produced no seeds after self-pollination, and 99% seed set from open-pollination, indicating complete male-sterility and female-fertility.

PI 642060. Helianthus annuus L.

Genetic. Rf RIGX-Luch. GS-37. Pedigree - cms RIGX/2*HA 89/3/cms RIGX/HA 89//WA/4/2*HA 89/7/ cms RIGX/2*HA 89/3/cms RIGX/HA /89//WA/4/2*HA 89/6/cms RIGX/2*HA 89/3/cms RIGX/HA 89//WA/4/HA 89/5/Luch. Non-branched, with plant height of 65 cm, flowers 66 DAP, has a seed set percentage of 59. Seeds are black with gray stripes, have a 1000-seed weight of 42 g.

PI 642061. Helianthus annuus L.

Genetic. Rf RIGX-RCMG1. GS-38. Pedigree - cms RIGX/2*HA 89/3/cms RIGX/HA 89//WA/4/2*HA 89/7/ cms RIGX/2*HA 89/3/cms RIGX/HA 89//WA/4/2*HA 89/6/cms RIGX/2*HA 89/3/cms RIGX/HA 89//WA/4/HA 89/5/RCMG1. Non-branched, with plant height of 97 cm, flowers 68 DAP, has seed set percentage of 81%. Seeds are black with gray stripes, and have a 1000-seed weight of 58 g.

The following were developed by Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Received 02/24/2006.

PI 642062. Helianthus annuus L.

Genetic. cms ANN2-HA 89. GS-39. Pedigree - cms PI 413178/7*HA 89. Has the cytoplasmic male sterility characteristic of not producing visible anthers during flowering, similar to the cms PET1 used in all commercial hybrids. Single-headed, with a plant height of 121 cm, flower in 74 d after planting, head diam. of 15.9 cm, 1000-seed weight of 62 g; seeds are black with gray stripes.

PI 642063. Helianthus annuus L.

Genetic. cms ANN3-HA 89. GS-40. Pedigree - cms PI 413180/7*HA 89. Has the cytoplasmic male sterility characteristic of not producing visible anthers during flowering, similar to the cms PET1 used in all commercial hybrids. Single-headed, with a plant height of 136 cm, flowers in 77 d after planting, head diam. of 14.6 cm, 1000-seed weight of 58 g; seeds are black with gray stripes.

PI 642064. Helianthus annuus L.

Genetic. Rf ANN2-PI 413178. GS-41. Pedigree - cms PI 413178/HA 89//PI 413178, F4. Plant height of 170 cm, flowers in 82 d, head diam. of 3.5 cm, 1000-seed weight of 8 g; seed set percentage of 44%. Single-headed and segregates for gray-mottle and black seeds.

PI 642065. Helianthus annuus L.

Genetic. Rf ANN2-P21. GS-42. Pedigree - cms PI 413178/HA 89//cms PI 413178/P21, F6. Plant height of 160 cm, flowers in 89 d, head diam. of 9.9 cm, 1000-seed weight of 30 g; seed set percentage of 47%. Branched, with seed coat color of black and gray with black stripes.

PI 642066. Helianthus annuus L.

Genetic. Rf ANN2-RMAX1. GS-43. Pedigree - cms PI 413178/4*HA 89/3/cms PI 413178/RCMG1//RMAX1, F6. Plant height of 136 cm, flowers in 85 d, head diam. of 5.1 cm, 1000 seed weight of 19 g; seed set percentage of 59%. Branched, has brown seeds.

PI 642067. Helianthus annuus L.

Genetic. Rf ANN3-PI 413180. GS-44. Pedigree - cms PI 413180/2*HA 89/3/PI

413180//HA 89, F6. Plant height of 116 cm, flowers in 82 d, head diam. of 8.3 cm, 1000 seed weight of 34 g, seed set percentage of 84%. Branched, has black seeds.

PI 642068. *Helianthus annuus* L.

Genetic. Rf ANN3-P21. GS-45. Pedigree - cms PI 413180/2*HA 89/3/P21//HA 89, F6. Plant height of 145 cm, flowers in 85 d, head diam. of 13.0 cm, 1000 seed weight of 61 g, seed set percentage of 13%. Segregates for single-headed and branched plants, with a seed coat color segregating for black, black with gray stripes, and gray with black stripes.

PI 642069. *Helianthus annuus* L.

Genetic. Rf ANN3-RHA 801. GS-46. Pedigree - cms PI 413180/3*HA 89/3/cms PI 413180/2*HA 89//RHA 801, F6. Plant height of 97 cm, flowers in 76 d, head diam. of 4.6 cm, 1000 seed weight of 17 g, seed set percentage of 75%. Segregates for single-headed and branched, with seed coat color segregating for brown and black with brown stripes.

PI 642070. *Helianthus annuus* L.

Genetic. Rf ANN3-PET2. GS-47. Pedigree - cms PI 413180/4*HA 89//cms PI 413180/2*RPET2, F6. Plant height of 76 cm, flowers in 73 d, head diam. of 10.3 cm, 1000 seed weight of 60 g, seed set percentage of 58%. Single-headed, with seed segregating for brown and black color.

PI 642071. *Helianthus annuus* L.

Genetic. Rf ANN3-RHA 280. GS-48. Pedigree - cms PI 413180/RHA 280//cms PI 413180/RHA 280, F6. Plant height of 117 cm, flowers in 96 d, head diam. of 6.1 cm, 1000 seed weight of 27 g, seed set percentage of 60%. Branched, with seed coat color segregating for black and black with brown stripes.

The following were developed by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States. Received 02/24/2006.

PI 642072. *Helianthus annuus* L.

Breeding. Pureline. TX16R. GP-305. Pedigree - TX16/HA 89//TX16/HA89, F4. Homozygously resistant to all known sunflower downy mildew and rust races and SMV. Inheritance studies suggested that resistance of each of the diseases is under the control of a single gene(s), and are at different loci. Branched, flowers in 80 d, with plant height of 114 cm, segregates for black and gray-mottle seed coat color, with a 1000 seed weight of 4.3 g and 64% self-pollinated seed set.

The following were developed by Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Brady A. Vick, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105-5677, United States. Received 02/24/2006.

PI 642073. *Helianthus annuus* L.

Breeding. Pureline. cms ANN14. GP-306. Pedigree - BC5 bulk: PI 432513/6*HA89. Flowers 73 d after planting, has a plant height of 135

cm, head diam. 14.5 cm, a 1000 seed weight of 65 g. Single-headed, having the characteristic cytoplasmic male-sterility of not producing visible anthers during flowering, and having over 95% seed set from open-pollination. Segregates for seed coat color of black and black with gray stripes.

PI 642074. *Helianthus annuus* L.

Breeding. Pureline. cms MUT7. GP-307. Pedigree - Originated from mytomycin C and streptomycin induced HA 89, Maintained by backcrossing with HA 89, and bulked BC3 seeds. General pedigree: cms M2 plants/4*HA 89. Completely restored by restorer lines RHA 266, RHA 274 (PI 599759), RHA 280 (PI 552943), and RHA 296 (PI 552931) and their F2 segregation ratios indicate a single dominant gene control, implying a common cytoplasmic male sterility similarity in all lines and that the Rf1 gene was a factor in their restoration. Flower in 73 d after planting, have plant height of 128 cm, head diam. of 14.6 cm, and 1000 seed weight of 58g.

PI 642075. *Helianthus annuus* L.

Breeding. Pureline. cms MUT8. GP-308. Pedigree - Originated from mytomycin C and streptomycin induced HA 89. Maintained by backcrossing with HA 89, and the bulked BC3 seeds. General pedigree: cms M2 plants/4*HA 89. Completely restored by restorer lines RHA 266, RHA 274 (PI 599759), RHA 280 (PI 552943) and RHA 296 (PI 552931) and their F2 segregation ratios indicate a single dominant gene control, implying a common cytoplasmic male sterility similarity in all lines and that the Rf1 gene was a factor in their restoration. Flowers in 73 d after planting, plant height of 132 cm, head diam. of 14.5 cm, and 1000 seed weight of 56 g.

PI 642076. *Helianthus annuus* L.

Breeding. Pureline. cms MUT9. GP-309. Pedigree - Originated from mytomycin C and streptomycin induced HA 89. Maintained by backcrossing with HA 89 and the bulked BC3 seeds. General pedigree: cms M2 plants/4*HA 89. Completely restored by restorer lines RHA 266, RHA 274 (PI 599759), RHA 280 (PI 552943) and RHA 296 (PI 552931) and their F2 segregation ratios indicate a single dominant gene control, implying a common cytoplasmic male sterility similarity in all lines and that the Rf1 gene was a factor in their restoration. Flowers in 74 d after planting, plant height of 128 cm, head diam. of 14.1 cm and 1000 seed weights of 56 g.

PI 642077. *Helianthus annuus* L.

Breeding. Pureline. cms MUT10. GP-310. Pedigree - Originated from mytomycin C and streptomycin induced HA 89. maintained by backcrossing with HA 89 and the bulked BC3 seeds. General pedigree: cms M2 plants/4*HA 89. Completely restored by restorer lines RHA 266, RHA 274 (PI 599759), RHA 280 (PI 552943) and RHA 296 (PI 552931) and their F2 segregation ratios indicate a single dominant gene control, implying a common cytoplasmic male sterility similarity in all lines and that the Rf1 gene was a factor in their restoration. Flowers in 72 d after planting, plant heights of 139 cm; head diam. of 16.4 cm and 1000 seed weight of 62 g.

PI 642078. *Helianthus annuus* L.

Breeding. Pureline. cms MUT11. GP-311. Pedigree - Originated from mytomycin C and streptomycin induced HA 89. Maintained by backcrossing

with HA 89 and the bulked BC3 seeds. General pedigree: cms M2 plants/4*HA 89. Completely restored by restorer lines RHA 266, RHA 274 (PI 599759), RHA 280 (PI 552943) and RHA 296 (PI 552931), and their F2 segregation ratios indicate a single dominant gene control, implying a common cytoplasmic male sterility similarity in all lines and that the Rf1 gene was a factor in their restoration. Flowers in 73 d after planting, plant height of 134 cm, head diam of 14.0 cm, and 1000 seed weight of 65 g.

PI 642079. *Helianthus annuus* L.

Breeding. Pureline. cms MUT12. GP-312. Pedigree - Originated from mytomycin C and streptomycin induced HA 89. Maintained by backcrossing with HA 89 and the bulked BC3 seeds. General pedigree: cms M2 plants/4*HA 89. Completely restored by restorer lines RHA 266, RHA 274 (PI 599759), RHA 280 (PI 552943) and RHA 296 (PI 552931) and their F2 segregation ratios indicate a single dominant gene control, implying a common cytoplasmic male sterility similarity in all lines and that the Rf1 gene was a factor in their restoration. Flowers in 75 d after planting, plant height of 133 cm, head diam. of 14.9 cm, and 1000 seed weight of 67 g.

PI 642080. *Helianthus annuus* L.

Breeding. Pureline. Rf Armavir. GP-313. Pedigree - cms PI 432513/PI 432513//Armavir, F6. Pollen stainability of 65% and self-pollinated seed set of 15% indicates a high degree of self-incompatibility. Segregates for branching and non-branching plants, and the seed coat color is segregating for black and brown.

PI 642081. *Helianthus annuus* L.

Breeding. Pureline. Rf PI 432513. GP-314. Pedigree - cms PI 432513/PI 432513, F6. Pollen stainability of 78% and self-pollinated seed set of 25% indicates a high degree of self-incompatibility. Single-headed, has black seeds.

PI 642082. *Helianthus annuus* L.

Breeding. Pureline. Rf VNIIMK. GP-315. Pedigree - cms PI 432513/PI 432513//VNIIMK, F6. Pollen stainability of 88% and self-pollinated seed set of 44% indicates moderate level of self-compatibility. Segregates for branching and non-branching plants, with seeds segregating for black and gray color.

PI 642083. *Helianthus annuus* L.

Breeding. Pureline. Rf P21. GP-316. Pedigree - cms PI 432513/PI 432513//P21, F6. Pollen stainability of 88% and self-pollinated seed set of 40% indicates a moderate level of self-compatibility. Segregates for branching and non-branching plants; has black seeds.

The following were developed by Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Brady A. Vick, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105-5677, United States; Jinguo Hu, USDA, ARS, Northern Crop Science Laboratory, 1307 North 18th Street, Fargo, North Dakota 58105-5677, United States. Received 02/24/2006.

PI 642084. *Helianthus annuus* L.

Genetic. Tricot. GS-49. Pedigree - Found in a BC3F2 population derived

from the cross HA 434//HA 406//HA 89/SU resistant wild sunflower. Displays seedlings with three cotyledons, a phenotype controlled by a few recessive genes with about 50% penetrance. Seedlings bearing three cotyledons also bear three true leaves at each internode. Plant type potentially useful for faster establishment of seedlings after planting due to larger leaf area in the early growing stages, and may serve as a morphological characteristic for distinguishing cultivars. Frequency of seedlings bearing three cotyledons was approximately 2% (seven out of 334 seedlings) in BC3 F2 population. These seven mutant plants were transplanted into greenhouse with five plants survived to maturity. The observed tricotyledonous frequencies among the five F3 families in the field in 2003 ranged from 3 to 31% with an average of 18.5% (157 tricot in 755 seedlings counted). 12 plants randomly bagged to produce F4 progenies. Four F4 families selected for a higher frequency of tricotyledonous seedlings were planted in the field in 2004. Observed frequencies among the four F4 families ranged from 15 to 55%, with an average of 35.5% (122 tricot in 383 seedlings). Same test was repeated for four F5 families and the frequency ranged from 15% to 45%, with an average of 24.1% (72 tricot in 399 seedlings). Results suggested this anomalous characteristics is heritable. However, since the tricotyledony could not be fixed after self-pollination for three consecutive generations and no significant gain was observed from F4 to F5 generation, tricotyledony in this mutant seems to be derived from recessive genes of low penetrance.

Unknown source. Received 03/24/1989.

PI 642085. *Phaseolus vulgaris* L.

Cultivar. W6 2; MK. KORAI FURJBAB. Collected in Hungary.

Unknown source. Received 06/19/1989.

PI 642086. *Phaseolus vulgaris* L.

Cultivated. W6 101. Collected in Hungary.

The following were donated by Anton C. Zeven, Agricultural University, Institute of Plant Breeding (I.v.P.), P.O. Box 386, Wageningen, Gelderland 6700 AJ, Netherlands. Received 06/19/1989.

PI 642087. *Phaseolus vulgaris* L.

Cultivated. IvP 1.84; W6 107. Collected in Netherlands. Vrouwenolder area. Locality was Vrouwenpolder. Primitive cultivar.

PI 642088. *Phaseolus vulgaris* L.

Cultivated. IvP 1.85; W6 108. Collected in Groningen, Netherlands. Groningen area. Locality was Groningen. Primitive cultivar.

PI 642089. *Phaseolus vulgaris* L.

Cultivated. IvP 1.88; W6 110. Collected in Netherlands. Wageningen area. Locality was Wageningen. Primitive cultivar.

PI 642090. *Phaseolus vulgaris* L.

Cultivated. IvP 1.89; W6 111. Collected in Netherlands. Avenhorn area. Locality was Avenhorn. Primitive cultivar.

PI 642091. Phaseolus vulgaris L.
Cultivated. IvP 3.59; W6 114. Collected in Netherlands. Breezand area.
Locality was Breezand. Primitive cultivar.

PI 642092. Phaseolus vulgaris L.
Cultivated. IvP 4.42; W6 117. Collected in Netherlands. Jibsinghuizen
area. Locality was Jibsinghuizen. Primitive cultivar.

The following were donated by O.W. Norvell, Stanford University, Palo Alto,
California, United States. Received 01/01/1989.

PI 642093. Phaseolus sp.
Wild. 3604; W6 2432.

PI 642094. Phaseolus sp.
Wild. 3873; W6 2437.

The following were donated by Emil Milkov, Institute for Wheat and Sunflower,
Magdalena Telezona, Technician, "Dobroudja" 9520, General Toschevo, Tolbukhin
9520, Bulgaria. Received 01/21/1992.

PI 642095. Phaseolus vulgaris L.
Cultivar. "33 IZR"; 481; W6 9607.

PI 642096. Phaseolus vulgaris L.
Cultivar. "BERIL"; 683; W6 9622.

PI 642097. Phaseolus vulgaris L.
Cultivar. "BLAZHIEVO 1"; 564; W6 9624.

PI 642098. Phaseolus vulgaris L.
Cultivar. "DAMJANCI 1"; 604; W6 9629.

PI 642099. Phaseolus vulgaris L.
Cultivar. "DOBRUDZHA 63"; 482; W6 9632.

PI 642100. Phaseolus vulgaris L.
Cultivar. "DOBRUDZHANSKI 2"; 729; W6 9633.

PI 642101. Phaseolus vulgaris L.
Cultivar. "DUNAVCI 5"; 724; W6 9636.

PI 642102. Phaseolus vulgaris L.
Cultivar. "GANA"; 726; W6 9643.

PI 642103. Phaseolus vulgaris L.
Cultivar. "GARMEN 6"; 587; W6 9647.

PI 642104. Phaseolus vulgaris L.
Cultivar. "GRADECI 4"; 520; W6 9653.

PI 642105. Phaseolus vulgaris L.
Cultivar. "HK 17-20"; 466; W6 9657.

- PI 642106. *Phaseolus vulgaris* L.**
Cultivar. "HOTOVO 8"; 602; W6 9662.
- PI 642107. *Phaseolus vulgaris* L.**
Cultivar. "IVAJLOVGRAD 1"; 92; W6 9663.
- PI 642108. *Phaseolus vulgaris* L.**
Cultivar. "KONSTANTIN 15"; 119; W6 9682.
- PI 642109. *Phaseolus vulgaris* L.**
Cultivar. "KRAJNI DOL 3"; 581; W6 9684.
- PI 642110. *Phaseolus vulgaris* L.**
Cultivar. "REGENTE"; 621; W6 9749. Collected in Brazil.

The following were donated by Soon Jai Park, Agriculture and Agri-Food Canada, Harrow Research Station, 2585 County Road 20, Harrow, Ontario N0R 1G0, Canada. Received 08/03/1992.

- PI 642111. *Phaseolus vulgaris* L.**
Cultivar. "DRESDEN"; W6 10663.
- PI 642112. *Phaseolus vulgaris* L.**
Cultivar. "FLEETSIDE"; W6 10665.
- PI 642113. *Phaseolus vulgaris* L.**
Cultivar. "HARWOOD"; W6 10666.

The following were donated by Robert E. Rand, University of Wisconsin, Department of Plant Pathology, 1630 Linden Drive, Madison, Wisconsin 53706, United States. Received 08/14/1992.

- PI 642114. *Phaseolus vulgaris* L.**
Breeding. MDR 201; W6 10679. Multiple disease resistant processing type beans.

The following were collected by Tara Luna, P.O. Box 447, East Glacier Park, Montana 59434, United States. Received 06/14/1993.

- PI 642115. *Phaseolus vulgaris* L.**
Cultivated. CR-93-009; W6 12112. Collected 02/11/1993 in Puntarenas, Costa Rica. Latitude 8° 59' 24" N. Longitude 83° 18' 36" W. Elevation 1110 m. Farm near Rio Terraba, indian pueblo Boruca, Boruca Province.

The following were donated by O.W. Norvell, Stanford University, Palo Alto, California, United States. Received 01/01/1989.

- PI 642116. *Phaseolus acutifolius* A. Gray**
Uncertain. M912; W6 15712.
- PI 642117. *Phaseolus acutifolius* A. Gray**
Wild. M920; W6 15717. Collected in Mexico. Collected: Canyon Santa

Clara, Chihuahua. About half-way between C. Juarez, Chihuahua (out from Parrita, 283 km from C. Juarez) and Chihuahua City, Chih. and in the mts. some 5 miles west of highway. (from original O. Norvell notes).

The following were collected by Gaylord Mink, Washington State University, Irrigated Agricultural Res. & Ext. Ctr., Route 2, Box 2953-A, Prosser, Washington 99350, United States. Received 11/16/1994.

PI 642118. *Phaseolus vulgaris* L.

Cultivated. "NKANAMNA"; W6 16451. Collected 1994 in Tanzania. town of Hai in the Moshi region.

PI 642119. *Phaseolus vulgaris* L.

Cultivated. "RANGIJOBE"; W6 16476. Collected 1994 in Tanzania. town of Arusha in the Arusha region.

PI 642120. *Phaseolus vulgaris* L.

Cultivated. "TIBIABWA"; W6 16580. Collected 1994 in Tanzania. town of Muleba in the Bukoba region.

The following were collected by Tara Luna, 979 Eastman Drive, Big Fork, Montana 59911, United States. Received 04/03/1995.

PI 642121. *Phaseolus vulgaris* L.

Cultivated. E-95-017; W6 16870. Collected 02/02/1995 in Imbabura, Ecuador. Latitude 0° 15' N. Longitude 78° 15' W. Elevation 3000 m. Otavalo. Approx. 90 km N of Quito. Volcanic soil, fair drainage. Intercropped with potatoes and maize.

The following were collected by James R. Steadman, University of Nebraska, Department of Plant Pathology, 406 Plant Science Hall, Lincoln, Nebraska 68583, United States. Received 05/23/1995.

PI 642122. *Phaseolus vulgaris* var. *aborigineus* (Burkart) Baudet

Wild. G21057; A-010.01; W6 17006. Collected 04/22/1995 in Argentina. Latitude 24° 54' 10" S. Longitude 65° 28' 31" W. Elevation 1250 m. Salta INTA station. See original description of CIAT.

PI 642123. *Phaseolus vulgaris* var. *aborigineus* (Burkart) Baudet

Uncertain. A-010.04; MCM 149; W6 17008. Collected 04/22/1995 in Argentina. Latitude 24° 54' 10" S. Longitude 65° 28' 31" W. Elevation 1250 m. Salta INTA station.

PI 642124. *Phaseolus vulgaris* var. *aborigineus* (Burkart) Baudet

Wild. A-011.01; poroto del Zorro; W6 17010. Collected 04/22/1995 in Argentina. Latitude 24° 40' 47" S. Longitude 65° 28' 35" W. Elevation 1440 m. Nearest town: Lesser. Roadside. No tall trees. Rocky, sandy, loam soil. Near cattle grazing fields. Associated vegetation: spiny shrubs.

The following were collected by James R. Steadman, University of Nebraska, Department of Plant Pathology, 406 Plant Science Hall, Lincoln, Nebraska 68583, United States; Roberto Neumann, Instituto Nacional de Tecnologia

Agropecuaria, C.C. 228, Salta, Salta 4400, Argentina. Received 10/1996.

- PI 642125. *Phaseolus vulgaris* var. *aborigineus*** (Burkart) Baudet
Wild. A2-002-1; Poroto; W6 18732. Collected 05/06/1996 in Argentina.
- PI 642126. *Phaseolus vulgaris* var. *aborigineus*** (Burkart) Baudet
Wild. A2-008-1; W6 18743. Collected 05/07/1996 in Argentina.
- PI 642127. *Phaseolus vulgaris* var. *aborigineus*** (Burkart) Baudet
Wild. A2-011-1; W6 18747. Collected 05/07/1996 in Argentina.
- PI 642128. *Phaseolus vulgaris* var. *aborigineus*** (Burkart) Baudet
Wild. A2-017-1; W6 18755. Collected 05/09/1996 in Argentina.

The following were developed by J. Rennie Stavely, USDA, ARS, Microbiology and Plant Pathology Lab., Room 252, Building 011A, BARC-West, Beltsville, Maryland 20705-2350, United States. Received 12/09/1996.

- PI 642129. *Phaseolus vulgaris* L.**
Cultivated. "A x S 37"; W6 18984. Bean differential for bean rust (*Uromyces appendiculatus*).

The following were collected by Gary Nabhan, Native Seeds/SEARCH, 3950 W. New York Drive, Tucson, Arizona 85745, United States. Received 1985.

- PI 642130. *Phaseolus vulgaris* L.**
Cultivated. GN 766; W6 20112. Collected 1985.
- PI 642131. *Phaseolus vulgaris* L.**
Cultivated. GN 814; W6 20153. Collected 02/25/1978 in Arizona, United States. Latitude 36° 55' 41" N. Longitude 110° 40' 19" W. Eva Hoyungwa, Hotevilla, Hopi Reservation. Used as basketry dye and as food.

The following were collected by Cesar Azurdia, Instituto de Investigaciones Agronomicas, Universidad de San Carlos de Guatemala, Ciudad Universitaria, Zona 12, Guatemala City, Guatemala, Guatemala; Daniel Debouck, International Center for Tropical Agriculture, Germplasm Resources Unit, Apdo. aereo 6713, Cali, Valle, Colombia. Donated by Helmer Ayala, Universidad de San Carlos de Guatemala, Ciudad Universitaria, Zona 12, Apartado Postal No 1545, San Carlos, Guatemala. Received 01/15/1998.

- PI 642132. *Phaseolus lunatus* L.**
Wild. 3080; W6 20521. Collected 01/1995 in Guatemala. Latitude 14° 46' N. Longitude 91° 30' W. Elevation 1750 m. Zunil, 6 km southwest of Zunil.

The following were donated by G. F. Freytag, USDA, ARS, Tropical Agricultural Research Station, P.O. Box 70, Mayaguez, Puerto Rico. Received 04/04/1999.

- PI 642133. *Phaseolus polystachios* subsp. *sinuatus*** (Nutt. ex Torr. & A. Gray) Freytag
Wild. TARS 550; F 90-1; W6 21126. Collected in Texas, United States.

Latitude 30° 2' N. Longitude 99° 8' W. Kerrville, Texas, United States.

The following were donated by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States. Received 08/24/1994.

PI 642134. Phaseolus vulgaris L.

Cultivated. Pompadour F; W6 21906. coleccion Pompadour Vieja.

PI 642135. Phaseolus vulgaris L.

Cultivated. Pompadour L; W6 21915. coleccion Pompadour Vieja.

PI 642136. Phaseolus vulgaris L.

Cultivated. Pompadour R; W6 21926. coleccion Pompadour Vieja.

PI 642137. Phaseolus vulgaris L.

Cultivated. Chijor-28; W6 21935. coleccion Pompadour Nueva.

The following were developed by Dermot P. Coyne, University of Nebraska, Department of Horticulture, 386 Plant Sciences Hall, Lincoln, Nebraska 68583-0724, United States. Received 06/27/2000.

PI 642138. Phaseolus vulgaris L.

Cultivar. "STARS"; W6 22541.

Unknown source. Received 07/23/2001.

PI 642139. Phaseolus vulgaris L.

Cultivated. W6 23643.

The following were collected by Matt Johnson, USDA/ARS/NCGR-Corvallis, Corvallis, Oregon 97333, United States; Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Donated by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 11/2003.

PI 642140. Phaseolus acutifolius var. tenuifolius A. Gray

Wild. AZ5; W6 24878. Collected 09/11/2003 in Arizona, United States. Latitude 31° 52' 3" N. Longitude 109° 57' 13" W. Elevation 1781 m. Middle March Pass in Dragon Mountains. Site 6, collected on east face slope about 40 degree steep, a north-south rocky scree.

The following were donated by Joseph Simcox, The Rare Vegetable Seed Consortium, C/O Steven Brack, Mesa Garden, Belen, New Mexico 87002, United States; Robert Lobitz, The Rare Vegetable Seed Consortium, 58 Greer Road, Belen, New Mexico 87002, United States. Received 01/05/2005.

PI 642141. Phaseolus vulgaris L.

Cultivated. Blooming Prairie; W6 26489. Bush type. Seed color: white with purple 'bloom'.

PI 642142. *Phaseolus vulgaris* L.

Cultivated. Candy; W6 26490. Bush type. Seed color: large, pink blush on cream with red spots & stripes.

The following were donated by Phillip D. Griffiths, Cornell University, Department of Horticultural Science, 302 Hedrick Hall, Geneva, New York 14456-0462, United States. Received 03/15/2005.

PI 642143. *Phaseolus vulgaris* L.

Cultivar. "Acclaim"; W6 26676. Developed in United States.

PI 642144. *Phaseolus vulgaris* L.

Cultivar. "Baby Bop"; W6 26678. Developed in United States.

The following were collected by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 11/02/1993.

PI 642145. *Astragalus tibetanus* Benth. ex Bunge

Wild. X93087; W6 13003. Collected 08/11/1993 in Xinjiang, China. Latitude 44° 9' N. Longitude 84° 38' E. Elevation 1620 m. Natural pasture at base of Tien Shan Mountains, approx. 65km south of Usu, Xinjiang.

The following were collected by Alexander Afonin, Vavilov Institute of Plant Industry, 42 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Nicolay Portinier, Kamorov Institute of Botany, St. Petersburg, Leningrad, Russian Federation; Nicolay Khitrov, Dokvchaev Soil Institute, Pygevsky, per., 7., Moscow, Moscow 109017, Russian Federation. Received 01/1996.

PI 642146. *Onobrychis petraea* (M. Bieb. ex Willd.) Fisch.

Wild. VIR D152; W6 17792. Collected 09/06/1995 in Russian Federation. Latitude 43° 51' 30" N. Longitude 41° 54' 6" E. Elevation 800 m. Province Karachayevo-Cherkesskaya Republic, 1 km. northwest of Ordzhanikedevskiy. Past and current grazing. Lower slope 6-10%, upper slope 41-60%, aspect SE. Light open. Soil sandy-loam, pH 5.8-6.5. Seasonally dry, lower slope, rock outcrop. Vegetation seasonal tall grass. Surrounding vegetation open deciduous forest with closed lower layers. Dominant tree species Beech/Oak, *Fagus* sp., *Quercus* sp. Dominant shrub species *Artemisia* sp., *Rosa* sp. Dominant herb/grass species *Achillea* sp., *Medicago* sp., *Bothriochloa* i., *Festuca* v. Population distribution patchy, abundance rare. Growth habit semi-erect. Flower pink. Extensive regional climate data available in spreadsheet format or image maps in raster format suitable for GIS analysis. Contact Dr. Stephanie L. Greene (sgreene@ars-grin.gov).

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, USDA, ARS, Washington State

University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 07/28/1996.

PI 642147. *Onobrychis alba* subsp. *laconica* (Orph. ex Boiss.) Hayek Wild. B96-138; W6 19330. Collected 07/1996 in Bulgaria. Latitude 41° 59' 37" N. Longitude 24° 50' 18" E. Elevation 760 m. 0.5km southwest of town, Lascovo. south.

PI 642148. *Thymus* sp. Wild. B96-248; W6 19412. Collected 07/1996 in Bulgaria. Latitude 41° 46' 41" N. Longitude 25° 20' 23" E. Elevation 479 m. Oak woodland. Many grass species.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 03/06/1997.

PI 642149. *Krascheninnikovia ceratoides* (L.) Gueldenst. Wild. 96S-121; W6 19634. Collected 09/1996 in Mongolia. Latitude 49° 55' 1" N. Longitude 92° 39' 26" E. Elevation 860 m. Ubs Aimag, Narnabulag Sum, Ulaanboorog, adjacent to Ubs Noer (lake). 1% north slope. Old prehistoric lake bed of Ubs Noer that is covered with alluvial materials. Soils are coarse gravels with voids filled with coarse brown sand. DOMINANT VEG: *Ceratoides papposa*/*Elymus poboanus* + *Achnatherum splendens*, *Elymus chinensis*, *Stipa capillata*, *Artemisia frigida*.

The following were collected by T.A. Campbell, USDA-ARS, Germplasm Quality and Enhancement Lab, Building 001, Room 339, Beltsville, Maryland 20705, United States; John D. Berdahl, USDA-ARS, Northern Great Plains Research Lab., P.O. Box 459, Mandan, North Dakota 58554, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Larry K. Holzworth, USDA-NRCS State Office, Federal Bldg., Room 443, 10 E. Babcock, Bozeman, Montana 59715-4704, United States. Received 12/1997.

PI 642150. *Onobrychis arenaria* (Kit.) DC. **subsp. *arenaria*** Wild. X97-072; W6 20246. Collected 08/1997 in Xinjiang, China. Latitude 42° 45' 48" N. Longitude 80° 56' 37" E. Elevation 1860 m. 50 km south of Zhaosu County, 1 km east of Aheyazi Farm in foothills of Tian Shan Mountains, Xinjiang. Ungrazed meadow, will be cut for hay. Dry site in rain shadow of mountains. Silt loam soil. Slope is 1% with west aspect.

The following were donated by Giovanni Figliuolo, University of Basilicata, Via N. Sauro, 85, Potenza, Basilicata 85100, Italy. Received 04/1998.

PI 642151. *Marrubium vulgare* L. Cultivated. W6 20655. Climate: Eu-Mediterranean. 750 m above sea level. Use: aromatic. Perennial.

The following were collected by Dennis P. Sheehy, 69086 Allen Canyon Road, Wallowa, Oregon 97885, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Mark E. Majerus, USDA-NRCS, Plant Materials Center, Rt. 2, Box 1189, Bridger, Montana 59014-9718, United States; Susan R. Winslow, USDA-NRCS, Bridger PMC, Route 2, Box 1189, Bridger, Montana 59014-9718, United States. Received 05/05/1999.

PI 642152. *Galium verum* L.

Wild. 98HT-84; W6 21197. Collected 09/1998 in Mongolia. Latitude 48° 23' 51" N. Longitude 110° 12' 4" E. Elevation 1036 m. Ulaanchulun, Batchirrit Sum, Henti Aimag. Within and adjacent to an ancient rock-walled fortress enclosing about 40 hectares of hill slope and upper edge of meadow. Two small streams drain the enclosed area. Gravelly, eroded granitic soils. Recent fire through area. Associated vegetation: Overstory species depending on aspect and relief include *Pinus*, *Larix*, and *Populus*. Exposed soils are dominated by *Stipa* and *Astragalus*. The riparian zone along streams has species typical of wetter microsites including *Bromus* and riparians.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Stephanie Greene, USDA, ARS, National Temperate Forage Legume, Germplasm Resources Unit, Prosser, Washington 99350-9687, United States; Nikolai I. Dzyubenko, N.I. Vavilov All-Russian Scientific Research, Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Alexander Afonin, Vavilov Institute of Plant Industry, 42 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Auskhan Khusainov, Aral Sea Expermant Station for Plant Genetic Resources, 27 Biyekeenov Street, Chelkar Town, Kazakhstan. Received 08/2000.

PI 642153. *Achillea biebersteinii* Afan.

Wild. KAZ-185; W6 23187. Collected 08/2000 in Kazakhstan. Latitude 49° 18' 51" N. Longitude 59° 3' 34" E. Elevation 371 m.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, U.S. Peace Corps, Cuerpo de Paz, Casilla #749, Sucre, Chuquisaca, Bolivia; Isabella Arevshatyan, Yerevan, Armenia; Eleonora Gabrielian, Department of Plant Systemics, Geography National Academie of Sciences, Institute of Botany, Yerevan, Armenia; Samvel M. Gasparian, Scientific Research Center of Viticulture, Fruit Growing and Wine Making, Merdzavan, Armenia; Vrez Manakyan, Armenia Academie of Science, Institute of Botany, Yerevan, Armenia; Ashot A. Charchoglian, National Academie of Sciences, Institute of Botany, Yerevan, Armenia. Received 06/24/2002.

PI 642154. *Astragalus cornutus* Pall.

Wild. ARM 280; W6 23962. Collected 08/14/2001 in Armenia. Latitude 39° 39' 6" N. Longitude 45° 17' 52" E. Elevation 2002 m. Last site of the day. This was a pasture site near a spring with drinkable water, that looked heavily disturbed, but above the pastured area it was very dry and moderately steep and we found some new species of clover and some thyme, as well as numerous other legumes. Temps well over 105° F.

PI 642155. *Astragalus galegiformis* L.

Wild. ARM 403; W6 24042. Collected 08/03/2001 in Armenia.

The following were developed by Barry Glaz, USDA, ARS, Sugarcane Field Station, Canal Point, Florida 33438, United States; P.Y.P. Tai, USDA-ARS, Sugarcane Field Station, Star Route Box 8, Canal Point, Florida 33438, United States; John Duncelman, Florida Sugar Cane League, P.O. Drawer 1208, Clewiston, Florida 33440, United States; Jack C. Comstock, USDA, ARS, US Sugarcane Research Field Station, 12990 US Hwy 441 N, Canal Point, Florida 33438, United States; Robert A. Gilbert, University of Florida, EREC, 3200 East Palm Beach Road, Belle Glade, Florida 33430-8003, United States; J. Davidson, Florida Sugar Cane League, Inc., P.O. Box 1208, Clewiston, Florida 33440, United States; J.D. Miller, USDA-ARS, Sugarcane Field Station, 12990 US Highway 441 N., Canal Point, Florida 33438, United States; S. Edme, USDA-ARS, Sugarcane Field Station, 12990 US Highway 441N., Canal Point, Florida 33438, United States. Received 03/07/2006.

PI 642156. *Saccharum* sp.

Cultivar. "CP 98-1029". CV-128. Pedigree - A complex hybrid selected from the cross CP 91-1980 X CP 94-1952. The leaves of CP 98-1029 are medium in length and width. Leaf sheaths are green and those closer to the apex may have a moderate wax bloom at their base. The ligule is green on young leaves and dark brown on older leaves. Auricles and hairs are generally absent. The zig-zag stalks of CP 98-1029 are medium in diameter and covered with a moderate wax bloom. Stalks are yellow where covered by the leaf sheath and green where exposed to the sun. However, the stalks are not generally exposed to the sun as both young and old leaf sheaths adhere tightly to the stalk. A distinguishing feature of the internodes of CP 98-1029 is the presence of corky cracks. Internodes are cylindrical with reduced or absent bud grooves. A small percentage of the internodes have growth cracks. The buds of CP 98-1029 are pale yellow, round, and usually extend onto the growth rings. CP 98-1029 has shown field resistance in Florida to eye spot [caused by *Bipolaris sacchari* (E.J. Butler) Shoemaker], smut (caused by *Sporisorium scitamineum* (Syd.) M. Piepenbr., M. Stoll & Oberw.), and leaf scald [caused by *Xanthomonas albilineans* (Ashby) Dowson]. CP 98-1029 is moderately susceptible to rust (caused by *Puccinia melanocephala* Syd. & P. Syd.), Sugarcane mosaic virus strain E., and ratoon stunting disease (caused by *Leifsonia xyli* subsp. *xyli* Evtushenko et al.), and is susceptible to Sugarcane yellow leaf virus.

The following were developed by B.B. Singh, International Institute of Tropical Agriculture, IITA Kano Station, PMB 3112, Kano, Nigeria; O.O. Olufajo, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; M.F. Ishiyaku, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; H.A. Ajeigbe, International Institute of Tropical Agriculture, Kano Station, PMB3112, Kano, Nigeria; S.G. Mohammed, Bayero University, PMB 3011, Kano, Nigeria; R.A. Adeleke, International Institute of Tropical Agriculture, Kano Station, PMB3112, Kano, Nigeria. Donated by B.B. Singh, International Institute of Tropical Agriculture, IITA Kano Station, PMB 3112, Kano, Nigeria. Received 01/11/2006.

PI 642157. *Vigna unguiculata* (L.) Walp. subsp. *unguiculata*

Cultivar. "NGVU-05-24"; IT93K-452-1. CV-272. Pedigree - F6 derived line

from the cross IT86D-782 X IT90K-76. NGVU-05-24 is an extra-early (60-day) variety with semi-erect plant type and semi-determinate growth habit. The leaves are broad and dark green. The variety is heat tolerant and photoperiod insensitive and therefore widely adapted. The flowers, which are borne on a purple-pigmented, non-branching-peduncle, have purple margins on both the wings and standards. The purple-pigmented pods are positioned slightly over the canopy and measure between 15-20cm in length with 12-16 seeds/pod. The average number of pods per plant is between 10-15. The seeds are white, medium size (14-16 g/100 seeds) with rough texture and large black eye. The grains contain about 25% protein. This variety is resistant to pod shattering and weathering. The seed quality is not affected even if matures during rainy season. It is resistant to major diseases like anthracnose (*Colletotrichum lindemuthianum*), web blight (*Corticium solani*), brown blotch (*Colletotrichum capsici*), *Cercospora* leaf spots (*Cercospora cruenta* and *Cercospora canescens*), *Septoria* leaf spot (*Septoria vignae*), scab (*Elsinoe phaseoli*), bacterial blight (*Xanthomonas vignicola*), as well as cowpea yellow mosaic, southern bean mosaic and cowpea aphid borne mosaic.

The following were developed by B.B. Singh, International Institute of Tropical Agriculture, IITA Kano Station, PMB 3112, Kano, Nigeria; O.O. Olufajo, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; M.F. Ishiyaku, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; R.A. Adeleke, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; H.A. Ajeigbe, International Institute of Tropical Agriculture, Kano Station, PMB3112, Kano, Nigeria; S.G. Mohammed, Bayero University, PMB 3011, Kano, Nigeria. Donated by B.B. Singh, International Institute of Tropical Agriculture, IITA Kano Station, PMB 3112, Kano, Nigeria. Received 01/11/2006.

PI 642158. *Vigna unguiculata* (L.) Walp. subsp. *unguiculata*

Breeding. Pureline. IT93K-693-2. GP-255. Pedigree - (IT88D-867-11 x IT90K-76) x IT89KD-374-57. IT93K-693-2 is resistant to *Alectra* as well as all the 5 strains of *Striga* reported in West Africa. Its broad-based resistance has come from a combination of resistances in its parents. The IT90K-76 derived from B301, confers complete resistance to *Striga* and *Alectra* in Burkina Faso, Cameroon, Mali, Niger, and Nigeria but it has only moderate level of resistance to the strain from Benin Republic. The local variety, Dan Ila is completely resistant to the *Striga* strain from Benin republic. IT93K-693-2 is an extra-early maturing (about 60-day) photo-insensitive and heat tolerant variety with semi-erect growth habit. It has green plants without purple pigmentation. Its flowers have white standard petals and purple wing petals. It has medium size seeds (about 14g 100 seeds-1) with brown color and rough seed coat texture. It has combined resistance to major diseases and insects. This has been used as a parent in crosses for identifying DNA markers for *Striga* resistance.

PI 642159. *Vigna unguiculata* (L.) Walp. subsp. *unguiculata*

Breeding. Pureline. IT97K-205-8. GP-256. Pedigree - F6 line from the cross IT93K-596-9-12 x IT93K-2046-1. IT97K-205-8 is an extra-early (about 60-day) heat tolerant and photo-insensitive variety with erect growth habit. It has purple pigmentation on the joints on stem and leaves as well as on calyx and pod tips but the flowers white with a purple line on the back of the standard petal. It has medium size white

seeds (about 15 g 100 seeds-1) with rough seed coat. In addition to being resistant to Striga and Alectra, it has combined resistance to major diseases and insects. Based on its extra-early maturity and high yield potential it has performs well in the Sahelian region of Niger Republic and as a niche crop in wheat-rice system of northern India.

PI 642160. *Vigna unguiculata* (L.) Walp. subsp. unguiculata

Breeding. Pureline. IT97K-499-35. GP-257. Pedigree - F6 line from the cross IT93K-596-9-12 x IT93K-2046-1. It is a medium maturing variety (about 75 days) with semi-erect growth habit. It has purple pigmentation on the joints on stem and leaves as well as on calyx and pod tips but the flowers white with a purple line on the back of the standard petal. It has larger white color seed (about 18 g 100 seeds-1). In addition to being resistant to Striga and Alectra, it has combined resistance to major diseases and insect-pests. It has been extensively tested in Nigeria and based on its consistent high yield, it has been recommended for release in the northern Guinea Savanna of Nigeria where Septoria, Striga and Alectra are a major problem.

The following were developed by B.B. Singh, International Institute of Tropical Agriculture, Grain Legume Improvement Program, Ibadan, Oyo, Nigeria; O.O. Olufajo, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; M.F. Ishiyaku, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; R.A. Adeleke, Ahmed Bello University, Institute for Agricultural Research, PMB 1044, Zaria, Nigeria; H.A. Ajeigbe, International Institute of Tropical Agriculture, Kano Station, PMB3112, Kano, Nigeria; S.G. Mohammed, Bayero University, PMB 3011, Kano, Nigeria. Donated by B.B. Singh, International Institute of Tropical Agriculture, IITA Kano Station, PMB 3112, Kano, Nigeria. Received 01/11/2006.

PI 642161. *Vigna unguiculata* (L.) Walp. subsp. unguiculata

Breeding. Pureline. IT97K-819-118. GP-258. Pedigree - F6 line derived from the cross IT90K-59-2 x IT88D-867-11. It has semi-spreading growth habit with medium maturing (about 80 days), drought and heat tolerance and specially adapted to the drier region. It has medium size brown color seeds (14 g 100 seeds-1) with rough seed coat. Because of its consistently good performance in the Sahel and its resistance to Striga, it has been found promising for cultivation in Niger Republic.

The following were developed by Bayer Cropscience, United States. Received 01/11/2006.

PI 642162 PVPO. *Gossypium hirsutum* L.

Cultivar. "FM 5035LL". PVP 200500185.

PI 642163 PVPO. *Gossypium hirsutum* L.

Cultivar. "FM 5045BR". PVP 200500186.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 01/11/2006.

PI 642164 PVPO. *Citrullus lanatus* (Thunb.) Matsum. & Nakai

Cultivar. "WSB1102142". PVP 200400185.

PI 642165 PVPO. Citrullus lanatus (Thunb.) Matsum. & Nakai
Cultivar. "TML 1104700". PVP 200400186.

PI 642166 PVPO. Capsicum annuum L.
Cultivar. "SBR 99-1165". PVP 200600054.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 01/11/2006.

PI 642167 PVPO. Glycine max (L.) Merr.
Cultivar. "5083011". PVP 200600055.

The following were developed by Archer Daniels Midland Company, Illinois, United States. Received 01/11/2006.

PI 642168 PVPO. Phaseolus vulgaris L.
Cultivar. "SEABISKIT". PVP 200600056.

The following were developed by Nunhems BV, Netherlands. Received 01/11/2006.

PI 642169 PVPO. Lactuca sativa L.
Cultivar. "MULTY". PVP 200600057.

The following were developed by Progeny Advanced Genetics, Inc., Salinas, California, United States. Received 01/11/2006.

PI 642170 PVPO. Lactuca sativa L.
Cultivar. "VICTORY". PVP 200600058.

The following were developed by WestBred LLC, United States. Received 01/11/2006.

PI 642171 PVPO. Triticum aestivum L. **subsp. aestivum**
Cultivar. Pureline. "TROOPER". PVP 200600061. Pedigree - Keystone/Ivan.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 03/10/2006.

PI 642172 PVPO. Brassica oleracea var. botrytis L.
Cultivar. "BRM 53-3904". PVP 200600133.

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

PI 642173. Pisum sativum L.
Cultivar. "FIRST AND BEST"; PEDIGREE EXTRA EARLY; NSL 5132. 54 days to maturity. Used for home garden and market. Very early. White seeded variety. Vine 30" tall. Vigorous. Hardy. Medium green. Slender. First bloom on 8th or 9th node. Pods 2-3/4" long. Borne singly. Light green. Blunt. Round 5 - 7 peas. Peas small. round. Light green. Fair quality.

Dry seed. Round. White to whitish green. Smooth. 2,080 per lb.
Cultivated.

The following were donated by Rogers Brothers Seed Company, P.O. Box 4727, Boise, Idaho 83711-0727, United States. Received 1962.

PI 642174. *Pisum sativum* L.

Cultivar. "WORLDS RECORD"; NSL 15637. 58 days to maturity. Vine 24".
Wilt resistant. Light. Medium. Pod 3-1/2". Dark. Pointed. Seed large.
Wrinkled. Cultivated.

The following were developed by Western Valley Seed Company, Idaho, United States. Received 1975.

PI 642175. *Pisum sativum* L.

Cultivar. "GREEN SUGAR"; NSL 90224. PVP 7500045.

The following were developed by Gallatin Valley Seed Co., Idaho, United States. Received 1977.

PI 642176. *Pisum sativum* L.

Cultivar. "SUGAR SNAP"; NSL 93922. PVP 7600062.

The following were developed by Hurst, Gunson, Cooper, Taber, Ltd., England, United Kingdom. Received 1982.

PI 642177. *Pisum sativum* L.

Cultivar. "TITANIA"; NSL 176464. PVP 8200008. Garden pea, 70 days to processing, 45 cm high, determinate, medium stockiness, no branching. Dark green leaflets, medium wax, marbled. Stipules present, clasping, marbled. White flowers with greenish venation. Slightly curved pods, pointed end, medium green, smooth, 9 cm long, 9 seeds/pod. Dry seeds angular, wrinkled, dull, light green, 20 gm/100 seeds. Resistant to fusarium wilt.

The following were donated by John M. Kraft, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350, United States. Received 1983.

PI 642178. *Pisum sativum* L.

Cultivar. "RR-1178"; NSL 183012. GP-33. Pedigree - Parentage is Early White Sugar 40. Plant height 76 cm. Blooms on 14th - 15th node. Double podded. Long, pointed pods. Mixture dimpled and wrinkled green seed. Resistant to races 1 and 2 *Fusarium oxysporum* f. sp. pisi. Resistant root rot caused by *F. solani* f. sp. pisi. Cultivated.

The following were donated by Gene Howard, Cheyenne Hort. Field Station, PO Box 1087, Cheyenne, Wyoming, United States. Received 05/01/1982.

PI 642179. *Pisum sativum* L.

Cultivar. AVIATOR; NSL 300827.

The following were collected by Coleccion Program, Papa del Peru, E.E. La Molina, Lima, Peru. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642180. *Solanum tuberosum* L.

Landrace. CIP 701241; HUAGALINA; Q 44471. Collected 08/24/2005 in Junin, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W. Elevation 3300 m. P. Jauja. Est. Exp. El Mantaro. Primitive cultivar. Tuber moth resistance.

PI 642181. *Solanum tuberosum* L.

Landrace. CIP 701591; YURACC CCOMPIS; Q 44472. Collected 08/24/2005 in Junin, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W. Elevation 3300 m. P. Jauja. Est. Exp. El Mantaro. Primitive cultivar. Tuber moth resistance.

PI 642182. *Solanum tuberosum* L.

Landrace. CIP 702108; YANA MACUCO; Q 44474. Collected 08/24/2005 in Junin, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W. Elevation 3300 m. P. Jauja. Est. Exp. El Mantaro. Primitive cultivar. Tuber moth resistance.

The following were collected by Zosimo Huaman, International Potato Center, Apartado 1558, Av. La Universidad No. 795, Lima 12, Lima, Peru. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642183. *Solanum tuberosum* L.

Landrace. CIP 702218; CHUNGUINA; Q 44475. Collected 08/24/2005 in Ayacucho, Peru. Latitude 13° 1' 12" S. Longitude 73° 58' 48" W. Elevation 3600 m. P. La Mar. Hacienda Paria (San Miguel). Primitive cultivar. Tuber moth resistance.

PI 642184. *Solanum tuberosum* L.

Landrace. CIP 702244; SUYTU VILQUINA; Q 44476. Collected 08/24/2005 in Ayacucho, Peru. Latitude 13° 1' 12" S. Longitude 73° 58' 48" W. Elevation 3600 m. P. La Mar. Hacienda Paria (San Miguel). Primitive cultivar. Tuber moth resistance.

PI 642185. *Solanum tuberosum* L.

Landrace. CIP 702460; GAYNA; Q 44478. Collected 08/24/2005 in Huanuco, Peru. Latitude 9° 42' 0" S. Longitude 76° 46' 12" W. Elevation 3900 m. P. Dos De Mayo. Papahuasi (Pachas). Primitive cultivar. Tuber moth resistance.

The following were collected by Luis E. Lopez, International Plant Genetic Resources Institute, c/o CIAT, Apto. Aereo 6713, Cali, Valle, Colombia. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642186. *Solanum tuberosum* L.

Landrace. CIP 702860; YUGUIMA; Q 44484. Collected 08/24/2005 in Puno, Peru. Latitude 15° 18' 36" S. Longitude 69° 58' 12" W. Elevation 3850 m. P. Huancane. Taraco. Primitive cultivar. Tuber moth resistance. Late blight resistance.

PI 642187. *Solanum tuberosum* L.

Landrace. CIP 702929; PACIENCIA; Q 44486. Collected 08/24/2005 in Cuzco, Peru. Latitude 13° 21' 13" S. Longitude 71° 40' 12" W. Elevation 3850 m. P. Paucartambo. Hacienda Chahuaitiri (Colquep). Primitive cultivar. Tuber moth resistance.

The following were collected by Coleccion Universidad Nacional del Centro, Huancayo, Peru. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642188. *Solanum tuberosum* L.

Landrace. CIP 703019; POLLUNTA CHATA; Q 44487. Collected 08/24/2005 in Junin, Peru. Latitude 11° 31' 12" S. Longitude 75° 39' 0" W. Elevation 3800 m. P. Tarma. Huaricolca. Primitive cultivar. Tuber moth resistance.

The following were collected by Coleccion Central Colombiana, Estacion Experimental de Papa, Ministerio de Agriculture, Bogota, Cundinamarca, Colombia. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642189. *Solanum tuberosum* L.

Landrace. CIP 703380; RUBI; Q 44488. Collected 08/24/2005 in Valle, Colombia. Latitude 3° 31' 48" N. Longitude 76° 16' 48" W. Elevation 1085 m. M. Palmira. Palmira. Primitive cultivar. Tuber moth resistance.

The following were donated by USDA, NRCS, Plant Materials Center, 1036 Miller Street Southwest, Los Lunas, New Mexico 87031, United States. Received 1963.

PI 642190. *Panicum virgatum* L.

A 6606; NSL 22972; FALCON.

The following were donated by South Dakota State University, Dept. of Horticulture and Forestry, Brookings, South Dakota 57007, United States. Received 1964.

PI 642191. *Panicum virgatum* L.

SOUTH DAKOTA 10; NSL 29896; SUMMER.

The following were donated by University of Nebraska, Nebraska Agr. Exp. Sta., Lincoln, Nebraska, United States. Received 1967.

PI 642192. *Panicum virgatum* L.
Cultivar. "PATHFINDER"; REG NO 17; NSL 54086. CV-17.

The following were donated by Arvid Boe, Native Grasses Curator, North Dakota State University, Fargo, North Dakota 58105, United States. Received 1983.

PI 642193. *Panicum virgatum* L.
NSL 196671; 70SG 001.

PI 642194. *Panicum virgatum* L.
NSL 196672; 70SG 002.

PI 642195. *Panicum virgatum* L.
NSL 196673; 70SG 003.

PI 642196. *Panicum virgatum* L.
NSL 196674; 70SG 004.

PI 642197. *Panicum virgatum* L.
NSL 196675; 70SG 005.

PI 642198. *Panicum virgatum* L.
NSL 196676; 70SG 006.

PI 642199. *Panicum virgatum* L.
NSL 196677; 70SG 007.

PI 642200. *Panicum virgatum* L.
NSL 196678; 70SG 008.

PI 642201. *Panicum virgatum* L.
NSL 196679; 70SG 010.

PI 642202. *Panicum virgatum* L.
NSL 196680; 70SG 011.

PI 642203. *Panicum virgatum* L.
NSL 196681; 70SG 012.

PI 642204. *Panicum virgatum* L.
NSL 196682; 70SG 013.

PI 642205. *Panicum virgatum* L.
NSL 196683; 70SG 014.

PI 642206. *Panicum virgatum* L.
NSL 196684; 70SG 015.

PI 642207. *Panicum virgatum* L.
NSL 196685; 70SG 016.

PI 642208. *Panicum virgatum* L.
NSL 196686; 70SG 017.

PI 642209. *Panicum virgatum* L.
NSL 196687; 70SG 018.

- PI 642210. *Panicum virgatum* L.
NSL 196688; 70SG 019.
- PI 642211. *Panicum virgatum* L.
NSL 196689; 70SG 020.
- PI 642212. *Panicum virgatum* L.
NSL 196690; 70SG 021.
- PI 642213. *Panicum virgatum* L.
NSL 196691; 70SG 022.
- PI 642214. *Panicum virgatum* L.
NSL 196692; 70SG 023.
- PI 642215. *Panicum virgatum* L.
NSL 196693; 70SG 024.
- PI 642216. *Panicum virgatum* L.
NSL 196694; 70SG 025.
- PI 642217. *Panicum virgatum* L.
NSL 196695; 70SG 026.
- PI 642218. *Panicum virgatum* L.
NSL 196696; 70SG 028.
- PI 642219. *Panicum virgatum* L.
NSL 196697; 70SG 029.
- PI 642220. *Panicum virgatum* L.
NSL 196698; 70SG 031.
- PI 642221. *Panicum virgatum* L.
NSL 196699; 70SG 032.
- PI 642222. *Panicum virgatum* L.
NSL 196700; 70SG 033.
- PI 642223. *Panicum virgatum* L.
NSL 196701; 70SG 034.
- PI 642224. *Panicum virgatum* L.
NSL 196702; 70SG 035.
- PI 642225. *Panicum virgatum* L.
NSL 196703; 70SG 036.
- PI 642226. *Panicum virgatum* L.
NSL 196705; 70SG 038.
- PI 642227. *Panicum virgatum* L.
NSL 196706; 70SG 039.
- PI 642228. *Panicum virgatum* L.
NSL 196707; 70SG 040.

PI 642229. *Panicum virgatum* L.
NSL 196708; 70SG 041.

PI 642230. *Panicum virgatum* L.
NSL 196709; 70SG 042.

PI 642231. *Panicum virgatum* L.
NSL 196710; 70SG 043.

PI 642232. *Panicum virgatum* L.
NSL 196711; 70SG 044.

PI 642233. *Panicum virgatum* L.
NSL 196712; 70SG 045.

PI 642234. *Panicum virgatum* L.
NSL 196713; 70SG 046.

PI 642235. *Panicum virgatum* L.
NSL 196714; 70SG 047.

PI 642236. *Panicum virgatum* L.
NSL 196715; 70SG 048.

PI 642237. *Panicum virgatum* L.
NSL 196716; 70SG 049.

PI 642238. *Panicum virgatum* L.
NSL 196717; 70SG 050.

PI 642239. *Panicum virgatum* L.
NSL 196718; 70SG 051.

PI 642240. *Panicum virgatum* L.
NSL 196719; 70SG 052.

PI 642241. *Panicum virgatum* L.
NSL 196721; 70SG 054.

PI 642242. *Panicum virgatum* L.
NSL 196722; 70SG 055.

PI 642243. *Panicum virgatum* L.
NSL 196723; 70SG 056.

PI 642244. *Panicum virgatum* L.
NSL 196724; 70SG 057.

PI 642245. *Panicum virgatum* L.
NSL 196725; 70SG 058.

PI 642246. *Panicum virgatum* L.
NSL 196726; 70SG 059.

PI 642247. *Panicum virgatum* L.
NSL 196727; 70SG 060.

PI 642248. *Panicum virgatum* L.
NSL 196728; 70SG 061.

PI 642249. *Panicum virgatum* L.
NSL 196729; 70SG 062.

PI 642250. *Panicum virgatum* L.
NSL 196730; 70SG 063.

PI 642251. *Panicum virgatum* L.
NSL 196731; 70SG 064.

PI 642252. *Panicum virgatum* L.
NSL 196732; 70SG 065.

PI 642253. *Panicum virgatum* L.
NSL 196733; 70SG 066.

PI 642254. *Panicum virgatum* L.
NSL 196734; 70SG 067.

PI 642255. *Panicum virgatum* L.
NSL 196735; 70SG 068.

PI 642256. *Panicum virgatum* L.
NSL 196736; 70SG 069.

PI 642257. *Panicum virgatum* L.
NSL 196738; 70SG 071.

PI 642258. *Panicum virgatum* L.
NSL 196739; 70SG 072.

PI 642259. *Panicum virgatum* L.
NSL 196740; 70SG 073.

PI 642260. *Panicum virgatum* L.
NSL 196741; 70SG 074.

PI 642261. *Panicum virgatum* L.
NSL 196742; 70SG 075.

PI 642262. *Panicum virgatum* L.
NSL 196743; 70SG 076.

PI 642263. *Panicum virgatum* L.
NSL 196744; 70SG 077.

PI 642264. *Panicum virgatum* L.
NSL 196745; 70SG 078.

PI 642265. *Panicum virgatum* L.
NSL 196746; 70SG 079.

PI 642266. *Panicum virgatum* L.
NSL 196747; 70SG 080.

- PI 642267. *Panicum virgatum* L.
NSL 196748; 70SG 081.
- PI 642268. *Panicum virgatum* L.
NSL 196749; 70SG 082.
- PI 642269. *Panicum virgatum* L.
NSL 196750; 71SG 001.
- PI 642270. *Panicum virgatum* L.
NSL 196751; 71SG 002.
- PI 642271. *Panicum virgatum* L.
NSL 196752; 71SG 004.
- PI 642272. *Panicum virgatum* L.
NSL 196753; 71SG 005.
- PI 642273. *Panicum virgatum* L.
NSL 196754; 71SG 006.
- PI 642274. *Panicum virgatum* L.
NSL 196755; 71SG 007.
- PI 642275. *Panicum virgatum* L.
NSL 196756; 71SG 008.
- PI 642276. *Panicum virgatum* L.
NSL 196757; 71SG 009.
- PI 642277. *Panicum virgatum* L.
NSL 196758; 71SG 010.
- PI 642278. *Panicum virgatum* L.
NSL 196759; 71SG 011.
- PI 642279. *Panicum virgatum* L.
NSL 196760; 71SG 012.
- PI 642280. *Panicum virgatum* L.
NSL 196761; 71SG 013.
- PI 642281. *Panicum virgatum* L.
NSL 196762; 71SG 014.
- PI 642282. *Panicum virgatum* L.
NSL 196763; 71SG 015.
- PI 642283. *Panicum virgatum* L.
NSL 196764; 71SG 016.
- PI 642284. *Panicum virgatum* L.
NSL 196765; 71SG 017.
- PI 642285. *Panicum virgatum* L.
NSL 196766; 71SG 018.

PI 642286. *Panicum virgatum* L.
NSL 196767; 71SG 019.

PI 642287. *Panicum virgatum* L.
NSL 196768; 71SG 020.

PI 642288. *Panicum virgatum* L.
NSL 196769; 71SG 021.

PI 642289. *Panicum virgatum* L.
NSL 196770; 71SG 022.

PI 642290. *Panicum virgatum* L.
NSL 196771; 71SG 023.

PI 642291. *Panicum virgatum* L.
NSL 196772; 71SG 024.

PI 642292. *Panicum virgatum* L.
NSL 196773; 71SG 025.

PI 642293. *Panicum virgatum* L.
NSL 196774; 71SG 026.

PI 642294. *Panicum virgatum* L.
NSL 196775; 71SG 027.

PI 642295. *Panicum virgatum* L.
NSL 196776; 71SG 028.

PI 642296. *Panicum virgatum* L.
NSL 196777; 71SG 029.

PI 642297. *Panicum virgatum* L.
NSL 196778; 71SG 030.

PI 642298. *Panicum virgatum* L.
NSL 196779; 71SG 031.

PI 642299. *Panicum virgatum* L.
NSL 196780; 71SG 032.

PI 642300. *Panicum virgatum* L.
NSL 196781; 71SG 033.

PI 642301. *Panicum virgatum* L.
NSL 196782; 71SG 034.

PI 642302. *Panicum virgatum* L.
NSL 196783; 71SG 035.

PI 642303. *Panicum virgatum* L.
NSL 196784; 71SG 036.

PI 642304. *Panicum virgatum* L.
NSL 196785; 71SG 037.

PI 642305. *Panicum virgatum* L.
NSL 196786; 71SG 038.

PI 642306. *Panicum virgatum* L.
NSL 196787; 71SG 039.

PI 642307. *Panicum virgatum* L.
NSL 196788; 71SG 040.

PI 642308. *Panicum virgatum* L.
NSL 196789; 71SG 041.

PI 642309. *Panicum virgatum* L.
NSL 196790; 71SG 041B.

PI 642310. *Panicum virgatum* L.
NSL 196791; 71SG 042.

PI 642311. *Panicum virgatum* L.
NSL 196792; 71SG 043.

PI 642312. *Panicum virgatum* L.
NSL 196793; 71SG 044.

PI 642313. *Panicum virgatum* L.
NSL 196794; 71SG 045.

The following were developed by 3 Star Lettuce, LLC, United States. Received 02/14/2006.

PI 642314 PVPO. *Lactuca sativa* L.
Cultivar. "GREEN BAY". PVP 200600062.

The following were developed by WestBred LLC, United States. Received 02/14/2006.

PI 642315 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "LEDGER"; BZ9W96-788-d. PVP 200600063. Pedigree - BZ9W92-709/MTSF1142 = Hatton/SS-14/3/Lew/Tiber//Redwin. Hard red winter wheat.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 02/14/2006.

PI 642316 PVPO. *Phaseolus vulgaris* L.
Cultivar. "SECRETARIAT". PVP 200600064.

The following were developed by Speight Seed Farms, Inc., North Carolina, United States. Received 02/14/2006.

PI 642317 PVPO. *Nicotiana tabacum* L.
Cultivar. "SPEIGHT 220". PVP 200600065.

The following were developed by D&PL Technology Holding Corp., United States.
Received 02/14/2006.

PI 642318 PVPO. *Glycine max* (L.) Merr.
Cultivar. "1486018". PVP 200600066.

PI 642319 PVPO. *Glycine max* (L.) Merr.
Cultivar. "4189010". PVP 200600067.

The following were developed by Oregon Wholesale Seeds Company, Silverton,
Oregon 97381, United States. Received 02/14/2006.

PI 642320 PVPO. *Cichorium intybus* L.
Breeding. TFI 200. PVP 200600069.

The following were developed by Seminis Vegetable Seeds, Inc., United States.
Received 02/14/2006.

PI 642321 PVPO. *Phaseolus vulgaris* L.
Cultivar. "VALENTINO". PVP 200600097.

PI 642322 PVPO. *Spinacia oleracea* L.
Cultivar. "LSA661041". PVP 200600099.

PI 642323 PVPO. *Spinacia oleracea* L.
Cultivar. "LSA661044". PVP 200600100.

The following were developed by Pioneer Hi-Bred International, Inc., United
States. Received 03/09/2006.

PI 642324 PVPO. *Glycine max* (L.) Merr.
Cultivar. "91M30". PVP 200600072.

PI 642325 PVPO. *Glycine max* (L.) Merr.
Cultivar. "91M61". PVP 200600073.

PI 642326 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M02". PVP 200600074.

PI 642327 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M03". PVP 200600075.

PI 642328 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M33". PVP 200600076.

PI 642329 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M51". PVP 200600077.

PI 642330 PVPO. *Glycine max* (L.) Merr.
Cultivar. "92M52". PVP 200600078.

PI 642331 PVPO. **Glycine max** (L.) Merr.
Cultivar. "92M73". PVP 200600079.

PI 642332 PVPO. **Glycine max** (L.) Merr.
Cultivar. "92M74". PVP 200600080.

PI 642333 PVPO. **Glycine max** (L.) Merr.
Cultivar. "92M75". PVP 200600081.

PI 642334 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M13". PVP 200600082.

PI 642335 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M43". PVP 200600083.

PI 642336 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M52". PVP 200600084.

PI 642337 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M81". PVP 200600085.

PI 642338 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M82". PVP 200600086.

PI 642339 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M95". PVP 200600087.

PI 642340 PVPO. **Glycine max** (L.) Merr.
Cultivar. "93M96". PVP 200600088.

PI 642341 PVPO. **Glycine max** (L.) Merr.
Cultivar. "94M31". PVP 200600089.

PI 642342 PVPO. **Glycine max** (L.) Merr.
Cultivar. "95M60". PVP 200600090.

PI 642343 PVPO. **Glycine max** (L.) Merr.
Cultivar. "95M82". PVP 200600091.

The following were developed by D&PL Technology Holding Company, LLC, Scott, Mississippi, United States. Received 03/09/2006.

PI 642344 PVPO. **Glycine max** (L.) Merr.
Cultivar. "3235020". PVP 200600148.

PI 642345 PVPO. **Glycine max** (L.) Merr.
Cultivar. "3233021". PVP 200600149.

PI 642346 PVPO. **Glycine max** (L.) Merr.
Cultivar. "1336024". PVP 200600150.

PI 642347 PVPO. **Glycine max** (L.) Merr.
Cultivar. "6188027". PVP 200600151.

PI 642348 PVPO. **Glycine max** (L.) Merr.
Cultivar. "4183026". PVP 200600152.

The following were developed by Svalof Weibull AB, Svalow, Malmohus, Sweden. Received 03/09/2006.

PI 642349. *Pisum sativum* L.

Cultivar. "SW BENEFIT". PVP 200600101.

The following were developed by Chiba Prefecture and Snow Brand Seed Co., LTD., Japan. Received 03/09/2006.

PI 642350 PVPO. *Agrostis stolonifera* var. *palustris* (Huds.) Farw.

Cultivar. "CY-2". PVP 200600104.

The following were developed by Carl W. Johnson, California Cooperative Rice Research Foundation, Inc., P.O. Box 306, Biggs, California 95917, United States; Jeff Oster, California Cooperative Rice Research Foundation, Inc., P.O. Box 306, Biggs, California 95917, United States; California Cooperative Rice Research Foundation, Biggs, California, United States; J.E. Hill, University of California, Cooperative Extension Service, Dept. of Agronomy & Range Science, Davis, California, United States; Kent S. McKenzie, California Rice Research Foundation, P.O. Box 306, Biggs, California 95917, United States; Farman Jodari, California Cooperative RRF, P.O. Box 306, Biggs, California 95917, United States; R.G. Mutters, University of California Cooperative Extension, California, United States; C.A. Greer, University of California Cooperative Extension, California, United States; W.M. Canevari, University of California Cooperative Extension, California, United States; K. Takami, Nippen Suisan Kaisha, Ltd., Central Research Laboratory, Tokyo, Japan. Received 03/09/2006.

PI 642351. *Oryza sativa* L.

Cultivar. Pureline. "CALAMYLOW-201"; 02-Y-064; BL-1. PVP 200600111; CV-124. Pedigree - Koshihikari/(Koshihikari/S-101)*2. Released 2006. Agronomic performance and adaptation is below improved California rice cultivars, however, it is being released because of its special cooking and processing characteristics. Sensory panel and mechanical texture testing indicated Calamylow-201 remained stickier and softer after a 24 hr. staling treatment than the parent Calhikari-201 and the Japanese grown check sample Koshihikari and performed similar to the low amylose Japanese grown cultivar 'Milky Queen'. Very similar to Calhikari-201 but averages one day earlier heading, significantly lower grain yield (13%), higher whole kernel milling yields, and higher stem rot scores. Kernels have low apparent amylose content (6% vs. 17%), an opaque endosperm, and smaller kernel size than Calhikari-201.

The following were developed by California Cooperative Rice Research Foundation, Biggs, California, United States. Received 03/09/2006.

PI 642352 PVPO. *Oryza sativa* L.

Cultivar. "M-207". PVP 200600112. Pedigree - Lafitte/5/Calpearl/3/M7/M9//M7/4/Calpearl/6/M-202.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 03/09/2006.

PI 642353 PVPO. Phaseolus vulgaris L.
Cultivar. "SPARTACUS". PVP 200600113.

PI 642354 PVPO. Phaseolus vulgaris L.
Cultivar. "SEA BISCUIT". PVP 200600114.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 03/09/2006.

PI 642355 PVPO. Poa pratensis L.
Cultivar. "BONAIRE". PVP 200600115.

PI 642356 PVPO. Festuca lemanii T. Bastard
Cultivar. "FIREFLY". PVP 200600116.

PI 642357 PVPO. Festuca rubra L. subsp. rubra
Cultivar. "FORTITUDE". PVP 200600117.

The following were developed by Wisconsin Alumni Research Foundation, University of Wisconsin, Madison, Wisconsin, United States. Received 03/09/2006.

PI 642358 PVPO. Avena sativa L.
Cultivar. "KAME". PVP 200600118. Pedigree - B605X//Newdak/Dane.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 03/09/2006.

PI 642359 PVPO. Phaseolus vulgaris L.
Cultivar. "ULYSSES". PVP 200600155.

The following were developed by Syngenta Seeds, Inc., Idaho 83711-4188, United States. Received 03/17/2006.

PI 642360. Phaseolus vulgaris L.
Cultivar. "SAILOR"; ROG417. PVP 200600156.

The following were developed by Edward J. Souza, University of Idaho, Aberdeen Research & Extension Center, P.O. Box 870, Aberdeen, Idaho 83210, United States; Mary Guttieri, University of Idaho, PO Box 870, 1693 S 2700 W, Aberdeen, Idaho 83210-0530, United States. Received 03/28/2006.

PI 642361. Triticum aestivum L. subsp. aestivum
Cultivar. Pureline. "UI CATALDO"; IDO642; Cataldo; NSGC 9994. Pedigree - IDO584/4*Alturas. Soft white spring wheat cultivar selected for Hessian fly resistance conferred by H25. Cataldo is resistant to prevalent races of stripe rust based on 2005 evaluations. It is indistinguishable in appearance to the recurrent parent, Alturas. Like Alturas, Cataldo has reduced amylose content in the endosperm and high starch pasting

viscosity. Cataldo has low levels of polyphenol oxidase activity and moderate gluten strength. The head is lax, white chaffed at maturity, and awned.

PI 642362. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "UI WINCHESTER"; A9356S-2; IDO578; Winchester; NSGC 9995. Pedigree - WPB926/WA7702. Winchester is a hard red spring wheat adapted to northern Idaho and rain-fed environments of the inter-mountain west. Based on 2005 evaluations it has a resistant reaction to prevalent races of stripe rust and a resistant reaction to Hessian fly. Winchester is a strong gluten wheat, similar to or better than Jefferson. It is a mid-season maturing cultivar, a tall-semi-dwarf with white chaff and awns.

PI 642363. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "UI PETTIT"; A9659S-2; IDO632; Pettit; NSGC 9996. Pedigree - Pomerelle*2/Fujimi Komugi. Pettit is a soft white spring wheat cultivar selected for adaptation to irrigation in southern Idaho. Pettit has moderate adult plant resistance to stripe rust based on 2005 evaluations. It is several days earlier than Alturas and is approximately 5" shorter than the recurrent parent Pomerelle. Pettit has a normal amylose content in the endosperm starch and tends to have very weak gluten strength. The head is lax, white chaffed at maturity, and awned.

PI 642364. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A99139S-wxy-A-1; IDO630; NSGC 9997. Pedigree - IDO505/3/Kanto79/2*IDO488//BaiHuo,wxy. IDO630 is a soft white spring wheat adapted to irrigated production in southern Idaho. It is a "waxy" wheat, in that it has little or no amylose in its endosperm starch. IDO630 has weak gluten and moderate kernel size (30 to 35 mg). It is moderately resistant to stripe rust based on 2005 evaluations. The head is lax, white chafed at maturity, and awned.

PI 642365. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A00149S-4; IDO629; NSGC 9998. Pedigree - IDO505*2/3/Kanto79/2*IDO488//BaiHuo,wxy. IDO629 is a soft white spring wheat adapted to irrigated production in southern Idaho. It is a "waxy" wheat, in that it has little or no amylose in its endosperm starch. IDO629 has weak gluten and moderate kernel size (30 to 35 mg). It is moderately resistant to stripe rust based on 2005 evaluations. The head is lax, white chaffed at maturity, and awned.

The following were developed by Luther Talbert, Montana State University, Department of Plant Sciences, Bozeman, Montana 59717, United States; Greg D. Kushnak, Montana State University, Western Triangle Agric. Research Center, P.O. Box 1474, Conrad, Montana 59425, United States; G.R. Carlson, Montana State University, Northern Agric. Research Center, Star Rt. 36, Havre, Montana 59501, United States; Joyce L. Eckhoff, Montana State University, Eastern Agric. Research Center, 1501 N. Central Avenue, Sidney, Montana 59270, United States; D.W. Wichman, Montana State University, Central Agric. Research Center, Moccasin, Montana 59462, United States; Susan P. Lanning, Montana State University, Plant Sciences & Plant Pathology Department, Leon Johnson Hall, 324A, Bozeman, Montana 59717, United States; Robert N. Stougaard, Montana State University, Northwestern Agric. Research Center, 4570 MT Hwy 35, Kalispell, Montana 59901, United States; Ken Kephart, Montana

State University, MSU Southern Ag. Research Center, 748 Railroad Highway, Huntley, Montana 59037, United States; W.E. Grey, Montana State University, Bozeman, Montana 59717, United States; D. Nash, Montana State University, Dept. of Plant Sciences and Plant Pathology, Bozeman, Montana 59717, United States; A. Dyer, Montana State University, Dept. of Plant Sciences and Plant Pathology, Bozeman, Montana 59717, United States. Received 03/20/2006.

PI 642366. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "VIDA"; MT0245. CV-996; PVP 200600225. Pedigree - Scholar/Reeder. Released 2006. Semi-dwarf hard red spring wheat with semi-solid stems. Mid-late in maturity. Semi-solid stems provide intermediate resistance to the wheat stem sawfly. Moderately susceptible to prevalent races of stem rust in Montana. Shows moderate resistance to stripe rust and Septoria across Montana. Has semi-lax tapering head with white glumes and awns. Kernels are red, ovate with rounded cheeks and mid-deep crease.

The following were developed by Richard C. Frohberg, North Dakota State University, Crop & Weed Science Department, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States; J.B. Rasmussen, North Dakota State University, Dept. of Plant Pathology, Fargo, North Dakota 58105, United States; R.W. Stack, North Dakota State University, Plant Pathology Department, Fargo, North Dakota 58105, United States; Mohamed Mergoum, North Dakota State University, Plant Sciences Dept., Loftsgard Hall, Fargo, North Dakota 58105-5051, United States; Tim Friesen, USDA-ARS, 1307 N. 18th St., Fargo, North Dakota 58105, United States. Received 03/27/2006.

PI 642367. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "HOWARD"; ND 800. CV-998; PVP 200700003; REST 642367. Pedigree - Parshall/5/Grandin/3/IAS20*4/H567.71//Amidon/4/ND674. Released 2006. Hard red spring wheat released because it combines a good level of Fusarium head blight (FHB) [caused by *Fusarium graminearum*] resistance derived from the tetraploid wheat relative *Triticum dicoccoides*, high grain yield, and high end-use quality for the domestic and export wheat markets. Awned cultivar with mid-dense, inclined, and tapering spikes. Culms are white and peduncle is slightly recurved. Awns are white and 8 to 10 cm in length. Glumes are white, medium, elevated, and acuminate; shoulder and beak are medium width. Kernels are rounded, hard, red, and oval; germ is midsized; brush is medium. Semi-dwarf cultivar with plant height similar to Alsen. Heading date is on average, similar to Alsen and Steele-ND. Has good resistance to grain shattering, comparable to Steele-ND; has medium straw strength similar to Dapps. Grain yield was similar to Steele-ND, Glenn, and Parshall. Mean grain volume weight was similar to Alsen, and Steele-ND. Grain protein was comparable to Reeder, Alsen, Steele-ND, Glenn, and Parshall. Flour yield was comparable to Alsen, and Parshall. Water absorption was significantly higher than Alsen and Parshall. Mixogram mix time (after 3 hrs. fermentation) was greater than Reeder and similar to Parshall. Mixing tolerance was slightly longer than Reeder but comparable to Parshall. Loaf volume was superior to Reeder and less than Glenn. Resistant to leaf rust (caused by *Puccinia triticina*) and stem rust (caused by *Puccinia graminis*). Exhibited a high level of resistance to stem rust. Source of resistance similar to that of Steele-ND.

The following were developed by C.W. Knight, University of Alaska, Agric. and Forestry Exp. Sta., Fairbanks, Alaska 99775, United States; Robert M. Van Veldhuizen, University of Alaska Fairbanks, 327 O'Neill Bldg., P.O. Box 757200, Fairbanks, Alaska 99775-7200, United States; M. Zhang, University of Alaska Fairbanks, Agricultural and Forestry Experiment Station, Fairbanks, Alaska 99775, United States; S.M. Dofing, Pioneer Hi-Bred International, 21888 N. 950th Road, Adair, Illinois 61411, United States. Received 03/27/2006.

PI 642368. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Population. "WOODING". CV-326. Pedigree - F8 selection from the cross: Jol632/Otal. Released 2006. Six-rowed, rough-awned, early maturing (72 d), mid-tall (89 cm), spring feed barley. Possesses a combination of high grain (3089.4 kg/ha-1) and straw yields, good 1000 kernel (43 g) and test weights (56.3 kg/hL-1), high feed quality (15.63% crude protein, 0.25% P, 0.05% Ca, 6.07% ADF, 30.3% NDF, 80% IVDMD, 35.5% TNC), and good lodging resistance.

The following were developed by Abbott & Cobb, Inc., United States. Received 03/21/2006.

PI 642369 PVPO. *Citrullus lanatus* (Thunb.) Matsum. & Nakai
Cultivar. "TETRA-10". PVP 200400135.

The following were developed by Ag Biotech of Oregon, Inc., Oregon, United States. Received 03/21/2006.

PI 642370 PVPO. *Dactylis glomerata* L.
Cultivar. "PAIUTE II". PVP 200500207.

The following were developed by Blue Mountain Seeds, Inc., P.O. Box 185, Imbler, Oregon 97841, United States; Rutgers, The State University of New Jersey, New Jersey, United States. Received 03/21/2006.

PI 642371 PVPO. *Poa pratensis* L.
Cultivar. "WILD HORSE". PVP 200600157.

The following were developed by Pure Seed Testing, Inc., United States. Received 03/21/2006.

PI 642372 PVPO. *Poa pratensis* L.
Cultivar. "BLUEBERRY"; Y2K-34; C8-04-Y2K-34. PVP 200600158.

The following were developed by Westbred, LLC, United States. Received 03/21/2006.

PI 642373 PVPO. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Cultivar. Pureline. "GRANDE DORO". PVP 200600159. Pedigree - Mountrail/FA-898-785 = Mountrail//Rugby/Duraking.

The following were developed by Shamrock Seed Company, Inc., United States. Received 03/21/2006.

PI 642374 PVPO. *Lactuca sativa* L.
Cultivar. "CITORI". PVP 200600160.

The following were developed by North Dakota State University Research Foundation, North Dakota, United States. Received 03/21/2006.

PI 642375 PVPO. *Linum usitatissimum* L.
Cultivar. "CARTER". PVP 200600161.

The following were developed by Westbred, LLC, United States. Received 03/21/2006.

PI 642376 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "SNOW CREST". PVP 200600162. Pedigree -
Klasic/IDO377s//PH92-265W.

The following were developed by Pure Seed Testing, Inc., United States. Received 03/21/2006.

PI 642377 PVPO. *Lolium perenne* L.
Cultivar. "QUICKSTART II". PVP 200600108.

The following were developed by Edward J. Souza, University of Idaho, Aberdeen Research & Extension Center, P.O. Box 870, Aberdeen, Idaho 83210, United States; Mary Guttieri, University of Idaho, PO Box 870, 1693 S 2700 W, Aberdeen, Idaho 83210-0530, United States. Received 03/30/2006.

PI 642378. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "UI ALTA BLANCA"; A97060S-D-2; IDO628; Alta Blanca; NSGC 17680. Pedigree - Jefferson/2*IDO470. Hard white spring wheat cultivar adapted to rainfed production in southern Idaho. Alta Blanca has adult plant resistance to stripe rust based on 2005 evaluations at Pullman, WA. It has relatively strong gluten (stronger than Idaho 377s). Alta Blanca is a mid-season, tall semi-dwarf cultivar. The head is lax, white chaffed at maturity, and awned.

PI 642379. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. A03074S-A-12(++); IDO672; NSGC 17681. Pedigree - Lolo*6/PI603918. Hard white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Lolo, except for resistance to leaf rust conferred by Lr47. The head is lax, white chaffed at maturity, and awned.

PI 642380. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. A03074S-C-26(++); IDO673; NSGC 17682. Pedigree - Lolo*6/PI603918. Hard white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Lolo, except for resistance to leaf rust conferred by Lr47. The head is lax, white chaffed at maturity, and awned.

PI 642381. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A03074S-A-8(--); IDO674; NSGC 17683. Pedigree - Lolo*6/PI603918. Hard white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Lolo. Sister selection to IDO672. Distinguished from IDO672 in that it does not have resistance to leaf rust conferred by Lr47. The head is lax, white chaffed at maturity, and awned.

PI 642382. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A03074S-C-8(--); IDO675; NSGC 17684. Pedigree - Lolo*6/PI603918. Hard white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Lolo. Sister selection to IDO673. Distinguished from IDO673 in that it does not have resistance to leaf rust conferred by Lr47. The head is lax, white chaffed at maturity, and awned.

PI 642383. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A03067S-A-18(++); IDO676; NSGC 17685. Pedigree - PI603918/6*Jubilee. Soft white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Jubilee, except for resistance to leaf rust conferred by Lr47. The head is lax, white chaffed at maturity, and awned.

PI 642384. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A03067S-A-15(--); IDO677; NSGC 17686. Pedigree - PI603918/6*Jubilee. Soft white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Jubilee. Sib selection to IDO676, but lacking the leaf rust resistance of IDO676. Susceptible to races of stripe rust prevalent in the Pacific Northwest in 2005. The head is lax, white chaffed at maturity, and awned.

PI 642385. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A03255S-A-25(++); IDO678; NSGC 17687. Pedigree - PI603918/6*Jubilee. Soft white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Jubilee, except for resistance to leaf rust conferred by Lr47. Susceptible to races of stripe rust prevalent in the Pacific Northwest in 2005. The head is lax, white chaffed at maturity, and awned.

PI 642386. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. A03255S-A-20(--); IDO679; NSGC 17688. Pedigree - PI603918/6*Jubilee. Soft white spring wheat genotype adapted to production in the Pacific Northwest. Indistinguishable from the recurrent parent cultivar, Jubilee. Sib selection to IDO678, but lacking the leaf rust resistance of IDO678. Susceptible to races of stripe rust prevalent in the Pacific Northwest in 2005. The head is lax, white chaffed at maturity, and awned.

The following were developed by USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823-9420, United States; Indiana Department of Natural Resources, Division of Fish and Wildlife, Indianapolis, Indiana, United States. Received 08/22/2005.

PI 642387. *Sorghastrum nutans* (L.) Nash

Uncertain. Prairie View Indiana Germplasm; 9086556; Grif 16132. Pedigree - Collected from native stands (as designated by the Indiana Department of Natural Resources, Wildlife Division) of indiangrass within the state of Indiana. Seeds from 26 populations were collected from five counties in Indiana during 1993. Seeds from those populations were combined and planted into a single crossing block in 1994. Seeds from that crossing block are the source seed for this release. Released 04/2005. Prairie View Indiana Germplasm indiangrass is a composite of 26 indiangrass collections and has features consistent with the species. It is a perennial, warm season bunch grass with short rhizomes and erect stems that reach a height of 6- to 8-ft at maturity. Leaf blades are rolled in the bud shoot. Sheaths are round, open and may be hairy at the base. The prominent, membranous clawlike ligules resemble a rifle sight. Indiangrass has a narrow plumlike seedhead that turns golden at maturity.

PI 642388. *Schizachyrium scoparium* (Michx.) Nash

Uncertain. Prairie View Indiana Germplasm; 9086557; Grif 16133. Pedigree - Collected from native stands (as designated by the Indiana Department of Natural Resources, Wildlife Division) of little bluestem within the state of Indiana. Seeds from six populations were collected from four counties in Indiana during 1993. Seeds from those populations were combined and planted into a single crossing block in 1994. Seeds from that crossing block are the source seed for this release. Released 04/2005. Prairie View Indiana Germplasm little bluestem is a composite of six little bluestem collections and has features consistent with the species. It is a perennial, warm season bunch grass with short rhizomes and erect stems that reach a height of 2- to 4-ft at maturity. It has a dense, fibrous root system and flat, narrow basal stems. Sheaths are purplish at the base; ligules are small and membranous. Leaves are slightly folded and become reddish-brown at maturity. The white, tufted seedheads are born in a raceme.

PI 642389. *Andropogon gerardii* Vitman

Uncertain. Prairie View Indiana Germplasm; 9086558; Grif 16134. Pedigree - Collected from native stands (as designated by the Indiana Department of Natural Resources, Wildlife Division) of big bluestem within the state of Indiana. Seeds from 20 populations were collected from seven counties in Indiana during 1993. Seeds from those populations were combined and planted into a single crossing block in 1994. Seeds from that crossing block are the source seed for this release. Released 04/2005. Prairie View Indiana Germplasm big bluestem is a composite of 20 big bluestem collections and has features consistent with the species. It is a perennial, warm season bunch grass with short, scaly rhizomes. Stems are erect, pithy and reach a height of 6- to 8-ft at maturity. It is very leafy at the base lessening considerably up the stem. Leaf blades have long, silky hairs that are widely dispersed on the upper surface. Plants bear 2-6 racemes at the tip of the culms, and usually some smaller inflorescences from the leaf axils.

The following were developed by J.F. Rajewski, University of Nebraska, Dept. of Agronomy, P.O. Box 830915, Lincoln, Nebraska 68583-0915, United States; Ismail Dweikat, University of Nebraska, 279 Plant Sciences, Agronomy and Horticulture Department, Lincoln, Nebraska 68583, United States; J.D. Easten,

University of Nebraska, Dep. of Agronomy, P.O. Box 830915, Lincoln, Nebraska 68583-0915, United States. Received 03/31/2006.

PI 642390. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. N 585. GP-640. Pedigree - F5 selection from the cross NSSC5-99ms/NSL 88139/PI 571344. Medium maturity germplasm with poor panicle exertion. Creamy grain color and tan plant reaction. Average seed weight: 41.0 g/1000 sd. Acts as a maintainer on the A1 cytoplasm. Photoperiod insensitive and reaches about 118 cm in height.

PI 642391. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. N 586. GP-641. Pedigree - F5 selection from the cross NSSC5A-2/SC425. Medium maturity germplasm with excellent panicle exertion. Has white grain color and tan plant reaction. Average seed weight about 44.1 g/1000 sd. Acts as a maintainer on the A1 cytoplasm. Photoperiod insensitive and reaches about 96 cm in height.

PI 642392. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. N 589. GP-642. Pedigree - F5 selection from the cross NSSC5A-122ms/IS23891. Medium maturity germplasm with poor panicle exertion. Has creamy grain color and tan plant reaction. Average seed weight about 47.9 g/1000 sd. Acts as a maintainer on A1 cytoplasm. Photoperiod insensitive and reaches about 114 cm in height.

PI 642393. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. N 590. GP-643. Pedigree - F5 selection from the cross NSSC5A-99ms/(NSSC5-128ms/IS23891). Medium maturity germplasm with good panicle exertion. Creamy grain color and tan plant reaction. Average seed weight about 43.3 g/1000 sd. Acts as a maintainer on the A1 cytoplasm. Photoperiod insensitive and reaches about 101 cm in height.

PI 642394. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. N 591. GP-644. Pedigree - F5 selection from the cross NSSC5A-128ms/NSL 83891. Medium maturity germplasm with good panicle exertion. Creamy grain color and tan plant reaction. Average seed weight about 43.3 g/1000 sd. Acts as a maintainer on A1 cytoplasm. Photoperiod insensitive and reaches about 106 cm in height.

The following were donated by John Durling, USDA-NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823, United States; John Leif, USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 48823, United States; David W. Burgdorf, USDA, NRCS, Rose Lake Plant Materials Center, 7472 Stoll Road, East Lansing, Michigan 49036, United States. Received 03/31/2004.

PI 642395. *Panicum virgatum* L.

Wild. Population. Southlow Michigan Germplasm switchgrass; 9084512; NSL 439951. GP-97. Collected 1999 in Michigan, United States. Pedigree - Collected from native stands (as designated by the Michigan Dept. of Natural Resources, Wildlife Division) in southern half of Michigan's Lower Peninsula in 1999. Seeds were mixed and planted in a single crossing block without further purposeful selection. Seed harvested from this crossing block was released as Southlow Michigan Germplasm switchgrass. Perennial, warm-season bunch grass with short, hard, scaly rhizomes. Stems are erect, often reddish to purplish at the base and reaching a height of 7 feet. Dense mat of white, silky hairs extends

from ligule to upper leaf surface. Inflorescence is open, freely branched, and pyramidal. Since undergoing no purposeful selection, it should not differ in rate of spread, seed production, vigor, or behavior from naturally occurring switchgrass in this area. Anticipated uses include providing food/cover for wildlife, increasing species diversity, controlling erosion, and restoring native plant environments.

PI 642396. *Sorghastrum nutans* (L.) Nash

Wild. Population. Southlow Michigan Germplasm Indiangrass; 9084513; NSL 439971. GP-96. Collected 1999. Pedigree - Collected from native stands (as designated by the Michigan Dept. of Natural Resources, Wildlife Division) in southern half of Michigan's Lower Peninsula in 1999. Seeds were mixed and planted in a single crossing block without further purposeful selection. Perennial, warm-season bunch grass with short rhizomes and erect stems that reach a height of six feet. Leaf blades are rolled in the bud shoot. Sheaths are round, open and may be hairy at the base. Prominent, membranous, claw-like ligule resembles a rifle sight. Narrow plume-like seedhead that turns golden at maturity. Since undergoing no purposeful selection, it should not differ in rate of spread, seed production, vigor, or behavior from naturally occurring indiangrass in area. Anticipated uses include providing food/cover for wildlife, increasing species diversity, controlling erosion, and restoring native plant environments.

PI 642397. *Schizachyrium scoparium* (Michx.) Nash

Wild. Population. Southlow Michigan Little bluestem; 9084511; NSL 439965 . GP-2. Collected 1999 in Michigan, United States. Pedigree - Collected from native stands (as designated by the Michigan Department of Natural Resources, Wildlife Division) in the southern half of Michigan's Lower Peninsula in 1999. Seeds were mixed and planted in a single crossing block without further purposeful selection. Perennial, warm season bunch grass that grows 2-4 feet tall. Dense, fibrous root system and flat, narrow basal stems. Sheaths are purplish at base. Ligules are small and membranous. Leaves are slightly folded and become reddish-brown at maturity. White, tufted seedheads are borne on a raceme. Since undergoing no purposeful selection it should not differ in rate of spread, seed production, vigor or behavior from naturally occurring little bluestem in area. Anticipated uses include providing food/cover for wildlife, increasing species diversity, controlling erosion, and restoring native plant environments.

PI 642398. *Andropogon gerardii* Vitman

Wild. Population. Southlow Michigan Big Bluestem; 9084510; NSL 439900. GP-1. Collected 1999 in Michigan, United States. Pedigree - Collected from 22 native stands (as designated by the Michigan Department of Natural Resources, Wildlife Division) in southern half of Michigan's Lower Peninsula in 1999. Seeds were mixed and planted in a single crossing block without further purposeful selection. Perennial, warm-season bunch grass with short, scaly rhizomes. Stems are erect and pithy and can reach a height of 8 feet. Very leafy at base, lessening considerably up the stem. Leaf blades have long, silky hairs widely dispersed on the upper surface. Plants bear 2-6 racemes at the tip of the culms, and usually some smaller inflorescences from leaf axils. Since undergoing no purposeful selection it should not differ in rate of spread, seed production, vigor, or behavior from naturally occurring big bluestem in area. Anticipated uses include providing food/cover for

wildlife, increasing species diversity, controlling erosion, and restoring native plant environments.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Giorgi Arabuli, State Museum of Georgia, Tbilisi, Georgia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/26/2004.

PI 642399. *Ribes petraeum* var. *biebersteinii* (Berland.) C. K. Schneid.
Wild. GE-2004-045; CRIB 1415. Collected 09/26/2004 in Georgia. Latitude 42° 33' 48" N. Longitude 45° 2' 14" E. Elevation 2054 m.
Tush-Pshav-Kevsureti (Mtskheta-Mtianeti) province. Pedigree - Collected from the wild in the Republic of Georgia.

The following were donated by Shawn Belt, USDA, NRCS, National Plant Materials Center, Bldg. 509, BARC - East, Beltsville, Maryland 20705, United States. Received 10/25/2005.

PI 642400. *Sambucus cerulea* Raf.
Cultivar. "Blanchard Blue Elderberry OP"; CSAM 170. Pedigree - Open pollinated seed from Blanchard blue elderberry.

The following were developed by Gregory Fenchel, USDA-NRCS, Los Lunas Plant Materials Center, 1036 Miller SW, Los Lunas, New Mexico 87031, United States; L. Michael English, New Mexico State University, NMSU Agricultural Science Center, 1036 Miller Street SW, Los Lunas, New Mexico 87031, United States; David Dreesen, USDA-NRCS, Los Lunas Plant Materials Center, 1036 Miller SW, Los Lunas, New Mexico 87031, United States; Danny Goodson, USDA-NRCS, Los Lunas Plant Materials Center, 1036 Miller SW, Los Lunas, New Mexico 87031, United States. Received 03/14/2006.

PI 642401. *Muhlenbergia asperifolia* (Nees & Meyen ex Trin.) Parodi
Cultivated. Westwater Germplasm Alkali muhly; 9066232. Pedigree - Selected from seed originally collected in 1993, 1.5 miles north of San Juan Power Plant (R30W T30N S6NW 1/4, elevation = 1574 meters), south of the town of Fruitland, New Mexico. Plants growing in a damp arroyo bottom on clay loam soil of the Blancot soil series. One collection was seeded in 1994 at Los Lunas PMC and evaluated for survival under agronomic conditions. After 3 years of evaluation, plants were selected for hardiness and seed was harvested from plants. Seed was then sown into a second field and plants were evaluated for hardiness for 5 years. In 2003, seed was collected from hardiest plants to establish the Westwater Germplasm field of alkali muhly. Released 02/08/2006. Native warm-season perennial sod grass with plants decumbent up to 60 cm tall having open panicles and spikelets. Foliage is yellow-green and the flower is purple. Potential use includes erosion control, wildlife food and cover, restoration of disturbed sites, and increasing plant diversity of riparian areas.

The following were developed by Hans-Henning Muendel, Agriculture Canada, Lethbridge Research Station, Crop Sciences Section, Research Station, Lethbridge, Alberta T1J 4B1, Canada; F. Kiehn, Agriculture and Agri-Food Canada, Research Centre, Unit 100 - 101 Route 100, Morden, Manitoba R6M 1Y5, Canada; H.C. Huang, Agriculture and Agri-Food Canada, Lethbridge Research Center, P.O. Box 3000, Lethbridge, Alberta T1J 4B1, Canada; Robert L. Conner, Agriculture and Agri-Food Canada, Morden Research Station, Unit 100-101, Morton, Manitoba R6M 1Y5, Canada; Parthiba Balasubramanian, Agriculture and Agri-Food Canada, Morden Research Station, Unit 100 - 101 Route 100, Morden, Manitoba R6M 1Y5, Canada. Received 04/10/2006.

PI 642402. Phaseolus vulgaris L.

Cultivar. Pureline. "AGRINTO"; L02B662. CV-265. Pedigree - L95B147/L97B203. A tall, partially upright pinto common bean. Tested in wide-row dry bean registration trials in Alberta and Saskatchewan, Canada for 2 years. Resistant to both yellow and orange strains of bacterial wilt [caused by *Curtobacterium flaccumfasciens* pv. *flaccumfasciens*]; is resistant to race 73 of anthracnose [caused by *Colletotrichum lindemuthianum*]; is moderately resistant to white mold [caused by *Sclerotinia sclerotiorum*]. Well adapted to wide-row irrigated production of the Canadian prairies, with yields comparable to Othello.

The following were developed by Phil Bregitzer, USDA-ARS, National Small Grains Germplasm Research Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States; J.C. Whitmore, University of Idaho, Tetonia Research & Extension Center, 888 West Highway 33, Newdale, Idaho 83436, United States; Juliet M. Windes, University of Idaho, Aberdeen Research & Extension Center, P.O. Box 870, Aberdeen, Idaho 83210, United States; Victor Raboy, USDA, ARS, 1691 South 2700 West, Aberdeen, Idaho 83210, United States; Don Obert, USDA-ARS, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States. Received 04/03/2006.

PI 642403. Hordeum vulgare L. subsp. vulgare

Cultivar. Pureline. "HERALD"; 00ID1550; NSGC 9999. CV-331. Pedigree - Colter//Pmut422/Colter Pmut422 is a sodium-azide mutant in Harrington. Released 2006. Herald is a low-phytate 6-rowed spring feed barley. It has a semi-lax spike that remains upright at maturity. Awns are smooth. Rachilla hairs are long. Hulls are slightly wrinkled. Kernels have a transverse crease at the base. Aleurone is white. Herald, relative to other cultivars, has a slight reduction in grain total phosphorus, a significant reduction in grain phytate (myo-inositol 1,2,3,4,5,6-hexakisphosphate) coupled, and a significant elevation in grain inorganic P. Based on measurements of grain grown in four Idaho locations in 2005, total P content was 3.07 mg g⁻¹ (91% of Colter and 88% of Baroness), phytate P content was 1.2 mg g⁻¹ (55% of Colter and 56% of Baroness), and inorganic P was 0.23 mg g⁻¹ (383% of Colter and 366% of Baroness).

The following were donated by USDA, SCS, Plant Materials Center, Route 3, Box 215A, Coffeeville, Mississippi 38922, United States. Received 1987.

PI 642404. Senna marilandica (L.) Link

190-V-NPMM 2.

The following were developed by Robert A. Graybosch, USDA-ARS, University of Nebraska, 314 Biochem Hall, Lincoln, Nebraska 68583, United States. Received 04/12/2006.

- PI 642405. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N97L9534; NSGC 17689. Pedigree - Siouxland/4*N86L177
. Hard red winter wheat. Strong gluten, 1BL.1RS.
- PI 642406. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N97L9522; NSGC 17690. Pedigree - Siouxland/4*N86L177
. Hard red winter wheat. Strong gluten, 1BL.1RS.
- PI 642407. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. N97L9531; NSGC 17691. Pedigree - Siouxland/4*N86L177
. Hard red winter wheat. Strong gluten, 1BL.1RS.
- PI 642408. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. NO2Y5078; NSGC 17692. Pedigree -
Yuma//T-57/3/Lamar/4/4*Yuma/5/(KS91H184/Arlin S/KS91HW29//NE89526). Hard
red winter wheat. Resistant to WSMV.
- PI 642409. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. NO2Y5106; NSGC 17693. Pedigree -
Yuma//T-57/3/CO850034/4/4*Yuma/5/(KS91H184/Arlin S/KS91HW29//NE89526).
Hard red winter wheat. Resistant to WSMV.
- PI 642410. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. NW97S2181t; NSGC 17694. Pedigree - NW97S218
(KS85W663-1-1/KARL92) selection. Hard white winter wheat.
- PI 642411. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. NW97S139-1; NSGC 17695. Pedigree -
KSSB-192-3/NE89529. Hard white winter wheat.

The following were developed by Jean-Luc Jannink, Iowa State University, Department of Agronomy, 1208 Agronomy Hall, Ames, Iowa 50011-1010, United States. Received 04/26/2006.

- PI 642412. *Avena sativa* L.**
Cultivar. Pureline. "BAKER"; IA97105-3. Pedigree - Blaze/Vista. Spring
oat cultivar with high yield potential, very good groat percentage,
white kernels, above average beta-glucan levels, fair resistance to
barley yellow dwarf virus, crown and stem rusts. Of the same maturity as
Ogle but slightly taller. In trials in Iowa, test weight higher than the
test weight of Ogle and similar to Blaze. Midseason variety. Has similar
resistance to lodging as Blaze and Spurs. Barley yellow dwarf virus
tolerance similar to Jim, Ogle, and Spurs. Crown rust (caused by *Puccinia coronata* sp. *avenae*) resistance similar to Blaze and Spurs.
Susceptible to loose smut (*Ustilago avenae*). Has white, non-fluorescent
seed.

The following were developed by Fred J. Muehlbauer, USDA, ARS, Washington State University, Grain Legume Genetics & Phys. Res. Unit, Pullman, Washington 99164-6434, United States; Steven Temple, University of

California, Department of Agronomy & Range, 183 Hunt Hall, Davis, California 95616, United States; Weidong Chen, USDA, ARS, Washington State University, 303 Johnson Hall, Pullman, Washington 99164, United States. Received 04/21/2006.

PI 642413. *Cicer arietinum* L.

Cultivar. Pureline. "DYLAN". CV-267; PVP 200700283. Pedigree - F8 selection from the cross Blanco Lechoso/Dwelley. Large seeded kabuli type chickpea with good resistance to ascochyta blight [caused by *Ascochyta rabiei*]. Has a fern leaf structure that differs from the unifoliolate leaf structure typical of Sanford, Dwelley and Sierra. Plants are branched at the base and have an indeterminate flowering habit. Pods are rhomboid-ellipsoid and have glandular trichomes, which give them a pubescent appearance. Pods have one and occasionally two seeds. Seeds average 56.8 g per 100 sd. Light-cream colored seeds are lighter than Sierra and Dwelley.

The following were developed by Richard Percy, USDA, ARS, U.S. Arid-Land Agricultural, Research Center, Maricopa, Arizona 85239, United States; Roy Cantrell, Cotton Incorporated, 6399 Weston Parkway, Cary, North Carolina 27513, United States; Mauricio Ulloa, USDA, ARS, W.I.C.S. Research Unit, 17053 N. Shafter Ave., Shafter, California 93263, United States; R. Hutmacher, University of California Shafter, 17053 N. Shafter Avenue, Shafter, California 93263, United States. Received 04/13/2006.

PI 642414. *Gossypium hirsutum* L.

Breeding. Pureline. SJ-U86. GP-868. Pedigree - FiberMax 958/SG 248. Possesses superior lint yield, fiber length and competitive fiber strength under heat stress environments compared to Acala cottons of CA. In far west, SJ-U86 provides alternative source for improving heat tolerance in Acala cottons because of its excellent yield and fiber characteristics. Across CA, AZ and GA, yielded (1960 kg ha⁻¹) significantly better than 2 check varieties Phytogen 72 (1467 kg ha⁻¹) and Maxxa (1207 kg ha⁻¹), and its parents, FiberMax 958 (1652 kg ha⁻¹) and SG 248 (1791 kg ha⁻¹). Lint percent exceeded 41% in all locations and exceeded 44% in CA on replicated 50 feet plot size. Plant height at maturity in CA (1.38 m) exceeded FiberMax 958 (1.25 m), but was comparable to Phytogen 72 (1.33 m). Plant height at maturity generally reflected its relative maturity time, being an intermediate among full season Acala cotton varieties in CA. Fiber lengths (UHM) were superior to FiberMax 958 parent (28.7 mm) when averaged across locations. Fiber length uniformity (82.9%) comparable to FiberMax 958 (82.5%) and Acala cultivars, Phytogen 72 (83.5%) and Maxxa (83.5%). Had significantly greater fiber bundle strength than either of its parents, 34.0 cN vs a mean of 31.9 cN. Fiber fineness (AFIS) (178 mtex) lower than FiberMax 958 (181 mtex) and similar to Phytogen 72 (178 mtex). At Univ. of CA non-approved upland trials in 2004 at Shafter and West Side Field Stations, it was again compared to check Phytogen 72 (2102 kg ha⁻¹) and Maxxa (1841 kg ha⁻¹), and to recent release AGC 375 (2169 kg ha⁻¹). Average across locations, lint yield (2416 kg ha⁻¹) exceeded average across check by 23% and of AGC 375 by 11%. HVI fiber quality matched that of Acala check.

The following were developed by Robert Hunger, Oklahoma State University, Dept. of Plant Pathology, 110 NRC, Stillwater, Oklahoma 74078-9947, United

States; Brett F. Carver, Oklahoma State University, Dept. of Plant & Soil Sciences, 368 Agriculture Hall North, Stillwater, Oklahoma 74078, United States; David R. Porter, USDA, ARS, 1301 N. Western Road, Stillwater, Oklahoma 74075-2714, United States; B.W. Seabourn, USDA, ARS, Grain Marketing and Production Research Center, Hard Winter Wheat Quality Lab., Manhattan, Kansas 66506, United States; A.R. Klatt, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; B.C. Martin, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; P. Rayas-Duarte, Oklahoma State University, Dept. of Biochemistry and Molecular Biology, Stillwater, Oklahoma 74078, United States; Guihua Bai, USDA-ARS, 4008 Throckmorton Hall, Kansas State University, Manhattan, Kansas 66506, United States; J.T. Edwards, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; W.D. Worrall, AgriPro Wheat, P.O. Box 1739, 12167 Hwy 70, Vernon, Texas 76385, United States; F.E. Dowell, USDA-ARS, Grain marketing and Production Res. Ctr., 1515 College Avenue, Manhattan, Kansas 66502, United States. Received 04/14/2006.

PI 642415. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "OK BULLET"; OK00514. PVP 200600173; CV-999. Pedigree - KS96WGRC39/Jagger. Released 2005. OK Bullet shows moderately early arrival to first-hollow-stem (FHS) stage and moderately early heading date. It reaches the FHS stage in central Oklahoma 2 d later than Jagger and 16 d earlier than 2174. Heading date is intermediate to Jagger (3 d earlier) and 2174 (2 d later). Its juvenile growth habit is erect to semi-erect. Though it is postulated to contain Rht-Blb, OK Bullet exceeds most currently grown hard winter wheat cultivars in plant height. It is about 8 cm taller than Jagger and 6 cm taller than 2174. OK Bullet shows a tolerant reaction to aluminum (Al) toxicity in low-pH field conditions (pH=4.0-4.5), and shows the same banding pattern as Jagger for the SSR markers, wmc331 and gdm125, and the gene marker for malate release, ALMT1, on chromosome 4DL.. Based on field observations in Oklahoma, OK Bullet is moderately resistant to Wheat soilborne mosaic and Wheat spindle streak mosaic virus, but moderately susceptible to Barley yellow dwarf virus. Based on field observations of adult plants across Oklahoma through 2005, it shows a resistant reaction to both leaf rust, caused by *Puccinia triticina* Eriks, and stripe rust, caused by *P. striiformis* Westendorp. f. sp. *tritici*. Based on greenhouse observations, OK Bullet is moderately resistant to tan spot (*Pyrenophora tritici-repentis*) and to septoria leaf blotch (*Septoria tritici*), but susceptible to powdery mildew (*Blumeria graminis* f. sp. *tritici*). It is susceptible to biotypes C and E of the greenbug (*Schizaphis graminum* Rondani) and to Hessian fly (*Mayetiola destructor*). Flag leaves of OK Bullet at the boot stage are green, recurved, twisted, and non-waxy. Spikes are white-chaffed, awned, oblong, middense, and inclined at harvest-maturity. Kernels are red, hard-textured, ovate, and they have a midwide, middeep crease, rounded cheeks, and large germ. Milling quality is exceptional, and baking quality is above-average.

The following were developed by J. Paul Murphy, North Carolina State University, Dept. of Crop Science, Box 7629, Raleigh, North Carolina 27695-7629, United States; Steven Leath, USDA, ARS, North Carolina State University, Dept. of Plant Pathology, Raleigh, North Carolina 27695, United States; R.A. Navarro, North Carolina State University, North Carolina Agric. Exp. Station, Dept. of Crop Science, Raleigh, North Carolina 27695-7629, United States; Thomas S. Cox, The Land Institute, 2440 E. Water Well Road,

Salina, Kansas 67401, United States; James Kolmer, USDA-ARS, Cereal Disease Laboratory, 1551 Lindig, St. Paul, Minnesota 55108, United States; David S. Marshall, USDA, ARS, North Carolina State University, Plant Science Research Unit, Raleigh, North Carolina 27695-7616, United States; Christina Cowger, USDA-ARS, 3409 Gardner Hall - CB 7616, North Carolina State University, Raleigh, North Carolina 27695-7616, United States; C. Gaines, USDA-ARS, Soft Wheat Quality Lab, Wooster, Ohio 44691, United States. Received 04/17/2006.

PI 642416. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. NC06BGTAG12. GP-813. Pedigree - Saluda*3/PI 538457. Released 2006. Contains resistance to prevalent isolates of wheat powdery mildew (caused by *Blumeria graminis* sp. *tritici*) occurring in cultivation in North Carolina during 1999-2005 seasons. Source of resistance is *T. timopheevii* subsp. *armeniicum* accession PI 538457 collected in Iraq. In comparisons with recurrent parent Saluda, NC06BGTAG12 is taller and has weaker straw. Heading dates of both lines are similar.

PI 642417. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. NC06BGTAG13. GP-814. Pedigree - Saluda*3/PI 427442. Released 2006. Contains resistance to prevalent isolates of wheat powdery mildew (caused by *Blumeria graminis* sp. *tritici*) occurring in cultivation in North Carolina during the 1999-2005 seasons. Source of resistance is *T. timopheevii* subsp. *armeniicum* accession PI 427442 collected in Iraq. In comparisons with recurrent parent Saluda, HC06BGTAG13 heads six days earlier than Saluda and has a taller plant stature.

The following were developed by David Dierig, USDA, ARS, U.S. Arid Land Agricultural Research Center, 21881 N. Cardon Lane, Maricopa, Arizona 85239, United States; A.E. Thompson, USDA, ARS, U.S. Arid Land Agricultural Research Center, 21881 North Cardon Lane, Maricopa, Arizona 85239, United States; D.T. Ray, USDA, ARS, U.S. Arid Land Agricultural Research Center, 21881 North Cardon Lane, Maricopa, Arizona 85239, United States; T.A. Coffelt, USDA, ARS, U.S. Arid land Agricultural Research Center, 21881 North Cardon Lane, Maricopa, Arizona 85239, United States. Received 04/21/2006.

PI 642418. *Vernonia galamensis* (Cass.) Less. var. *galamensis*

Breeding. WCL-VP1. GP-9; REST 642418. Pedigree - WCL-VP1/6A,12E,15D,21J,26B,29E,35C,36H,38A/A0399 X A0382. Developed by intraspecific hybrids between a day-neutral photoperiod accession of *V. galamensis* subsp. *galamensis* var. *petetiana* as a maternal parent, and three short-day photoperiod accessions. The pollen parents included *V. galamensis* subsp. *galamensis* var. *ethiopica*; var. *galamensis*; and one taxonomically unclassified variety. Hybrids were formed by controlled pollination in greenhouses at Phoenix, Arizona from April to August 1991. The F2 generation was grown under long day conditions in 1993 at Univ. of Arizona, Maricopa Agric. Center. Single plant selections were increased following each season at the USDA-ARS Puerto Rico Winter Nursery. Seeds of F3 and F4 generations were sent to nine locations throughout the U.S. for testing. Single plant selections were made based on number of flowers initiated. In 1993, the three F3 populations flowered on average of 95 DAP under long-day conditions. The maternal parent flowered on average of 84 DAP and the three paternal parents did not flower under long-day conditions. The average 1000 seed weight for

the maternal, paternal, and hybrids was 1.72 g, 2.90 g, and 2.28 g, respectively.

PI 642419. *Vernonia galamensis* (Cass.) Less. var. *galamensis*

Breeding. WCL-VP2. GP-10; REST 642419. Pedigree - WCL-VP2/49B,49C/A0399 X A0388 AND A0389. Developed by intraspecific hybrids between a day-neutral photoperiod accession of *V. galamensis* subsp. *galamensis* var. *petetiana* as a maternal parent, and three short-day photoperiod accessions. The pollen parents included *V. galamensis* subsp. *galamensis* var. *ethiopica*; var. *galamensis*; and one taxonomically unclassified variety. Hybrids were formed by controlled pollination in greenhouses at Phoenix, Arizona from April to August 1991. The F2 generation was grown under long day conditions in 1993 at Univ. of Arizona, Maricopa Agric. Center. Single plant selections were increased following each season at the USDA-ARS Puerto Rico Winter Nursery. Seeds of F3 and F4 generations were sent to nine locations throughout the U.S. for testing. Single plant selections were made based on number of flowers initiated. In 1993, the three F3 populations flowered on average of 95 DAP under long-day conditions. The maternal parent flowered on average of 84 DAP and the three paternal parents did not flower under long-day conditions. The average 1000 seed weight for the maternal, paternal, and hybrids was 1.72 g, 2.90 g, and 2.28 g, respectively.

PI 642420. *Vernonia galamensis* (Cass.) Less. var. *galamensis*

Breeding. WCL-VP3. GP-11; REST 642420. Pedigree - WCL-VP3/64B,66BK/A0399 X A0437. Developed by intraspecific hybrids between a day-neutral photoperiod accession of *V. galamensis* subsp. *galamensis* var. *petetiana* as a maternal parent, and three short-day photoperiod accessions. The pollen parents included *V. galamensis* subsp. *galamensis* var. *ethiopica*; var. *galamensis*; and one taxonomically unclassified variety. Hybrids were formed by controlled pollination in greenhouses at Phoenix, Arizona from April to August 1991. The F2 generation was grown under long day conditions in 1993 at Univ. of Arizona, Maricopa Agric. Center. Single plant selections were increased following each season at the USDA-ARS Puerto Rico Winter Nursery. Seeds of F3 and F4 generations were sent to nine locations throughout the U.S. for testing. Single plant selections were made based on number of flowers initiated. In 1993, the three F3 populations flowered on average of 95 DAP under long-day conditions. The maternal parent flowered on average of 84 DAP and the three paternal parents did not flower under long-day conditions. The average 1000 seed weight for the maternal, paternal, and hybrids was 1.72 g, 2.90 g, and 2.28 g, respectively.

The following were donated by David A. Lightfoot, Southern Illinois University at Carbondale, Room 176, Agriculture Building, Carbondale, Illinois 62901, United States. Received 09/12/2005.

PI 642421 MAP. *Glycine max* (L.) Merr.

Pureline. FLYER. Developed in United States. Pedigree - A BC3F2-derived line from the cross A3127 X L24. PI 642421 MAP is a new PI assignment of PI 534646 representing one of the parents of Flyer x Hartwig RIL Mapping Population. The second parent is Hartwig, PI 543795, newly assigned PI 642422 MAP. Flyer is one parent of a genetic map constructed using a recombinant inbred line (RIL) population from the cross 'Flyer' by 'Hartwig' (F_xH) that has been used extensively to identify quantitative trait loci underlying resistance to soybean sudden

death syndrome (SDS) caused by *Fusarium solani* sp. glycines and soybean cyst nematode (SCN) caused by *Heterodera glycine*; yield, seed quality traits, water deficit, manganese toxicity, and for genome analysis. The map was used for positional cloning of Gm NARK, Rpg5, Rhg2, Rhg5, Rfs2 by 2005. The population was used to develop an assay for marker-assisted selection for SDS resistance in the greenhouse. Near-isogenic line populations have been created from selected RILs for fine mapping and verification of quantitative trait loci (QTL) detected in the RIL population. The FxH population is very important for the analysis of yield QTL and other agronomic traits because it does segregate for maturity (3-5) and growth habit (det to semi-det) and shares many alleles with the Essex x Forrest population. The registration of this population allows public access to the population and data generated from it. This will lead to a joint effort in combating many agronomic problems.

PI 642422 MAP. *Glycine max* (L.) Merr.

HARTWIG. Developed in United States. Pedigree - BC3F2-derived line from the cross 'Forrest' x PI 437654. PI 642422 MAP is a new PI assignment of PI 543795 representing one of the parents of Flyer X Hartwig RIL Mapping Population. The second parent is Flyer, PI 534646, newly assigned PI 642421 MAP. Hartwig is the basis of a genetic map constructed using a recombinant inbred line (RIL) population from the crosses Flyer x Hartwig and Resnik x Hartwig that have been used extensively to identify quantitative trait loci underlying resistance to soybean sudden death syndrome (SDS) caused by *Fusarium solani* sp. glycines (Fsg) and soybean cyst nematode (SCN) caused by *Heterodera glycine*; yield; seed quality traits; water deficit; manganese toxicity; and for genome analysis. The map was used for positional cloning of Gm NARK, Rpg5, Rhg2, Rhg5, and Rfs2 by 2005. The populations were used to develop an assay for marker-assisted selection for SDS resistance in the greenhouse. Near-isogenic line populations have been created from selected RILs for fine mapping and verification of quantitative trait loci (QTL) detected in the RIL population. The FxH and RxH populations are very important for the analysis of yield QTL and other agronomic traits because it does segregate for maturity (3-5) and growth habit (det to semi-det) and shares many alleles with the Essex x Forrest population. The registration of this population allows public access to the population and data generated from it. This will lead to a joint effort in combating many agronomic problems.

The following were developed by Syngenta Seeds, Inc., Idaho 83711-4188, United States. Received 04/24/2006.

PI 642423 PVPO. *Phaseolus vulgaris* L.

Cultivar. "HERRERA". PVP 200600170.

The following were developed by Syngenta Seeds, Inc., Stanton, Minnesota 55018, United States. Received 04/25/2006.

PI 642424 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "NP2405". PVP 200600092.

PI 642425 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "NP2414". PVP 200600093.

PI 642426 PVPO. Zea mays L. subsp. mays
Cultivar. "NP2482". PVP 200600094.

PI 642427 PVPO. Zea mays L. subsp. mays
Cultivar. "NP2536". PVP 200600095.

PI 642428 PVPO. Zea mays L. subsp. mays
Cultivar. "NP2546". PVP 200600096.

The following were donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 10/20/2003.

PI 642429. Solanum tuberosum L.
Breeding. "UNICA"; CIP 392797.22; Q 44053. Pedigree - CIP 387521.3 x APHRODITE. Tuber shape elliptic; skin color red; flesh color cream; good cooking and processing quality; high yield; extreme resistance to PVX.

The following were donated by Haktae Lim, Kangwon National University, Division of Applied Plant Sciences, College of Agriculture and Life Sciences, Chuncheon, Korea, South. Received 11/05/2003.

PI 642430. Solanum tuberosum L.
Cultivar. "GUI VALLEY"; Q 44058. Excellent cooking quality; long tuber shape; red eyes; very high specific gravity.

The following were donated by Hector Lozoya, Pictipapa, Conjunto Sedagro, Dom. conocido, Metepec, Mexico 52142, Mexico. Received 08/27/2004.

PI 642431. Solanum tuberosum L.
Breeding. LB7-14; Q 44224. Mexican late blight stock.

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

PI 642432. Solanum tuberosum L.
Breeding. TM-2; Q 44460. Pedigree - P24.2 x BLK TUB. Tuber moth breeding stock.

PI 642433. Solanum tuberosum L.
Breeding. TM-3; Q 44461. Pedigree - P24.2 x BLK TUB. Tuber moth breeding stock.

PI 642434. Solanum tuberosum L.
Breeding. KWPTM24; Q 44462. Pedigree - 2X(TS-S)5 x PTM1.33. Tuber moth breeding stock.

PI 642435. Solanum tuberosum L.
Breeding. KWPTM29; Q 44463. Pedigree - 2X(TS-2)5 x PTM1.33. Tuber moth breeding stock.

PI 642436. *Solanum tuberosum* L.

Breeding. (2X)87HW13.7; Q 44464. Pedigree - W4139 x MLT. Tuber moth breeding stock.

PI 642437. *Solanum tuberosum* L.

Breeding. (2X)87HM12.16; Q 44465. Pedigree - W973 x SPL. Tuber moth breeding stock.

The following were collected by Coleccion Program, Papa del Peru, E.E. La Molina, Lima, Peru. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642438. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes

Landrace. ALCCA IMILLA; Q 44467. Collected 08/24/2005 in Cuzco, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W. Elevation 3400 m. P. Anta. Zurite. Primitive cultivar. Tuber moth resistance. Tuber late blight resistance.

PI 642439. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes

Landrace. CANASTA; Q 44469. Collected 08/24/2005 in Junin, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W. Elevation 3300 m. P. Jauja. Est. Exp. El Mantaro. Primitive cultivar. Tuber moth resistance. Scab resistance.

PI 642440. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes

Landrace. GARHUASH SUITO; Q 44473. Collected 08/24/2005 in Junin, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W. Elevation 3300 m. P. Jauja. Est. Exp. El Mantaro. Primitive cultivar. Tuber moth resistance.

The following were collected by Zosimo Huaman, International Potato Center, Apartado 1558, Av. La Universidad No. 795, Lima 12, Lima, Peru. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642441. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes

Landrace. HUICHIRI; Q 44477. Collected 08/24/2005 in Ayacucho, Peru. Latitude 13° 1' 12" S. Longitude 73° 58' 48" W. Elevation 3600 m. P. La Mar. Hacienda Paria (San Migue. Primitive cultivar. Tuber moth resistance.

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

PI 642442. *Solanum stenotomum* Juz. & Bukasov

Landrace. JANCKO PHINU; Q 44479. Collected 08/24/2005 in Potosi, Bolivia. Latitude 19° 12' 0" S. Longitude 65° 51' 0" W. Elevation 3900 m. P. Frias. Tinguipaya. Primitive cultivar. Tuber moth resistance. Soft rot resistance. Late blight resistance. Blackleg resistance.

The following were collected by Zosimo Huaman, International Potato Center, Apartado 1558, Av. La Universidad No. 795, Lima 12, Lima, Peru; J.G. Hawkes, University of Birmingham, Department of Botany, Edgbaston, Birmingham, England B15 2TT, United Kingdom; J.P. Hjerting, Kobenhavns Universitet, Botanisk Have, Oster Farimagsgade 2B, Copenhagen, Copenhagen DK-1353, Denmark. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642443. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes
Landrace. HHCH 4900; Q 44480. Collected 08/24/2005 in La Paz, Bolivia.
Latitude 17° 4' 12" S. Longitude 68° 37' 48" W. Elevation 3900 m.
P. Pacajes. Caquiaviri. Primitive cultivar. Tuber moth resistance.

The following were collected by Luis E. Lopez, International Plant Genetic Resources Institute, c/o CIAT, Apto. Aereo 6713, Cali, Valle, Colombia. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 08/24/2005.

PI 642444. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes
Landrace. PUCA TROMBOS; Q 44485. Collected 08/24/2005 in Cuzco, Peru.
Latitude 14° 1' 48" S. Longitude 71° 34' 12" W. Elevation 3680 m.
P. Acomayo. Pomacanchi. Primitive cultivar. Tuber moth resistance.
Tuber late blight resistance.

The following were donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 11/16/2005.

PI 642445. *Solanum tuberosum* L.
Breeding. M200-30; CIP 780660; Q 44513. M. Bonierbale RFLP mapping
population parent.

The following were collected by Coleccion Program, Papa del Peru, E.E. La Molina, Lima, Peru. Donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 11/16/2005.

PI 642446. *Solanum tuberosum* subsp. *andigenum* (Juz. & Bukasov) Hawkes
Landrace. CIP 700932; OKELLA QUEHUIL; Q 44514. Collected 11/16/2005 in
Junin, Peru. Latitude 11° 49' 12" S. Longitude 75° 22' 48" W.
Elevation 3300 m. P. Jauja. Est. Exp. El Mantaro. Primitive cultivar.
Tuber moth resistance. Tuber late blight resistance.

The following were developed by Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States; Shree P. Singh, University of Idaho, Kimberly Research & Extension Ctr., 3793 North 3600 East, Kimberly, Idaho 83341-5076, United States; J. Rusty Smith, USDA-ARS, Crop Genetics and Production Research Unit, P.O. Box 345, Stoneville, Mississippi 38776, United States. Received 05/08/2006.

PI 642447. Phaseolus vulgaris L.

Breeding. Pureline. USWK-CBB-17. GP-261. Pedigree - F5 derived line from the cross: 98MSU-837//I9566-21-4-2/USLK-2. Type I determinate bush growth habit typical of white kidney bean. Yield was 98% of Beluga. Average weight of 100 seeds was 41 g compared to 44 g for Beluga. Matured in 91 d, the same as Beluga. Seed appearance was rated commercially acceptable for the white kidney market class. Exhibits hypersensitive resistance response to the NL-3 strain of Bean common mosaic necrosis virus (BCMV), which infers presence of the I gene for resistance to Bean common mosaic virus (BCMV). Resistant to Beet curly top virus (BCTV). Will be most useful for incorporating resistance to common bacterial blight into the white kidney market classes, but also into other large-seeded market classes and green bean of Andean origin also.

The following were developed by Kenneth F. Grafton, North Dakota State University, Plant Sciences Department, P.O. Box 5051 SU Station, Fargo, North Dakota 58105-5051, United States; Jim D. Kelly, Michigan State University, Department of Crop & Soil Science, 370 Plant & Soil Sci. Bldg. MSU, East Lansing, Michigan 48824-1325, United States; Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States; D. Hauf, Pioneer Hi-Bred International, Inc., 7250 NW 62nd Ave., Johnston, Iowa 50131, United States. Received 05/08/2006.

PI 642448. Phaseolus vulgaris L.

Breeding. Pureline. USPT-WM-1. GP-262. Pedigree - Derives from a recombinant inbred population from the cross: Aztec/ND88-106-04. Is an F5-derived bulk from an individual F2 plant that underwent generation advance by random single-seed descent method for 4 generations from F2 to F5. USPT-WM-1 was selected based on partial resistance to white mold and agronomic characteristics across four white mold field environments in ND and WA in 2001 and 2002. Across environments, mean disease score based on a subjective scale from 1 to 9, where 1 is no visible infection and 9 is a completely susceptible reaction, was 3.7 for USPT-WM-1 compared to 6.8 for Aztec and 5.0 for ICA Bunsu. The line exhibits disease avoidance characteristics: upright Type IIB growth habit; open canopy score of 2.4, where 1 is a completely open and 5 a completely closed canopy, compared to scores of 2.7 for Aztec and 3.7 for ICA Bunsu; taller canopy height of 49 cm, compared to 41 and 44 cm for Aztec and ICA Bunsu; and reduced lodging score of 3.9, where 1 is no lodging and 9 completely lodged, compared to 6.2 Aztec and 6.3 for ICA Bunsu. The line has mid season 94-d maturity, compared to 90 d for Aztec and 96 d for ICA Bunsu. USPT-WM-1 exhibits the stay-green stem trait with a score of 2.6, where 1 = 0 to 20% and 5 = 80 to 100% stay-green stem, compared to 1.8 and 3.8 scores for Aztec and Bunsu, respectively. The stay green trait is described as pods reaching harvest maturity while the branches remain green. Thus, the plant is still likely to be physiologically active and engaged in plant defense response. Seed size based on weight of 100 seeds was 33.6 compared to 33 g for Aztec, however, in the absence of white mold disease pressure weight of 100 seeds for USPT-WM-1 was 4 g less than Aztec. Yield was 2610 kg ha⁻¹ compared to 2290 kg ha⁻¹ for Aztec in a yield trial conducted at Othello, WA in 2004.

The following were developed by Advanta Seeds BV, Netherlands. Received 04/25/2006.

PI 642449 PVPO. Festuca rubra subsp. commutata Gaudin
Cultivar. "CULUMBRA II". PVP 200600109.

The following were developed by The Scotts Company, United States; Rutgers, The State University of New Jersey, New Jersey, United States. Received 04/25/2006.

PI 642450 PVPO. Agrostis stolonifera var. palustris (Huds.) Farw.
Cultivar. "MEMORIAL". PVP 200600163.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States; Novel AG, Inc., Oregon, United States. Received 04/25/2006.

PI 642451 PVPO. Agrostis stolonifera var. palustris (Huds.) Farw.
Cultivar. "SHARK". PVP 200600164.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 04/25/2006.

PI 642452 PVPO. Agrostis stolonifera var. palustris (Huds.) Farw.
Cultivar. "BENCHMARK DSR". PVP 200600166.

The following were developed by Pan American Seed Company, United States. Received 04/25/2006.

PI 642453 PVPO. Erysimum hieraciifolium L.
Cultivar. "PAS415015". PVP 200600167.

PI 642454 PVPO. Erysimum hieraciifolium L.
Cultivar. "PAS415016". PVP 200600168.

The following were developed by Seminis Vegetable Seeds, Inc., United States. Received 04/25/2006.

PI 642455 PVPO. Capsicum annuum L.
Cultivar. "HSE 114-1018". PVP 200600169.

The following were developed by Advanta Seeds BV, Netherlands. Received 04/25/2006.

PI 642456 PVPO. Festuca rubra subsp. commutata Gaudin
Cultivar. "ACF188". PVP 200600171.

The following were developed by Grassland Oregon, LLC, Oregon, United States. Received 04/25/2006.

PI 642457 PVPO. *Poa pratensis* L.
Cultivar. "SKYE". PVP 200600179.

The following were developed by South Dakota Agric. Exp. Station, Brookings, South Dakota, United States. Received 04/25/2006.

PI 642458 PVPO. *Glycine max* (L.) Merr.
Cultivar. "SD1111RR". PVP 200600184.

PI 642459 PVPO. *Glycine max* (L.) Merr.
Cultivar. "HAMLIN". PVP 200600185.

The following were developed by Chao-Chien Jan, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Brady A. Vick, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105-5677, United States. Received 05/15/2006.

PI 642702. *Helianthus annuus* L.
Genetic. RS3. GS-50. Pedigree - F6 derived F7 line resulting from the cross: HA 89//cms HA 89/ Ames 3406/3/RS1. Height is 119 cm compared with height of 134 cm for HA 89. Days to flower is 79 d compared with 68 d for HA 89. Seeds are black with gray stripes. Single-headed.

The following were developed by R.E. Hayes, University of Idaho, Kimberly Res. and Ext. Ctr., 3793 North 3600 East, Kimberly, Idaho 83341, United States; Shree P. Singh, University of Idaho, Kimberly Research & Extension Ctr., 3793 North 3600 East, Kimberly, Idaho 83341-5076, United States; M.F. Dennis, University of Idaho, Kimberly Res. & Ext. Ctr., 3793 North 3600 East, Kimberly, Idaho 83341, United States; H. Teran, University of Idaho, Kimberly Research & Extension Center, 3793 North 3600 East, Kimberly, Idaho 83341, United States; M. Lema, University of Idaho, Kimberly Research & Extension Center, 3793 North 3600 East, Kimberly, Idaho 83341, United States. Received 05/15/2006.

PI 642703. *Phaseolus vulgaris* L.
Breeding. Pureline. SDIP-1. GP-260. Pedigree - Kodiak/Poncho//Matterhorn/BelDakMiRMR-14. Dry bean germplasm line SDIP-1 has unique slow darkening, aging, or oxidizing pinto seed coat color, a highly sought after trait not found in the North American cultivars developed thus far. Pinto SDIP-1 has an indeterminate semi-prostrate Type III growth habit with small vine. After six months of storage at room temperature at Kimberly, Idaho SDIP-1 had seed coat darkening score of 2 on a 1 to 9 score, where 1=no apparent darkening and 9=severely darkened seed coat. In contrast, pinto Othello scored 7, Bill Z 8, and Kodiak and UI 320 9. In replicated trials across 10 locations in southern Idaho in 2005, seed yield of SDIP-1 averaged 2060 kg ha⁻¹ compared to 2365 kg ha⁻¹ for Othello and 2445 kg ha⁻¹ for Bill Z. SDIP-1 had a mean 100-seed weight of 39 g and matured in approximately 94 d. The 100-seed weight and maturity of Othello and Bill Z, respectively, were 37 g and 84 d and 35 g and 93 d. SDIP-1 has a recessive resistance to BCMV (strains NY-15 and US-6) and BCMNV (strain NL-3K). But, SDIP-1 is susceptible to anthracnose [caused by *Colletotrichum lindemuthianum*

(Sacc. & Magnus) Lams.-Scrib. races 23 and 73], common bacterial blight [caused by *Xanthomonas campestris* pv. *phaseoli* (Smith) Dye], halo blight [*Pseudomonas syringae* pv. *phaseolicola* (Burkh.) race 2], rust [*U. appendiculatus* races 38 and 53], and white mold [caused by *Sclerotinia sclerotiorum* (Lib) de Bary].

The following were developed by Monsanto Technology LLC, United States.
Received 05/03/2006.

- PI 642704 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I028727". PVP 200600119.
- PI 642705 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I059908". PVP 200600120.
- PI 642706 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I062687". PVP 200600121.
- PI 642707 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I062696". PVP 200600122.
- PI 642708 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I090372". PVP 200600123.
- PI 642709 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I133314". PVP 200600124.
- PI 642710 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I135168". PVP 200600125.
- PI 642711 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I170094". PVP 200600126.
- PI 642712 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I216556". PVP 200600127.
- PI 642713 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I226211". PVP 200600128.
- PI 642714 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I226218". PVP 200600129.
- PI 642715 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I285287". PVP 200600130.
- PI 642716 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I285291". PVP 200600131.
- PI 642717 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I285302". PVP 200600132.
- PI 642718 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I006605". PVP 200600134.
- PI 642719 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "I057391". PVP 200600135.

- PI 642720 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I062695". PVP 200600136.
- PI 642721 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I106999". PVP 200600137.
- PI 642722 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I119149". PVP 200600138.
- PI 642723 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I119153". PVP 200600139.
- PI 642724 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I119163". PVP 200600140.
- PI 642725 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I135160". PVP 200600141.
- PI 642726 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I136799". PVP 200600142.
- PI 642727 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I139593". PVP 200600143.
- PI 642728 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I217345". PVP 200600144.
- PI 642729 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I512243". PVP 200600145.
- PI 642730 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I533766". PVP 200600146.
- PI 642731 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "I900105". PVP 200600147.

The following were developed by Joe W. Burton, USDA-ARS, Plant Science Research Building, 3127 Ligon Street, Raleigh, North Carolina 27607, United States; Daniel W. Israel, USDA-ARS, North Carolina State Univ., Soil Science, P.O. Box 7619, Raleigh, North Carolina 27695-7619, United States; P.E. Bishop, USDA-ARS, 4627 Gardner Hall, Raleigh, North Carolina 27695, United States. Received 06/23/2006.

- PI 642732. *Glycine max* (L.) Merr.
Cultivar. Pureline. "Nitrasoy"; SY 604001. CV-483. Pedigree - Nitrasoy is an F5-derived selection from the cross D68-0099/'Cook'. D68-0099 (PI573285) is a backcross derived breeding line from the cross of 'Lee'*9/PI548192. PI548192 is the donor parent of the non-nodulating gene, *rj1*, which when homozygous, prevents the nodulation of the soybean root system by *Bradyrhizobium japonicum* and *Bradyrhizobium elkanii*. Lee is a group VI maturity cultivar and Cook is a high yielding group VIII maturity cultivar. Released 04/13/2006. Nitrasoy is a nonnodulating Group VI maturity soybean with a large requirement for soil-applied nitrogen to obtain excellent seed yield. Nitrasoy provides a leguminous crop option for land application of animal waste, previously unavailable

using commercial soybean varieties. Nitrasoy recovered 17% more soil applied N in seed than the nonnodulating germplasm, D68-0099. (193 kg N/ha versus 165 kg N/ha). Thus, it is an excellent choice as an N receiver crop for fields receiving swine lagoon effluent. Substitution of nonnodulated Nitrasoy into this system for a nodulated soybean variety should improve recovery of nitrogen applied in animal waste. Nitrasoy is also a useful tool for studying effects of microbial and asymbiotic N fixation on soybean productivity. Positive effects of symbiotic N fixation by Bradyrhizobium on soybean are well known. Effects of associative N fixation from free-living N fixing bacteria, such as Azotobacter, are not known, even though they are routinely included in some soybean inoculums, and are known to enhance nodulation. Nitrasoy provides a very useful tool for studying these effects. It is adapted to southern USA, 27 - 37 degrees N latitude.

The following were donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States; R.R. Harwood, Winrock International, Petit Jean Mt., Morrilton, Arkansas 72110, Morrilton, Arkansas, United States. Received 02/20/1981.

PI 642733. *Amaranthus hypochondriacus* L.

Cultivated. RRC 126; RRC 78S-126; Ames 2064; Ames 2063. Collected 09/1977 in Nepal. Latitude 27° 57' N. Longitude 85° 56' E. Tatopani. The seeds are white, flowers brown, leaves green. The RRC class type is Nepal grain. It is earlier than most Nepal grain types with an unusual flower color. Observations from the Rodale Research Center, 1988 Rodale Amaranth Catalog. Emmaus, PA.

The following were donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 02/20/1981.

PI 642734. *Amaranthus cruentus* L.

Breeding. RRC 1012; RRC 78S-1012; R 124; Ames 2217. Collected 02/1981 in Mexico. Pedigree - selection from RRC NUM77S-362. The seeds are white, flowers green, leaves green. The RRC class type is: Mexican. There were some red and marbled segregates. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 642735. *Amaranthus cruentus* L.

Breeding. RRC 1014; RRC 78S-1014; Ames 2218. Collected 02/1981 in Mexico. Pedigree - selection from RRC NUM 77S-362. The seeds are white, flowers marbled and red, leaves green. The RRC class type is: Mexican. Single plant selection from RRC 362. It had excessive branching. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were donated by J. L. Hudson, Seedsman, P.O. Box 1058, Redwood City, California 94064, United States; Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 642736. *Amaranthus caudatus* L.

Cultivar. AMAR-IV; RRC 379; Love-lies-bleeding; Ames 5127. The seeds are pink, flowers green, leaves green. The RRC class type is: ornamental.

'Love-lies-bleeding' It is somewhat disease resistant. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States; USDA, ARS Tropical Agriculture Research Station, 2200 Pedro Albizu Campos Ave. Ste. 201, Mayaguez, Puerto Rico. Received 04/15/1986.

PI 642737. *Amaranthus dubius* Mart. ex Thell.
Cultivar. OGFRC 78S-2043; "Klaroen Groot"; RRC 407; Ames 5164. The seeds are black, flowers green, leaves green. The RRC class type is: vegetable. 'Klaroen Groot' Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by Vladimir Jehlik, Botanical Institute, Czechoslovak Academy of Sciences, Praha, Central Bohemia 126 09, Czech Republic. Donated by Academy of Sciences, Institute of Botany, 252 43 Pruhonice, Prague, Central Bohemia, Czech Republic. Received 06/06/1989.

PI 642738. *Amaranthus tamaulipensis* Henrickson
Wild. 403; Ames 10339. Collected 1988 in La Habana, Cuba. Latitude 23° 8' N. Longitude 82° 22' W. Havana. Ruderal sites (weedy).

PI 642739. *Amaranthus dubius* Mart. ex Thell.
Wild. 404; Ames 10340. Collected 1988 in La Habana, Cuba. Latitude 23° 8' N. Longitude 82° 22' W. Havana. Ruderal sites (weedy).

PI 642740. *Amaranthus spinosus* L.
Wild. 405; Ames 10341. Collected 1988 in La Habana, Cuba. Latitude 23° 8' N. Longitude 82° 22' W. Havana. Ruderal sites (weedy).

The following were collected by Luis Sumar Kalinowski, Universidad Nacional, San Antonio, Abad Del Cusco, Cusco, Cuzco, Peru. Donated by Carolyn Reider, Rodale Research Center, Box 323, R.D. 1, Kutztown, Pennsylvania 19530, United States. Received 06/07/1990.

PI 642741. *Amaranthus caudatus* L.
Cultivar. "Oscar Blanco"; RRC 1203; LSK 38A; Ames 15129. Collected 02/01/1984 in Bolivia. Pedigree - From LSK 38. The seeds are white, flowers pink, leaves green. The RRC class type is: South American. In Peru it was a good yielder with disease resistance. It is a single plant selection from LSK 38 (RRC 988). Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA. Seed shipped with closing of Rodale Amaranthus program.

The following were developed by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Donated by Robert Myers, University of Missouri, Department of Agronomy, 210 Waters Hall, Columbia, Missouri 65211, United States. Received 02/21/1995.

PI 642742. *Amaranthus cruentus* L.
Cultivar. "K 459"; "87S-K459"; Ames 22372. Dramatic orange plants. The

stems and inflorescences are fasciated, which is a rare trait. The fasciation was observed by David Brenner in the summer of 2005.

The following were collected by Donald Pratt, Iowa State University, Botany Department, 353 Bessey Hall, Ames, Iowa 50011, United States. Received 10/19/2001.

PI 642743. *Amaranthus crassipes* Schlttdl.

Wild. 218; Ames 26432. Collected 10/11/2001 in Texas, United States. Latitude 30° 41' 53" N. Longitude 101° 23' 25" W. Elevation 739 m. Roadside stop near marker 349, Highway 10, Edwards Plateau, Crockett County. Limestone soil.

The following were developed by Academy of Agriculture & Forestry Sci., Hebei Province, Shijiazhuang, Hebei, China. Donated by David J. Andrews, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68503, United States; Lian-Yuan Zhao, Academy of Agriculture and Forestry Sciences, Shi Jia Zhuang, Heilongjiang, China. Received 04/28/1988.

PI 642744. *Setaria italica* (L.) P. Beauv. subsp. *italica*

Breeding. "Zhang Nong No. 10"; Ames 8392. Mid-season maturity, purple seedling, single-stalk, yellow seed and seed coat.

PI 642745. *Setaria italica* (L.) P. Beauv. subsp. *italica*

Breeding. "Ning Huang No. 1"; Ames 8393. Mid-season maturity, green seedling, single-stalk, yellow seed coat and yellow seed.

PI 642746. *Setaria italica* (L.) P. Beauv. subsp. *italica*

Breeding. "Bai Da Li (White big grain)"; Ames 8394. Mid-season maturity, green seedling, single-stalk, big grain, white seed coat, and yellow seed.

PI 642747. *Setaria italica* (L.) P. Beauv. subsp. *italica*

Breeding. "Ji Gu No. 9"; Ames 8395. Mid-season maturity, green seedling, single-stalk, yellow seed coat, and yellow seed.

The following were developed by Diego Rubiales, Instituto Agricultura Sostenible, CSIC, Apartado 4084, Cordoba, Cordoba E-14080, Spain; M. T. Moreno, Instituto Nacional de Investigaciones Ag, CIRDA 10 Apdo 240, Cordoba, Cordoba, Spain; Josefa Rubio, Centro de Investigacion y Formacion Agraria, Alameda del Obispo, Apdo. 3092, Cordoba, Cordoba, Spain; J. Gil, Universidad de Cordoba, Dept. de Genetics, Apto 3048, Cordoba, Cordoba 14080, Spain; A. Moral, Instituto de Agricultura Sostenible, Apto 4084, E-14080, Cordoba, Spain. Received 05/22/2006.

PI 642748. *Cicer hybrid*

Breeding. Pureline. RIL58-ILC72Cr5. GP-259. Pedigree - Recombinant inbred line (F6:7) derived from the interspecific cross between ILC72 (*Cicer arietinum*) x Cr5-10 (*Cicer reticulatum*). ILC72 is a kabuli line, resistant to Ascochyta blight and susceptible to rust and was used as female parent. Source of rust resistance, Cr5-10, is a wild chickpea used as male parent. Recombinant inbred line (RIL) (F6:7) with pink flowers, non-shattering pod, semi-erect growth habit and combined resistance against Ascochyta blight and rust. Was the most resistant RIL

to *Ascochyta* blight in a population made up of 102 RILs, with AUDPC of 98 (population range from 98 to 220). Was among the most resistant to rust, with 13% and 44.5% disease severity (DS) in seedling and adult plant, respectively (populations ranges were from 0% to 192% and 0.9% to 153% respectively), the first year, and AUDPC 52.85 (range from 0.01 to 875) the second year.

The following were developed by Karen A. Moldenhauer, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 E, Stuttgart, Arkansas 72160, United States; J. Neil Rutger, 1989 Witham Drive, Woodland, California 95776, United States; Rolfe J. Bryant, USDA-ARS, Dale Bumpers National Rice Research Center, 2890 Highway 130 East, Stuttgart, Arkansas 72160, United States. Received 05/23/2006.

PI 642749. *Oryza sativa* L.

Breeding. Pureline. DR1. GP-105. Pedigree - Induced recessive semidwarf mutant of the japonica cultivar Drew. DR1 was induced in the tall Arkansas rice cultivar, 'Drew', in order to quickly obtain semidwarfism in adapted germplasm. This mutant, which at 97 cm is 22% shorter than its parent provides a breeding source of semidwarfism, nonallelic to the worldwide semidwarfing gene *sdl*, in tropical japonica germplasm adapted to the southern US and similar climactic areas. This mutant provides an alternative semidwarfing source should genetic vulnerability problems arise from widespread use of *sdl*.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 05/09/2006.

PI 642750 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PH8JV". PVP 200600196.

PI 642751 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PH8T0". PVP 200600197.

PI 642752 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHE72". PVP 200600198.

PI 642753 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHEDR". PVP 200600199.

The following were donated by Andrew Bent, University of Wisconsin, Department of Plant Pathology, 1630 Linden Drive, Madison, Wisconsin 53706, United States. Received 06/01/2006.

PI 642754. *Glycine max* (L.) Merr.

Genetic. Pureline. T119N54; Hobbit 87 *etr1-1*; T376; SY 605001. Pedigree - Isolated in a mutant screen of a NMU-mutagenized Hobbit 87 population. T376 is an ethylene-insensitive mutant isolated from a NMU-mutagenized Hobbit population with the genotype *etr1-1*.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 09/1961.

PI 642755. *Daucus carota* L.

Cultivar. Nunhems 50901; NSL 6174; French Forcing.

The following were donated by Sluis & Groot, P.O.B. 13, Westeinde 62, Enkhuizen, North Holland 1600 AA, Netherlands. Received 10/1961.

PI 642756. *Daucus carota* L.

Cultivar. Nunhems 50911; NSL 6778; Amsterdam Coreless.

PI 642757. *Daucus carota* L.

Cultivar. Nunhems 50921; NSL 6780; Early Golden Ball.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 06/1963.

PI 642758. *Daucus carota* L.

Cultivar. Nunhems 50931; NSL 27994; Aarhus Market. Collected in Denmark.

PI 642759. *Daucus carota* L.

Cultivar. Nunhems 50941; NSL 27995; Best of All. Collected in United Kingdom.

The following were donated by Washington State University, Agricultural Exp. Stat., Pullman, Washington, United States. Received 12/1978.

PI 642760. *Daucus carota* L.

Cultivar. Nunhems 50951; NSL 28014; Wonderkugel. Collected in Switzerland.

The following were donated by Pieter-Wheeler Seed Company, California, United States. Received 07/1964.

PI 642761. *Daucus carota* L.

Cultivar. Nunhems 50961; NSL 32688; Oxheart.

The following were developed by Linda M. Pollak, USDA, ARS, Iowa State University, Dept. of Agronomy, Ames, Iowa 50011, United States; M. M. Goodman, North Carolina State University, Crop Sciences, Statistics, Genetics, and Botany, Raleigh, North Carolina 27695-7620, United States; Marty Carson, USDA/ARS, North Carolina State University, Plant Pathology Department, Raleigh, North Carolina 27695-7616, United States; USDA, ARS, Germplasm Enhancement of Maize, Iowa State University, Ames, Iowa 50011, United States. Received 01/02/2002.

PI 642762. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. 2250-01_XL370A_S11_F2S4_9214-Blk21/00; GEMS-0027; 2250-01_XL370A_S11_F2S4_69/97_Bulk/97-98; 9214; 1921; Ames 26502. Pedigree - 2250-01_XL370A_S11_F2S4_9214-Blk21/00.

PI 642763. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. 2011-01_SE32_S17_F2S4_9148-Blk22/00; GEMS-0003; 1801; Ames 26507. Pedigree - 2011-01_SE32_S17_F2S4_9148-Blk22/00. A

parent of GEMS-0003 is SE 032 which is PI 583917. It is a Brazilian accession from Sergipe that was identified as one of the LAMP (Latin American Maize Project) landrace collections performing in the top 5%.

PI 642764. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. 2127-01_DK888_S11_F2S4_9181-Blk21/00; GEMS-0014; 1856; Ames 26518. Pedigree - 2127-01_DK888_S11_F2S4_9181-Blk21/00.

PI 642765. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. 2132-03_DK888_S11_F2S4_9187-Blk22/00; GEMS-0016; 1866; Ames 26520. Pedigree - 2132-03_DK888_S11_F2S4_9187-Blk22/00.

PI 642766. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. 2226-02_XL370A_S11_F2S4_9211-Blk25/00; GEMS-0025; 1911; Ames 26528. Pedigree - 2226-02_XL370A_S11_F2S4_9211-Blk25/00.

PI 642767. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. 2283-01_XL380_S11_F2S4_9229-Blk20/00; GEMS-0032; 1946; Ames 26534. Pedigree - 2283-01_XL380_S11_F2S4_9229-Blk20/00.

The following were developed by Ron Fioritto, Ohio State University, Dept of Horticulture & Crop Science, OARDC, Wooster, Ohio 44691, United States; Anne E. Dorrance, Ohio State University, OARDC - Department of Plant Pathology, 1680 Madison Avenue, Wooster, Ohio 44691-4096, United States; S.A. McIntyre, USDA, ARS, Ohio State University, Dept. of Horticulture and Crop Science, Columbus, Ohio 43210-1086, United States; Glenn R. Mills, Ohio State University, 202 Kottman Hall, 2021 Coffey Road, Columbus, Ohio 43210, United States; Steven St. Martin, The Ohio State University, Department of Horticulture and Crop Science, 310D Kottman Hall, Columbus, Ohio 43210-1086, United States; S.A. Berry, Ohio State University, Ohio Agric. Res. and Development Center, Dept. of Plant Pathology, Columbus, Ohio 43210-1086, United States. Received 05/25/2006.

PI 642768. *Glycine max* (L.) Merr.

Cultivar. Pureline. "OHIO FG5". CV-484. Pedigree - Ohio FG1 x HS89-3078 (GR8936 x A2943). The cultivar Ohio FG5 was released because of its high seed yield, large seed, disease resistance, and acceptable seed protein content. The cultivar is intended primarily for production of tofu and other soy foods. Ohio FG5 has indeterminate stem habit, purple flowers, gray pubescence, brown pods, dull yellow seedcoats, and yellow hila. It is classified in maturity group III (relative maturity 3.9), and is adapted as full-season cultivar from 38 to 405 N lat. In Ohio tests (2002 to 2004, four locations per year), seed yield of Ohio FG5 was 9% greater than that of Ohio FG1. The new cultivar matured 4 d later than Ohio FG1 and was similar to Ohio FG1 in plant height and lodging resistance. Weight of 100 seeds of Ohio FG5 averaged 22.8 g, compared with 22.2 g for Ohio FG1. Least-squares means calculated from 14 tests indicated a seed protein content approximately 8 g kg⁻¹ greater for Ohio FG5 in comparison with Ohio FG1. Ohio FG5 carries the Rps3 gene for race-specific resistance to *Phytophthora* root and stem rot. The cultivar has a moderate level of partial resistance to *P. sojae*, as shown by a score of 4.4 (Ohio FG5) in greenhouse layer tests rated from 1, best, to 9, worst (Schmitthenner and Bhat, 1994).

The following were developed by William R. Meredith, USDA, ARS, Cotton Physiology & Genetics, P.O. Box 314, Stoneville, Mississippi 38776, United States. Received 06/02/2006.

PI 642769. *Gossypium hirsutum* L.

Breeding. Pureline. MD 15ne. GP-869. Pedigree - FM 832/MD 51neOkra. MD 15ne is stable in producing high fiber strength (T1), elongation (E1), long lint, low micronaire, low fineness, high maturity, and high miniature ring yarn strength. As with all cottons, MD 15ne is indeterminate in flowering, being about seven days later than the varieties usually grown during the 1990s. It is not as late in maturity as the currently most popular varieties, DPL 555BR and STV 5599BR. MD 15ne is tall in growth habit, being taller than most varieties and about equal to the currently most grown varieties. MD 15ne is nectariless (ne1, ne2) which gives resistance to many insect pests, the primary one in the Mid South is the tarnished plant bugs (*Lygus lineolaris* (Palisot deBeauvios)). The germplasm is okra leaf (L0, L0) just as both of its parents are. MD 15ne s pubescence is described as very hairy. Populations produced by using MD 15ne as a parent have had good combinations of yield and fiber quality.

The following were developed by Thomas Gulya, USDA, ARS, North Dakota State University, Northern Crop Science Laboratory, Fargo, North Dakota 58105, United States; Jerry F. Miller, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105, United States; Brady A. Vick, USDA, ARS, Northern Crop Science Laboratory, P.O. Box 5677, Fargo, North Dakota 58105-5677, United States. Received 06/01/2006.

PI 642770. *Helianthus annuus* L.

Breeding. Pureline. HA 451. GP-317. Pedigree - An F6 derived F7 maintainer line selected from the cross: HA 411/Fuksinka 10 (Ames 3300). HA 451 is a maintainer line derived from a cross between HA 411 (PI 603992) and an open-pollinated variety Fuksinka 10 (Ames 3300). HA 411 is a maintainer line released by the USDA and the North Dakota Agricultural Experiment Station in 1995 and Fuksinka 10 was obtained from Germany in 1985 and was tested for Sclerotinia head and stalk rot tolerance from 1992 to 1995 under natural infestation in selected fields in North Dakota and Minnesota. The pedigree breeding method was used to develop HA 451. Sclerotinia tolerance of HA 451 was determined by evaluating testcross hybrids that were artificially inoculated under mist irrigation. Percent infection of HA 451 was 12.5% when compared with the check hybrids NK 278 and SF 270 which were 24.9% and 73.2% infected, respectively. Height of HA 451 was 138 cm and days to flower was 68 d. HA 451 is single-headed.

PI 642771. *Helianthus annuus* L.

Breeding. Pureline. HA 452. GP-318. Pedigree - An F6 derived F7 maintainer line selected from the cross: HA 335/HA 412. HA 452 is a maintainer line derived from a cross between the germplasm line HA 335 (PI 518773) and the germplasm line HA 412 (PI 603993). HA 335 is a maintainer line released by the USDA and the North Dakota Agricultural Experiment Station in 1987 and HA 412 is a maintainer line released by the USDA and the North Dakota Agricultural Experiment Station in 1995. HA 452 has the Pl6 resistance gene for downy mildew, imparting resistance to all known North American races. The pedigree breeding method was used to develop HA 452. Sclerotinia tolerance HA 452 was

selected by evaluating testcross hybrids that were artificially inoculated under mist irrigation. Percent infection of HA 452 was 23.0% when compared with the check hybrids NK 278 and SF 270 which were 24.9% and 73.2% infected, respectively. Height of HA 452 was 140 cm and days to flower was 67 d. HA 452 is single-headed.

PI 642772. *Helianthus annuus* L.

Breeding. Pureline. RHA 453. GP-319. Pedigree - An F6 derived F7 fertility restorer germplasm line selected from the cross: RHA 344/Inedi. RHA 453 is a fertility restorer line derived from the cross between the germplasm line RHA 344 (PI 509054) and the hybrid Inedi. RHA 344 is a high-oleic fertility restorer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 1986. Inedi is a hybrid obtained through a germplasm exchange with Dr. Felicity Vear, Station dAmelioration des Plantes, INRA, Clermont-Ferrand, France. The pedigree breeding method was used to develop RHA 453. Plants of RHA 453 averaged 86.8% oleic acid. Sclerotinia tolerance of RHA 453 was evaluated through the use of testcross hybrids that were artificially inoculated under mist irrigation in 2003 and 2004. Percent infection of RHA 453 was 22% when compared with the check hybrids NK 278 and SF 270 which were 24.9% and 73.2% infected, respectively. Height of RHA 453 was 120 cm and days to flower was 67 d. RHA 453 has upper-stem branching conditioned by a recessive gene.

PI 642773. *Helianthus annuus* L.

Breeding. Pureline. RHA 454. GP-320. Pedigree - F6 derived F7 fertility restorer germplasm line selected from the cross: RHA 347//RHA 440/PSC8. RHA 454 was derived from a cross between the germplasm lines RHA 447 (PI 639170), RHA 440 (PI 639163), and PSC8. RHA 447 is a high-oleic fertility restorer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 2003. RHA 440 is a Sclerotinia head rot resistance fertility restorer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 2003. PSC8 is a fertility restorer germplasm line obtained through a germplasm exchange with Dr. Felicity Vear, Station dAmelioration des Plantes, INRA, Clermont-Ferrand, France. The pedigree breeding method was used to develop RHA 454. Plants of RHA 454 averaged 82.4% oleic acid. Sclerotinia tolerance of RHA 454 was evaluated through the use of testcross hybrids that were artificially inoculated under mist irrigation in 2003 and 2004. Percent infection of RHA 454 was 23% when compared with the check hybrids NK 278 and SF 270 which were 24.9% and 73.2% infected, respectively. Height of RHA 454 was 145 cm and days to flower was 67 d. RHA 454 has upper-stem branching conditioned by a recessive gene.

PI 642774. *Helianthus annuus* L.

Breeding. Pureline. RHA 455. GP-321. Pedigree - F6 derived F7 fertility restorer germplasm line selected from the cross: RHA 440/HO IS R-line. RHA 455 is a fertility restorer line derived from a cross between the germplasm lines RHA 440 (PI 639163), and HO IS R-line. RHA 440 is a Sclerotinia head rot resistance fertility restorer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 2003. HO IS R-line is a high-oleic fertility restorer line obtained through a germplasm exchange with Dr. Florin Stoенescu, Advanta North America. The pedigree breeding method was used to develop RHA 455. Plants of RHA 455 averaged 86.4% oleic acid. Sclerotinia tolerance of RHA 455 was evaluated through the use of testcross hybrids

that were artificially inoculated under mist irrigation in 2003 and 2004. Percent infection of RHA 455 was 8% when compared with the check hybrids NK 278 and SF 270 which were 24.9% and 73.2% infected, respectively. Height of RHA 455 was 128 cm and days to flower was 66 d. RHA 455 has upper-stem branching conditioned by a recessive gene.

PI 642775. *Helianthus annuus* L.

Breeding. Pureline. HA 456. GP-322. Pedigree - F6 derived F7 maintainer line selected from the cross: HA 434/S-16 YU. HA 456 is a maintainer line derived from a cross between the germplasm line HA 434 (PI 633744) and the germplasm line S-16 YU. HA 434 is a high-oleic maintainer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 2001. The S-16 YU breeding line was obtained through a germplasm exchange with Dr. Dragan Skoric, Institute of Field and Vegetable Crops, Novi Sad, Serbia, in 1992 and was tested for Sclerotinia stalk and head rot resistance from 1993 to 1995 under natural infestation in selected fields in North Dakota and Minnesota. The pedigree breeding method was used to develop HA 456. Plants of HA 456 grown in the 2004 breeding nursery at Fargo, ND, averaged 83.8% oleic acid. Height of HA 456 was 103 cm and days to flower was 67 d. HA 456 is single-headed.

PI 642776. *Helianthus annuus* L.

Breeding. Pureline. HA 457. GP-323. Pedigree - F6 derived F7 maintainer line selected from the cross: HA 434//HA 821/Dussol. HA 457 is a maintainer line derived from a cross between the germplasm line HA 434 (PI 633744), the germplasm line HA 821 (PI 599984), and the breeding line Dussol (Ames 22499). HA 434 is a high-oleic maintainer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 2001. HA 821 is a high-linoleic maintainer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 1983. Dussol is a short-statured maintainer line released by INRA, Clermont-Ferrand, France, in 1995. The pedigree breeding method was used to develop HA 457. Plants of HA 457 grown in the 2004 breeding nursery at Fargo, ND, averaged 83.5% oleic acid. Height of HA 457 was 78 cm and days to flower was 64 d. HA 457 is single-headed.

PI 642777. *Helianthus annuus* L.

Breeding. Pureline. HA 412 HO. GP-324. Pedigree - Is an BC4F3 maintainer line selected from the cross: HA 412*5/HA 434. HA 412 HO is a maintainer line derived from a backcross between the germplasm line HA 412 (PI 603993) as the recurrent parent and HA 434 (PI 633744). HA 412 is a Sclerotinia head and stalk rot tolerant line released by USDA and the North Dakota Agricultural Experiment Station in 1995. HA 434 is a high-oleic maintainer germplasm line released by the USDA and the North Dakota Agricultural Experiment Station in 2001. The pedigree breeding method was used to develop HA 412 HO. Plants of HA 412 HO grown in the 2004 breeding nursery at Fargo, ND, averaged 83.4% oleic acid. Height of HA 412 HO was 122 cm and days to flower was 63 d. HA 412 HO is single-headed.

The following were donated by William R. Ocumpaugh, Texas A&M University, Texas Agricultural Exp. Station, 3507 Highway 59 E, Beeville, Texas 78102-9410, United States; Rod L. Reed, Angelo State University, Box 10888, ASU Station, 2601 West Avenue N, San Angelo, Texas 76909, United States; J.P. Muir, Texas Agricultural Experiment Station, Stephenville, Texas, United

States; Twain Butler, The Samuel Roberts Noble Foundation, 2510 Sam Noble Parkway, Ardmore, Oklahoma 73401, United States; D.N. Ueckert, Texas Agricultural Experiment Station, San Angelo, Texas, United States. Received 05/30/2006.

PI 642778. *Medicago minima* (L.) Bartal.

Cultivar. Pureline. "DEVINE"; BEDEV. CV-273; REST 642778. Pedigree - Originated from a naturalized stand in a pasture on the Anderlitch Ranch south of Farm to Market Road 2200 and west of Devine, TX, 56 km southwest of San Antonio. Evaluation of spaced plants of the original collection revealed very little variation among plants, therefore the original accession was increased without selection. Winter annual legume with a high hard seed content, good freeze tolerance, and has proven to persist for years in pastures from north central to south Texas. The plant germinates with good vigor in the fall when the rains come, grows throughout the winter and will mature and die in April or May. Flowering is indeterminate, with seed setting over several weeks. Seeds are set in burrs (4 to 5 seeds per burr) with spines about 2 to 3 mm long. Devine typically has a seed mass of about 0.09 to 0.11 g per 100 seed. Forage yield is about 3000 to 6000 kg ha⁻¹ when grown as a monoculture. Dry matter yields in a perennial grass stand are usually much less, but it is usually sufficient to replace most of the N-fertilizer required in pasture systems in semi-arid central Texas.

The following were developed by Soon Jai Park, Agriculture and Agri-Food Canada, Harrow Research Station, 2585 County Road 20, Harrow, Ontario N0R 1G0, Canada; Mildred Zapata, University of Puerto Rico, Crop Protection Dept., Mayaguez, Puerto Rico; James S. Beaver, University of Puerto Rico, Mayaguez Camp, Department of Agronomy & Soils, P. O. Box 9030, Mayaguez, Puerto Rico; Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States; J. Rusty Smith, USDA-ARS, Crop Genetics and Production Research Unit, P.O. Box 345, Stoneville, Mississippi 38776, United States; C.H. Canaday, West Tennessee Experiment Station, 605 Airways Blvd, Jackson, Tennessee 38301, United States. Received 05/25/2006.

PI 642779. *Phaseolus vulgaris* L.

Breeding. Pureline. TARS-SR05; 98020-3-1-8-2. GP-263. Pedigree - DOR 557/XAN 176. TARS-SR05 is a multiple disease-resistant, small-seeded dry bean. It has a semi-determinate growth habit (IIa) and matures in approximately 80 days at Isabela, Puerto Rico. Plant height is approximately 48.5 cm and seed size is 24 g/100 seed. TARS-SR05 has a tropical small red seed type with shiny seed coat and narrow oblong seed shape. Seed coat color may vary when produced under high temperature conditions. TARS-SR05 is resistant to some strains of *Xanthomonas axonopodis* pv. *phaseoli* (Smith) Vauterin et al., while being susceptible to other strains. It has similar resistance to *Fusarium solani* (Mart.) Sacc. f. sp. *phaseoli* (Burkholder) W.C. Snyder and H.N. Hans. as highly resistant Cornell 2114-12. TARS-SR05 also has similar resistance as Cornell 2114-12 to mixtures of *F. solani*, *Rhizoctonia solani* (K hn), and *Pythium* spp. and *R. solani*, *Macrophomina phaseolina* (Tassi) Goidanich, and *F. solani*, but is less resistant than Cornell 2114-12 to a mixture of *F. solani*, *R. solani*, and *P. ultimum* (Trow.).

The following were developed by Karl D. Glover, South Dakota State University, Plant Science Department, NPB 247, Box 2140-C, Brookings, South Dakota 57007-2141, United States. Received 05/30/2006.

PI 642780. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "TRAVERSE"; SD3687. PVP 200700118. Pedigree - SD3305/KS91 W005-1-4//SD8089. Hard red spring wheat developed at South Dakota State University. Superior yield potential in South Dakota and northern Great Plains. Possesses moderate level of resistance to Fusarium head blight [caused by *Fusarium graminearum*] and also resistant to prevalent races of stem and leaf rust [caused by *Puccinia graminis* and *Puccinia triticina*, respectively].

The following were developed by Richard C. Frohberg, North Dakota State University, Crop & Weed Science Department, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States; R.W. Stack, North Dakota State University, Plant Pathology Department, Fargo, North Dakota 58105, United States; Mohamed Mergoum, North Dakota State University, Plant Sciences Dept., Loftsgard Hall, Fargo, North Dakota 58105-5051, United States. Received 06/06/2006.

PI 642781. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. ND 751. REST 642781; GP-812. Pedigree - ND 2709/3/'Grandin' (PI 531005) *3//'Ramsey'/ND 622/4/ND 688/ND 674. Released 2006. Hard red spring wheat (HRSW) released for its high level of resistance to Fusarium head blight (FHB) [caused by *Fusarium graminearum*] and its good adaptation to the Northern spring wheat region of the US. Combines resistance to the prevalent races of stem rust (caused by *Puccinia graminis*) and leaf rust (caused by *Puccinia triticina*) in the region. FHB incidence recorded was comparable to moderately resistant cultivar 'Alsen' (PI 615543), and significantly lower than the incidence for the susceptible check '2398' and moderately susceptible check 'Pioneer 2375'. FHB severity recorded for ND 751 was significantly lower than Alsen, 2398, and Pioneer 2375. Visual Scabby Kernels (VSK), also defined as Visual Damaged Kernels of ND 751 was significantly lower than scores recorded on Alsen, Pioneer 2375, and 2398. Deoxynivalenol (DON) toxin levels in grain were significantly lower than all checks including Alsen, Pioneer 2375, and 2398. Grain yield was similar to Reeder (PI 613586) and Parshall (PI 613587), but significantly superior to Alsen. Awned, medium-early maturing and semi-dwarf HRSW. Awns are white and glumes are medium, white, elevated, and acuminate; shoulder and beak are medium width. Kernels are rounded, hard, red, and oval; germ is midsized; brush is medium. Has a lax spike type with plant height 3 and 5 cm shorter than Dapps (PI 633862), and 2 and 6 cm taller than Alsen. Combines a high level of FHB resistance; stem and leaf rust, high grain yield, good milling and bread making attributes.

The following were developed by Syngenta Seeds, Inc. - Vegetable, Boise, Idaho, United States. Received 05/11/2006.

PI 642782. *Phaseolus vulgaris* L.

Cultivar. "CIMARRON". PVP 200600195.

The following were developed by E. T. Gwata, ICRISAT, P. O. Box 39063, Nairobi, Kenya; S.N. Silim, ICRISAT, P.O. Box 39063, Nairobi, Kenya; J.K. Mligo, Agricultural Research Institute, Ilonga, P.O. Box 33, Kilosa, Morogoro, Tanzania. Received 06/05/2006.

PI 642783 QUAR. *Cajanus cajan* (L.) Millsp.

Cultivar. Pureline. "TUMIA"; ICEAP 00068. CV-271; Pedigree - Developed by selfing an unimproved landrace and tested as ICEAP 00068 in field trials. Developed jointly by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and Ilonga Agric. Res. Inst. (IARI - Ministry of Agric. and Food Security, Tanzania). Adopted in several countries in eastern and southern Africa (ESA). Medium duration pigeonpea cultivar released for its earliness, ratoonability, high quality grain attributes and adaptation to diverse agro-ecologies and cropping system in Tanzania. Developed by selecting a single genotype from a landrace plant population that was collected originally from Namamleuri in Southern Tanzania. Was purified by selfing in a controlled environment sheltered from insect pollinators and evaluated for agronomic performance. During 1999/2000 crop season, Tumia obtained 2.0 Mg ha⁻¹ at Katrin testing location in southern Tanzania. In 2002, at 3 testing locations (Katrin, Nachingwea and Selian), averaged 1.8 Mg ha⁻¹ compared with 1.1 Mg ha⁻¹ for the local check variety. When tested at Katrin in 2003, Tumia produced 2.4 Mg ha⁻¹ compared to 1.2 Mg ha⁻¹ produced by the local check variety. Indeterminate, semi-spreading and produces 2 crops per year, the main crop followed by a ratoon crop. Main crop matures in < 150 d while the ratoon crop matures in 55±5 d thereafter. Both stem and leaves are green. Stem height depends on prevailing temperatures. Under warm (21-24°C) and cool (18-20°C) conditions, stem attains 2.0 m and 0.6 m respectively. When intercropped, Tumia is compact. Under low plant density (about 27 000 plants ha⁻¹), primary 21±7) and secondary (5-7) branches develop resulting in semi-spreading appearance. Open flower is yellow. Pods are large, broad, green and slightly curved. Pods are borne in clusters at the branch terminal with 6-8 seeds per pod. Seed is white and large (100 seed-weight = 17.0g). Widely adapted to semi-arid conditions in southern Africa and is recommended for cultivation in areas with low to medium (250-600 mm) annual rainfall. Tolerant to drought. Susceptible to fusarium.

The following were developed by David Gehl, Agriculture & Agri-Food Canada, P.O. Box, Indian Head, Saskatchewan S0G2K0, Canada; Y.T. Gan, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Research Centre, Research Branch, Swift Current, Saskatchewan S9H 3X2, Canada; Tom Warkentin, University of Saskatchewan, Crop Development Centre, 51 Campus Drive, Saskatoon, Saskatchewan S7N 5A8, Canada; Robert L. Conner, Agriculture and Agri-Food Canada, Morden Research Station, Unit 100-101, Morden, Manitoba R6M 1Y5, Canada; G. Clayton, Agriculture & Agri-Food Canada, Research Center, 6000 C & E Trail, Lacombe, Alberta T4L 1W1, Canada; D.J. Bing, AAFC Lacombe Research Centre, 6000 C&E Trail, Lacombe, Alberta T4L 1W1, Canada; T.K. Turkington, Agriculture and Agri-Food Canada, Lacombe Research Centre, 6000 C & E Trail, Lacombe, Alberta T4L 1W1, Canada; A.G. Sloan, Agriculture and Agri-Food Canada, Morden Research Station, Unit 100-101, Morden, Manitoba R6M 1Y5, Canada; C. Vera, Agriculture and Agri-Food Canada, Melfort Research Farm, P.O. Box 1240, Melfort, Saskatchewan S0E T4L, Canada; D. Beauchesne, Agriculture and Agri-Food Canada, Lacombe Research Centre, 6000 C&E Trail, Lacombe, Alberta T4L 1W1, Canada; D. McLaren, Agriculture and Agri-Food

Canada, Brandon Research Centre, P.O. Box 1000A, Brandon, Manitoba R7A 5Y3, Canada; K.F. Chang, Alberta Agriculture, Food and Rural Development, 6000 C & E Trail, Lacombe, Alberta T4L 1W1, Canada. Received 06/16/2006.

PI 642784. *Pisum sativum* L.

Cultivar. Pureline. "REWARD". REST 642784; CV-24. Pedigree - 4-0359.016/Aladin. Semi-leafless field pea with yellow cotyledons, medium seed size, early to medium maturity. Resistant to powdery mildew caused by *Erysiphe pisi* var. *pisi*. Has high yield potential and good lodging resistance.

The following were developed by David Gehl, Agriculture & Agri-Food Canada, P.O. Box, Indian Head, Saskatchewan S0G2K0, Canada; Y.T. Gan, Agriculture and Agri-Food Canada, Semiarid Prairie Agricultural Research Centre, Research Branch, Swift Current, Saskatchewan S9H 3X2, Canada; Tom Warkentin, University of Saskatchewan, Crop Development Centre, 51 Campus Drive, Saskatoon, Saskatchewan S7N 5A8, Canada; Robert L. Conner, Agriculture and Agri-Food Canada, Morden Research Station, Unit 100-101, Morden, Manitoba R6M 1Y5, Canada; G. Clayton, Agriculture & Agri-Food Canada, Research Center, 6000 C & E Trail, Lacombe, Alberta T4L 1W1, Canada; D.J. Bing, AAFC Lacombe Research Centre, 6000 C&E Trail, Lacombe, Alberta T4L 1W1, Canada; T.K. Turkington, Agriculture and Agri-Food Canada, Lacombe Research Centre, 6000 C & E Trail, Lacombe, Alberta T4L 1W1, Canada; D. Orr, Agriculture and Agri-Food Canada, Lacombe Research Centre, 6000 C & E Trail, Lacombe, Alberta T4L 1W1, Canada; A.G. Sloan, Agriculture and Agri-Food Canada, Morden Research Station, Unit 100-101, Morden, Manitoba R6M 1Y5, Canada; A.G. Xue, Agriculture and Agri-Food Canada, Eastern Cereal and Oilseed Research Centre, K.W. Neatby Building, Ottawa, Ontario K1A 0C6, Canada; C. Vera, Agriculture and Agri-Food Canada, Melfort Research Farm, P.O. Box 1240, Melfort, Saskatchewan S0E T4L, Canada. Received 06/16/2006.

PI 642785. *Pisum sativum* L.

Cultivar. Pureline. "CANSTAR". REST 642785; CV-25. Pedigree - 4-0359-016/Aladin. Semi-leafless cultivar with yellow cotyledons, medium seed size, early to medium maturity. Resistant to powdery mildew caused by *Erysiphe pisi* var. *pisi*. Has high yield potential and good lodging resistance.

The following were developed by Maher M. Noaman, Field Crops Research Institute, Agricultural Research Center, Barley Research Department, Giza, Giza 12619, Egypt; R.A. Rizk, Field Crops Res. Inst., Barley Res. Dept., Agric. Research Center, Giza, Giza 12619, Egypt; A.A. El-Sayed, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza 12619, Egypt; A.S. El-Gamal, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M. Megahed, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; I.A. Ahmed, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; R.A. Abo-El-Enin, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; A.M. El-Sherbiny, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; M.A. El-Moselhy, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M.M. Abd El-Hameed, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; Kh.A.

Amer, Field Crops Research institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M.F. Saad, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; H.A. Ashmawy, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; Y.M. Abd El-Tawab, Field Crops Research Institute, Seed Technology Department, Agricultural Research Center, Giza, Giza, Egypt; A.M. El-Bawab, Field Crops Research Institute, Barley REsearch Department, Agricultural Research Center, Giza, Giza, Egypt. Received 06/14/2006.

PI 642786. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "GIZA 132". CV-329. Pedigree - Rihane-05//As46/Aths*2 Aths/Lignee 686. Plant selection within superior rows of F3 families were made and grown as F4 plant rows at Sakha Res. Stn. in northern Delta. Heads from superior families were selected and grown as head-rows for rouging and purification purposes, after which only the best appearing and most uniform lines were combined and carried forward to next generation for yield testing. Giza 132 was tested for resistance to the major barley diseases occurring in each environment, including net blotch (caused by *Pyrenophora teres* Drechs.), and powdery mildew (caused by *Erysiphe graminis* DC.f.sp. *hordei* Em. Marchal;syn. *Blumeria graminis* (DC.) E.O.Speer). Giza 132 is six-rowed spring barley with semi-lax spikes. Stems are slightly waxy, with a dark-green color. It is intermediate in plant height, and has good straw strength. Juvenile plants have intermediate growth habit. Leaves are medium green and intermediate width, averaging 19 mm. Basal leaf sheaths are pubescent and auricles are white to grayish. Spikes are tapered, medium dense and semi-lax. Awns are smooth and longer than the spike. The rachilla is medium in length, with moderately long rachilla hairs. Glumes are hairy and about one third of the kernel in length. Giza 132 is widely adapted under drought and salinity conditions. It is moderately resistant (MR) to powdery mildew and to net blotch, but moderately susceptible (MS) to leaf rust. Head emergence occurs between 95-to100 d from seeding, and maturity is 140 to 150 d from seeding, depending on the environment (including moisture, soil fertility levels, and level of rainfall). On average, in 4 yr of testing in Egypt (about 22 environments) Giza 132 has out-yielded Giza 126 and Giza 2000 (the two check cultivars) in grain yield by about 13.7% and 12.3%, respectively. Average yields of 2365 kg ha⁻¹ have been obtained for Giza 132 under rainfed conditions. In addition to its yield advantage, Giza 132 has higher 1000-kernel weight ranging from 42 to 45 g.

The following were developed by Maher M. Noaman, Field Crops Research Institute, Agricultural Research Center, Barley Research Department, Giza, Giza 12619, Egypt; F.A. Asaad, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza 12619, Egypt; R.A. Rizk, Field Crops Res. Inst., Barley Res. Dept., Agric. Research Center, Giza, Giza 12619, Egypt; A.A. El-Sayed, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza 12619, Egypt; A.S. El-Gamal, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M. Megahed, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; I.A. Ahmed, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; R.A. Abo-El-Enin, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; A.M. El-Sherbiny,

Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; A.A. El-Hag, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; Kh. A. Moustafa, Field Crops Research Institute, Barley Research Dept., Agricultural Research Center, Giza, Giza, Egypt; M.A. El-Moselhy, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M.M. Abd El-Hameed, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; Kh.A. Amer, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; A.A. Atia, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M.F. Saad, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; M.A. Said, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; H.A. Ashmawy, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt; H.A.T. Mahfouz, Agricultural Genetic Engineering Research Institute, Agricultural Research Center, P.O. Box 12619, Giza, Giza, Egypt; A.M. El-Bawab, Field Crops Research Institute, Barley Research Department, Agricultural Research Center, Giza, Giza, Egypt. Received 06/14/2006.

PI 642787. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "GIZA 2000". CV-330. Pedigree - Cross between the local cultivar Giza 121 and the line 366/13/1 (Giza 117/Bahtem 52//Giza 118/FAO 86). The pedigree method was used. Heads from superior families were selected and grown as head-rows for rouging and purification purposes, after which only the best appearing and most uniform lines were combined and carried forward to next generation for yield testing. Giza 2000 was tested for resistance to the major barley diseases occurring in each environment, including net blotch (caused by *Pyrenophora teres* Drechs.), and powdery mildew (caused by *Erysiphe graminis* DC.f.sp. *hordei* Em. Marchal/syn. *Blumeria graminis* (DC.) E.O. Speer). It is resistant (R) to powdery mildew and net blotch, but moderately resistant (MR) to leaf rust. Giza 2000 is six-rowed spring barley with lax spikes. Stems are slightly waxy, with a medium-green color. It is tall in plant height, and has good straw strength. Juvenile plants have erect growth habit. Leaves are medium green and narrow width, averaging 16 mm. Basal leaf sheaths are pubescent and auricles are white. Spikes are tapered, medium dense and lax. Awns are rough and longer than the spike. The rachilla is medium in length, with moderately long rachilla hairs. Glumes are hairy and about one half of the kernel in length. Head emergence occurs between 90 to 95 d from seeding, and maturity is 130 to 140 d from seeding, depending on the environment (including moisture, soil fertility levels, and level of rainfall and distribution during the growing season). On the average, in 3 yr of testing in Egypt (about 18 environments) Giza 2000 has significantly ($p = 0.05$) outyielded Giza 123 (the national check) in grain yield by about 17.3%. Average yields of 1010 kg ha⁻¹ have been obtained for Giza 2000 under severe drought stress in the rainfed areas of Egypt outyielding the drought tolerant cultivar Giza 126 by about 154 kg ha⁻¹ (15.2% increase). In addition to its yield advantage, Giza 2000 has higher 1000-kernel ranging from 40 to 42 g.

The following were developed by Gary C. Peterson, Texas A&M University, Agricultural Research and Extension Center, Lubbock, Texas 79401-9757, United States. Received 06/14/2006.

- PI 642788. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Breeding. Pureline. ATx639. PL-283; REST 642788. Pedigree - Tx2782*BTx3042. Male sterile accession; PI 642789 is the maintainer line for PI 642788. Purple plant color, red pericarp, thick mesocarp, no awns, no tests, black glumes, normal (non-yellow) endosperm, semi-compact panicles, intermediate mid-rib juiciness, glume coverage of mature caryopsis of approximately 35%, genetically three dwarf in height. Resistant to sorghum midge (*Stenodiplosis sorghicola*). Approximately 64 days to 50% anthesis. Low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*) of 2.1%. Susceptibility to rust (caused by *Puccinia purpurea*) of 2.0 when rated on a scale of 1=no rust to 5=leaf/plant death.
- PI 642789. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Breeding. Pureline. BTx639. PL-284; REST 642789. Pedigree - Tx2782*BTx3042. Maintainer line for PI 642788. Purple plant color, red pericarp, thick mesocarp, no awns, no tests, black glumes, normal (non-yellow) endosperm, semi-compact panicles, intermediate mid-rib juiciness, glume coverage of mature caryopsis of approximately 35%, genetically three dwarf in height. Resistant to sorghum midge (*Stenodiplosis sorghicola*). B-line does not restore fertility in A1 cytoplasm. Fertility restoration in other cytoplasm not known. Approximately 64 days to 50% anthesis. Low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*) of 2.1%. Susceptibility to rust (caused by *Puccinia purpurea*) of 2.0 when rated on a scale of 1=no rust to 5=leaf/plant death.
- PI 642790. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Breeding. Pureline. ATx640. PL-285; REST 642790. Pedigree - ((BTx3042*(Tx2754*(BTx3197*SC170-6)))*BTx2755. Male sterile accession. PI 642791 is the maintainer line for PI 642790. Purple plant color, red pericarp, thick mesocarp, no awns, no tests, black glumes, normal (non-yellow) endosperm, semi-compact panicles, intermediate mid-rib juiciness, glume coverage of mature caryopsis of approximately 35%, genetically three dwarf in height. Resistant to sorghum midge (*Stenodiplosis sorghicola*). Approximately 66 days to 50% anthesis. Low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*) of 2.5%. Susceptibility to rust (caused by *Puccinia purpurea*) of 1.8 when rated on a scale of 1=no rust to 5=leaf/plant death.
- PI 642791. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Breeding. Pureline. BTx640. PL-286; REST 642791. Pedigree - ((BTx3042*(Tx2754*(BTx3197*SC170-6)))*BTx2755). Maintainer line for PI 642790. Purple plant color, red pericarp, thick mesocarp, no awns, no tests, black glumes, normal (non-yellow) endosperm, semi-compact panicles, intermediate mid-rib juiciness, glume coverage of mature caryopsis of approximately 35%, genetically three dwarf in height. Resistant to sorghum midge (*Stenodiplosis sorghicola*). B-line does not restore fertility in A1 cytoplasm. Fertility restoration in other cytoplasm not known. Approximately 66 days to 50% anthesis. Low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*) of 2.5%. Susceptibility to rust (caused by *Puccinia purpurea*) of 1.8 when rated on a scale of 1=no rust to 5=leaf/plant death.
- PI 642792. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
 Breeding. Pureline. ATx641. PL-287; REST 642792. Pedigree -

((BTx3042*(Tx2754*(BTx3197*SC170-6)))*BTx2755. Male sterile accession. PI 642793 is the maintainer line for PI 642792. Purple plant color, red pericarp, thick mesocarp, no awns, no tests, black glumes, normal (non-yellow) endosperm, semi-compact panicles, intermediate mid-rib juiciness, glume coverage of mature caryopsis of approximately 35% genetically three dwarf in height. Resistant to sorghum midge (*Stenodiplosis sorghicola*). Approximately 65 days to 50% anthesis. Low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*) of 2.5%. Susceptibility of rust (caused by *Puccinia purpurea*) of 2.5 when rated on a scale of 1=no rust to 5=leaf/plant death.

PI 642793. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. BTx641. PL-288; REST 642793. Pedigree - ((BTx3042*(Tx2754*(BTx3197*SC170-6)))*BTx2755. Maintainer line for PI 642792. Purple plant color, red pericarp, thick mesocarp, no awns, no tests, black glumes, normal (non-yellow) endosperm, semi-compact panicles, intermediate mid-rib juiciness, glume coverage of mature caryopsis of approximately 35%, genetically three dwarf in height. Resistant to sorghum midge (*Stenodiplosis sorghicola*). B-line does not restore fertility in A1 cytoplasm. Fertility restoration in other cytoplasm not known. Approximately 65 days to 50% anthesis. Low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*) of 2.5%. Susceptibility to rust (caused by *Puccinia purpurea*) of 2.5 when rated on a scale of 1=no rust to 5=leaf/plant death.

The following were developed by Anne L. McKendry, University of Missouri, Agronomy Department, 106 Curtis Hall, Columbia, Missouri 65211, United States; D.N. Tague, University of Missouri, Department of Agronomy, Columbia, Missouri 65211, United States; Jessica A. Tremain, University of Missouri - Columbia, Department of Agronomy, 210 Waters Hall, Columbia, Missouri 65211, United States; R.L. Wright, University of Missouri, Dept. of Agronomy, Plant Sciences Unit, Columbia, Missouri 65211, United States. Received 06/16/2006.

PI 642794. *Triticum aestivum* L. subsp. aestivum

Cultivar. Pureline. "BESS"; MO 981020. CV-1007. Pedigree - MO 11769/Madison. MO 11769 was from the cross Kawvale/Vigo//Directeur Journee/3/W7510/4/NS 314/Stoddard. W7510 is a full sib of Hart. Released 2005. Released for high grain yield, good test weight, early maturity, broad-based resistance to *Fusarium* head blight (FHB) [caused by *Fusarium graminearum*]. Is a white-chaffed, awnletted, soft red winter wheat with midlong, middense, tapered spikes. Coleoptiles are white and anthers are purple. Glumes are white, midlong and midwide with an oblique, midwide shoulder and midwide, acute beak. Kernels are soft, red, ovate, and mid-long with rounded cheeks and narrow, middeep crease. Brush is midsized, with midlong hairs and has no collar. Is moderately early, moderately-tall variety that is winter-hardy, has good straw strength and stands well in most environments. Its FHB resistance is similar to Truman including low disease severity (13.6%), low disease incidence (41.3%), a low disease index determined as incidence x severity/100 (9.5%), low deoxynivalenol (DON) (5.8 mg kg⁻¹), and a low percentage of scabby seed (11.8%) in diseased heads. Under greenhouse inoculation, had low disease spread (16.8%). In Northern Winter Wheat Scab Nursery in 2001, was one of only 2 entries with low scores for all measures of disease assessment. The other entry was its full-season full-sib, Truman. Moderately resistant to stripe rust (caused by *P. striiformis*), but moderately susceptible to both leaf rust (caused by *Puccinia*

triticina) and stem rust (caused by *P. graminis*). Possesses no known genes for resistance to either pathogen. Moderately resistant to wheat soilborne mosaic virus, moderately susceptible to wheat spindle streak mosaic virus, barley yellow dwarf virus and *Septoria* leaf blotch [caused by the fungus *Mycosphaerella graminicola*] and susceptible to powdery mildew [caused by *Blumeria graminis*] and Hessian fly [caused by *Mayetiola destructor*] biotypes B,C,D,E, and L. End-use quality evaluations conducted by the USDA-ARS Soft Wheat Quality Laboratory at Wooster, OH suggest that Bess has moderately good soft wheat milling quality and average baking quality.

The following were developed by Pannar S.A. France, France. Received 05/11/2006.

- PI 642795 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "PSG362". PVP 200600180.
- PI 642796 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "PSG476". PVP 200600181.
- PI 642797 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "PSG774". PVP 200600182.
- PI 642798 PVPO. *Zea mays* L. **subsp. mays**
Cultivar. "PSG896". PVP 200600183.

The following were developed by Peter Franck, Germany. Received 05/11/2006.

- PI 642799 PVPO. *Triticum aestivum* L. **subsp. aestivum**
Cultivar. "BAKKER GOLD". PVP 200600186.
- PI 642800 PVPO. *Triticum aestivum* L. **subsp. aestivum**
Cultivar. "FIREBALL". PVP 200600187.

The following were developed by PanAmerican Seed, a division of Ball Horticultural Company, West Chicago, Illinois, United States. Received 05/11/2006.

- PI 642801 PVPO. *Lobelia erinus* L.
Cultivar. "LILAC SPLASH". PVP 200600188.
- PI 642802 PVPO. *Catharanthus roseus* (L.) G. Don
Cultivar. "PACIFICA DARK RED". PVP 200600189.
- PI 642803 PVPO. *Catharanthus roseus* (L.) G. Don
Cultivar. "PACIFICA REALLY RED". PVP 200600190.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States; Rutgers, The State University of New Jersey, New Jersey, United States. Received 05/11/2006.

- PI 642804 PVPO. *Agrostis stolonifera* var. **palustris** (Huds.) Farw.
Cultivar. "MACKENZIE". PVP 200600194.

The following were developed by PanAmerican Seed, a division of Ball Horticultural Company, West Chicago, Illinois, United States. Received 05/11/2006.

PI 642805. *Diascia hybrid*

Cultivar. "PAS358941". PVP 200600203.

The following were collected by Warren M. Williams, AgResearch, Grasslands Research Centre, Grasslands Research Centre, Fritzherbert West, Private Bags 11008, Palmerston North, North Island, New Zealand; Alan V. Stewart, Pyne Gould Guinness Ltd., P.O. Box 3100, 411 Blenheim Road, Christchurch, South Island 8015, New Zealand. Received 01/1998.

PI 642806. *Cynosurus cristatus* L.

Uncertain. OR29; W6 20395. Collected 08/1997 in Oregon, United States. Latitude 43° 39' 22" N. Longitude 124° 5' 22" W. Elevation 86 m. 3 miles southeast of Reedsport, Douglas County on Route 55. Grazed (cattle), sand/loam, 0-5% slope, open, seasonally inundated, stream terrace. Field very wet in winter.

PI 642807. *Cynosurus cristatus* L.

Uncertain. OR123; W6 20459. Collected 08/1997 in Oregon, United States. Latitude 44° 47' 58" N. Longitude 123° 55' 32" W. Elevation 100 m. River valley 8 miles northwest of the town of Siletz. Stream terrace, old paddock with scrub. Grazed, loam, 0-5% slope, open, moist.

The following were collected by Harold E. Bockelman, USDA, ARS, National Small Grains Collection, 1691 S 2700 W, Aberdeen, Idaho 83210, United States; Richard C. Johnson, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Roman Boguslavsky, National Centre for Plant Genetic Resources of Ukraine, Lab. for Introduction & Storage of Plant Genetic Resources, Yurjev Institute of Plant Production, Kharkiv, Kharkiv 61060, Ukraine; Vladislav Korzhenevsky, State Nikitsky Botanical Gardens, Department of Flora & Vegetation, Yalta, Krym 334267, Ukraine. Received 08/15/1999.

PI 642808. *Dactylis glomerata* L.

Wild. UKR-99-067; W6 21747. Collected 07/29/1999 in Krym, Ukraine. Latitude 44° 44' 27" N. Longitude 33° 55' 12" E. Elevation 465 m. Near Monastery and cave dwelling(hora Chufutkale) near Bakhchsarai. South slope, rocky, steep.

PI 642809. *Dactylis glomerata* L.

Wild. UKR-99-083; W6 21756. Collected 07/30/1999 in Krym, Ukraine. Latitude 44° 30' 55" N. Longitude 33° 33' 23" E. Elevation 260 m. On road to Sevastopol. South slope, rocky, very dry.

PI 642810. *Dactylis glomerata* L.

Wild. UKR-99-150; W6 21803. Collected 08/01/1999 in Krym, Ukraine. Latitude 44° 44' 37" N. Longitude 34° 28' 33" E. Elevation 120 m. Going east toward Malorichers near road A-294. South slope, moderate to steep, rocky.

PI 642811. *Dactylis glomerata* L.

Wild. UKR-99-205; W6 21843. Collected 08/01/1999 in Krym, Ukraine. Latitude 44° 55' 25" N. Longitude 35° 13' 55" E. Elevation 320 m. Along trail in military/nature reserve between Koktebel' and Kurortne and south of road A-294. East slope, steep, rocky, basaltic cliffs dropping to sea.

PI 642812. *Dactylis glomerata* L.

Wild. UKR-99-228; W6 21861. Collected 08/03/1999 in Krym, Ukraine. Latitude 45° 2' 19" N. Longitude 35° 16' 56" E. Elevation 100 m. West of Feodosiia off road A-294. North slope, mostly flat, disturbed area surrounded by arable land in steppe, br.

PI 642813. *Dactylis glomerata* L.

Wild. UKR-99-233; W6 21865. Collected 08/03/1999 in Krym, Ukraine. Latitude 45° 24' 11" N. Longitude 36° 28' 58" E. Elevation 80 m. North of Kerch. Nearly flat, open grassland, rocky, formerly mined.

PI 642814. *Dactylis glomerata* L.

Wild. UKR-99-262; W6 21889. Collected 08/03/1999 in Krym, Ukraine. Latitude 45° 28' 18" N. Longitude 35° 51' 18" E. Elevation 20 m. Above Azov Sea and near Mysove on small peninsula. North slope, moderately steep, on cliff. coleccion Pompadour Vieja.

PI 642815. *Dactylis glomerata* L.

Wild. UKR-99-009; W6 21894. Collected 08/1999 in Krym, Ukraine. Latitude 44° 30' 39" N. Longitude 34° 14' E. Elevation 300 m. Near and around Nikita Botanical. South slope, rocky. coleccion Pompadour Vieja.

The following were collected by Bjoern Salomon, Swedish University of Agricultural Sciences, Department of Crop Science, P.O. Box 44, Alnarp, Malmohus S-23053, Sweden; C. Baden. Donated by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/20/1999.

PI 642816. *Agropyron cristatum* (L.) Gaertn.

Wild. H7779; W6 22077. Collected 09/02/1987 in Xinjiang, China. Elevation 1950 m. Wensu co, Tian Shan, NE Aksu, Tulago-Tachlake, along the road. Ploidy: 4x.

The following were donated by Thomas A. Jones, USDA, ARS, FRRL, Utah State University, Forage and Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/09/2000.

PI 642817. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth

Wild. Acc: 487; W6 22892.no passport data.

The following were collected by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States. Donated by Thomas A. Jones, USDA, ARS, FRRL, Utah State University, Forage and Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/09/2000.

PI 642818. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. Acc: 494; W6 22898.no passport data.

PI 642819. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. Acc: 495; W6 22899.no passport data.

The following were collected by Thomas A. Jones, USDA, ARS, FRRL, Utah State University, Forage and Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/09/2000.

PI 642820. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-1185; W6 22909. Collected 2000 in Utah, United States. Latitude 40° 34' 38" N. Longitude 111° 25' 52" W. Road leading to Jordanelle Dam, UT mitigation ponds. Associated plant spp. mullein, slender wheatgrass, cheatgrass, Russian thistle.

PI 642821. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-1227; W6 22910. Collected 2000 in Utah, United States. Latitude 39° 49' 37" N. Longitude 110° 56' 44" W. 10.5 miles SE Soldier Summit, dirt road off Kvune Pass Rd. mile marker 221/222, Colton, Carbon Co., UT. Associated plant spp. rabbitbrush, crested wheatgrass, foxtail barley, thistle.

PI 642822. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-26; W6 22911. Collected 2000 in Nevada, United States. Latitude 41° 10' N. Elevation 5480 m. 5 miles W Montello, NV. Hwy 233 opposite side of hillside where radio tower located, lowland beside roadside. Associated plant spp. cheatgrass, Russian thistle, rabbitbrush, big sagebrush, bluebunch wheatgrass.

PI 642823. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-31; W6 22913. Collected 2000 in Nevada, United States. Latitude 40° 56' N. Elevation 5330 m. I-80 median strip mile marker 320. Deeth/Halleck, NV.

PI 642824. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-455; W6 22914. Collected 2000 in Colorado, United States. 17.5 miles NE of Meeker, CO; Hwy 13 hillside. Associated plant spp. *Leymus cinereus*, bluebunch wheatgrass, big sagebrush.

PI 642825. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-462; W6 22915. Collected 2000 in Colorado, United States. I-70 at mile marker 228, 2 miles E of Georgetown exit, Georgetown, CO. Associated plant spp. *Leymus ambiguus*, *Hesperostipa neomexicana*.

PI 642826. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-477; W6 22920. Collected 2000 in Utah, United States. Latitude 41° 54' N. Longitude 111° 17' W. 1.5 miles from beginning of gravel road and 800N, east side of Bear Lake, UT. Associated plant spp. *Pseudoroegneria spicata*.

PI 642827. *Achnatherum hymenoides* (Roem. & Schult.) Barkworth
Wild. T-482; W6 22921. Collected 2000 in Nevada, United States. Latitude 40° 58' N. Longitude 111° 50' W. Jungo road, 4 miles W of Winnemucca, NV. Associated plant spp. *Sphaeralcea*, cheatgrass, rye, rabbitbrush.

- PI 642828. *Achnatherum hymenoides*** (Roem. & Schult.) Barkworth
Wild. T-52; W6 22925. Collected 2000 in Nevada, United States. Latitude 40° 26' N. Elevation 5674 m. ~6 miles N Currie, NV, Hwy 93 at Mizpah Rd. junction. Associated plant spp. big sagebrush.
- PI 642829. *Achnatherum hymenoides*** (Roem. & Schult.) Barkworth
Wild. T-554; W6 22927. Collected 2000 in Utah, United States. 20 miles N Green River Hwy 6, Green River, UT. Associated plant spp. Sphaeralcea, cheatgrass, foxtail, Atriplex.
- PI 642830. *Achnatherum hymenoides*** (Roem. & Schult.) Barkworth
Wild. T-557; W6 22930. Collected 2000 in Utah, United States. 3 miles S White Mesa, UT (Ute Indian Reservation). Associated plant spp. Aristida.
- PI 642831. *Achnatherum hymenoides*** (Roem. & Schult.) Barkworth
Wild. T-883; W6 23048. Collected 2000 in Colorado, United States. Latitude 37° 29' 30" N. Longitude 105° 20' 38" W. Hwy 160, mile marker 265/266, 7.5 miles W of Ft. Garland, CO Blanca, Costilla Co., CO. Associated plant spp. rabbitbrush.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Stephanie Greene, USDA, ARS, National Temperate Forage Legume, Germplasm Resources Unit, Prosser, Washington 99350-9687, United States; Nikolai I. Dzyubenko, N.I. Vavilov All-Russian Scientific Research, Institute of Plant Genetic Resources, 44 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Alexander Afonin, Vavilov Institute of Plant Industry, 42 Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Auskhan Khusainov, Aral Sea Experiment Station for Plant Genetic Resources, 27 Biyeckenov Street, Chelkar Town, Kazakhstan. Received 08/2000.

- PI 642832. *Agropyron desertorum*** (Fisch. ex Link) Schult.
Wild. KAZ-308; W6 23329. Collected 08/2000 in Kazakhstan. Latitude 49° 10' 30" N. Longitude 56° 52' 32" E. Elevation 281 m.

The following were collected by Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Alicia Massa, USDA, ARS, FRRL, Utah State University, Forage and Range Research Laboratory, Logan, Utah 84322-6300, United States; Raul Lira, INIA Kampenaike, Angamos 1056, Casilla 277, Punta Arenas, Magallanes, Chile; Mercedes Masco, INTA, E.E.A. Santa Cruz, CC 332, Rio Gallegos, Santa Cruz 9400, Argentina; Gabriel Oliva, INTA, E.E.A. Santa Cruz, CC 332, Rio Gallegos, Santa Cruz 9400, Argentina; Ivette Sequel, CRI Carillanca, General Lopez, IX Region, Temuco, La Araucania, Chile. Donated by Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 03/19/2001.

- PI 642833. *Bromus* sp.**
Wild. PRO 96-21; W6 23405. Collected 02/18/1996 in Argentina. Latitude 50° 28' 20" S. Longitude 71° 27' 23" W. Elevation 780 m. Santa Cruz, Clausura El Cerrito, 78 km southeast from El Calafate on route to Esperanza. Slope:5% S. Grows in association with Festuca. Plants short.

- PI 642834. *Deschampsia flexuosa* (L.) Trin.**
Wild. PRO 96-30; W6 23412. Collected 02/19/1996 in Argentina. Latitude 51° 34' 24" S. Longitude 71° 49' 29" W. Elevation 620 m. Santa Cruz, Estancia Santa Ana, 28 km east from Rio Turbio, 20 km north from Estancia Santa. Slope:10% SE. Found on drier parts of site.
- PI 642835. *Bromus coloratus* Steud.**
Wild. PRO 96-49; W6 23431. Collected 02/22/1996 in Chile. Latitude 51° 6' 54" S. Longitude 72° 49' 25" W. Elevation 300 m. Ultima Esperanza, Torres del Paine National Park, 1 km northeast from Ea. El Lazo. Slope:3% W. Panicle lax.
- PI 642836. *Dactylis glomerata* L.**
Wild. PRO 96-50; W6 23432. Collected 02/22/1996 in Chile. Latitude 51° 6' 54" S. Longitude 72° 49' 25" W. Elevation 300 m. Ultima Esperanza, Torres del Paine National Park, 1 km northeast from Ea. El Lazo. Slope:3% W. Dr. Johnson interested in analyzing genetic variability in relation to American populations.
- PI 642837. *Bromus coloratus* Steud.**
Wild. PRO 96-58; W6 23436. Collected 02/23/1996 in Chile. Latitude 51° 41' 29" S. Longitude 72° 23' 35" W. Elevation 50 m. Ultima Esperanza, Cruce a Dorotea., 9 km east from Pto. Natales, on road from Argentina bord. Slope:3%. Has deformed spikelets. Few seeds on mature plants.
- PI 642838. *Bromus catharticus* Vahl var. *catharticus***
Wild. PRO 96-63; W6 23440. Collected 02/23/1996 in Chile. Latitude 52° 43' 35" S. Longitude 71° 3' 18" W. Magallanes, Laguna Los Palos, 58 km north from Punta Arenas. Slope:5% N. Deformed spikelets possibly caused by a fungus.
- PI 642839. *Bromus coloratus* Steud.**
Wild. PRO 96-68; W6 23444. Collected 02/25/1996 in Chile. Latitude 52° 52' 35" S. Longitude 69° 57' 24" W. Elevation 10 m. Tierra del Fuego, Ea. Santa Elena, 65 km northeast from El Porvenir. Slope:3%. Over mature. Spikes with deformities.
- PI 642840. *Alopecurus magellanicus* Lam.**
Wild. PRO 96-69; W6 23445. Collected 02/25/1996 in Chile. Latitude 52° 52' 35" S. Longitude 69° 57' 24" W. Elevation 10 m. Tierra del Fuego, Ea. Santa Elena, 65 km northeast from El Porvenir. Slope:3%. Collected in moist depressions at site.
- PI 642841. *Bromus coloratus* Steud.**
Wild. PRO 96-81; W6 23454. Collected 02/27/1996 in Chile. Latitude 54° 3' 11" S. Longitude 68° 57' 28" W. Tierra del Fuego, Lago Blanco, 0.5 km from Refugio ENAP. Slope:5% NW. General site humid and shady and without grazing. Seeds more mature in open, sunny areas. Panicles lax. Agropyron inf.
- PI 642842. *Bromus coloratus* Steud.**
Wild. PRO 96-91; W6 23463. Collected 02/29/1996 in Argentina. Latitude 54° 45' 26" S. Longitude 67° 46' 21" W. Tierra del Fuego, Ruta J, 50 km northeast from Ushuaia, near Laguna Victoria on road to Pto. Slope:30% NW. This is a disturbed site.

The following were collected by Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States; Larry K. Holzworth, USDA-NRCS State Office, Federal Bldg., Room 443, 10 E. Babcock, Bozeman, Montana 59715-4704, United States; Gu Anlin, Chinese Academy of Agricultural Sciences, Grassland Research Institute, Range Ecology & Management, Huhhot, Nei Monggol 010010, China; Yi Jin, Inner Mongolia Agriculture University, Research Institute of Herbage physiology & Biology, Department of Agricultural Science Inner Mongolia, Huhhot, Nei Monggol 010018, China; Daniel J Miller, 5235 Western Avenue NW, Washington, District of Columbia 20015, United States. Received 06/18/2001.

PI 642843. *Deschampsia cespitosa* (L.) P. Beauv.

Wild. TP00-47-171; W6 23630. Collected 09/08/2000 in Xizang, China. Latitude 30° 9' 54" N. Longitude 100° 33' 20" E. Elevation 3950 m. 32 km NE of Litang, Sichuan Province. Fenced winter forage. SOIL:Loam SLOPE:0-5% ASPECT:SE.

The following were collected by Andrew A. Hopkins, Samuel Roberts Noble Foundation, Inc., P.O. Box 2180, 2510 Sam Noble Parkway, Ardmore, Oklahoma 73402, United States. Received 03/15/2002.

PI 642844. *Bromus inermis* Leyss. subsp. *inermis*

Wild. COCS-2; 97SB2; W6 24198. Collected 07/27/1997 in Colorado, United States. Latitude 37° 40' 58" N. Longitude 10° 36' 59" W. Baca County; North of Campo, Colorado off of Hwy 287. Roadway. Slope 6-10%, aspect N. Open, loam, seasonally dry, mid-slope. Collection area 2 sq. m. Population: distribution = patchy, abundance = occasional, source = cultivated, in situ.

PI 642845. *Bromus inermis* Leyss. subsp. *inermis*

Wild. OKCS-36; 97SB3; W6 24236. Collected 07/27/1997 in Oklahoma, United States. Latitude 36° 46' 38" N. Longitude 10° 31' 1" W. Cimmaron County; Adjacent to Boise City, Oklahoma airport on Hwy. 287. Roadway, slope 0-5%. Open, seasonally dry, upper slope. pH 8.2. Collection area 2 sq. meters. Population is patchy and occasional; source is cultivated, in situ.

PI 642846. *Bromus inermis* Leyss. subsp. *inermis*

Wild. OKCS-62; OKCS-61; 98SB2; 98SB1; W6 24247. Collected 07/01/1998 in Oklahoma, United States. Latitude 36° 5' 40" N. Longitude 97° 20' 45" W. Payne County; South of intersection of I-35 and Hwy. 51. Roadway, slope 6-10%, aspect SE/S. Open, loam/clay, seasonally dry, lower slope. Collection area 1,000 sq. meters. Population is patchy and frequent; source is cultivated, in situ.

The following were donated by Enrique Chujoy, International Potato Center (CIP), Far East and SE Asia Regional Office, Laguna, Los Banos, Luzon, Philippines. Received 05/02/2005.

PI 642847. *Ipomoea batatas* (L.) Lam. var. *batatas*

"W-220"; Q 44402.

PI 642848. *Ipomoea batatas* (L.) Lam. var. *batatas*
"Merenge"; Kruamp-nugamp; Q 44403.

The following were developed by USDA-SCS, Hawaii Plant Materials Center, Hoolehua, Hawaii, United States. Received 12/2005.

PI 642849. *Eragrostis variabilis* (Gaudich.) Hillebr.
Cultivar. "Kaho'olawe Germplasm Kawelu"; 9079729; W6 27790.

The following were developed by Charles E. Simpson, Texas A&M University, P. O. Box 292, Stephenville, Texas 76401, United States; Mark Burow, Texas A&M University, Agricultural Experiment Station, 1102 East FM 1294, Lubbock, Texas 79403, United States; Michael Baring, Texas A&M University, Soil & Crop Sciences Dept., Mail Stop 2474, College Station, Texas 77843-2474, United States; Yolanda Lopez, Texas Agricultural Experiment and Extension Center, 1102 East FM 1294, Lubbock, Texas 79403, United States; J.M. Cason, Texas Agricultural Experiment Station, Soil and Crop Sciences, Stephenville, Texas 76401, United States; J. Ayers, Texas Agricultural Experiment Station, Soil and Crop Science, Lubbock, Texas 79403, United States. Received 06/27/2006.

PI 642850. *Arachis hypogaea* var. *fastigiata* (Waldron) Krapov. & W. C. Greg.
Cultivar. Pureline. "TAMNUT OL06"; Tx034342. CV-91; PVP 200800279.
Pedigree - Tamnut OL06 derived from fourth BC, Tamspan 90 X BC3 from Tamspan 90 X UF 435-2-1. The original cross produced cultivar OLin In subsequent BC2, BC3, BC4 after the selection of OLin, individual seed were tested for O/L ratio, planted, evaluated, and selected for various traits including seed size, plant growth habit, maturity, and yield, and was followed by yield testing in BC4F2:4, and more selection and O/L testing produced populations that were yield tested in BC4F4:7 to BC4F4:10 and the released material was a mixture of BC4F4:10 and BC4F4:11. Tamnut OL06 is a large seeded Spanish peanut (*Arachis hypogaea* L. subsp. *fastigiata* Waldron var. *vulgaris* Harz.) that has the high O/L genes and is high yielding. It exhibits some disease tolerance, and is earlier in maturity than runner cultivars presently available to growers. Tamnut OL06 was tested as Tx034342, and released in May 2006 by the Texas Agr. Exp. Sta., Texas A&M Univ. System. The plants are the same size as Tamspan 90, with upright growth habit and a mainstem that is not prominent. Vegetative growth adheres to the *A. fastigiata* type, with mostly sequential growth pattern, with flowers on the mainstem. Leaf color is lighter green than OLin (RHS 137A for Tamnut OL06 vs. 146A for OLin). Limited shelling evaluations indicate that Tamnut OL06 will shell in an acceptable manner. Shelling turnout studies used runner screens because this cultivar has seed size similar to runner-type cultivars, when grown in West Texas, and is being released to be marketed in that region as a runner-type peanut. The ELK (8.53 x 25.4 mm slotted screen) fraction is significantly higher (P=0.0001, DMRT) in Tamnut OL06 than in Tamspan 90 or OLin. The Medium (7.14 x 25.4 mm slotted screen) fractions were not significantly different (P=0.083) among the three lines. The US No.1 (6.35 x 25.4 mm slotted screen) fraction was smallest (P=0.0001) for Tamnut OL06 among the three Spanish lines. The seed size distribution for Tamnut OL06 is very similar in the three major fractions to Florunner a long time favorite of the processing and manufacturing industry. Tests on the blanching properties of Tamnut OL06 indicated that it blanches as well as any of the other Spanish varieties tested, and will be acceptable to the blanching and

split Cblanching markets. Yields of Tamnut OL06 have been equal to or slightly higher than Tamspan 90 and OLin. Grades (TSMK) have generally run up to two points lower than Tamspan 90 and OLin. Tests in the Sclerotinia minor nursery at the TAES.

The following were developed by Charles E. Simpson, Texas A&M University, P. O. Box 292, Stephenville, Texas 76401, United States; Hassan A. Melouk, USDA, ARS, Oklahoma State University, Department of Plant Pathology, Stillwater, Oklahoma 74078, United States; M.C. Black, Texas A&M University, Agricultural Res. and Ext. Ctr., Uvalde, Texas 78802-1849, United States; Mark Burow, Texas A&M University, Agricultural Experiment Station, 1102 East FM 1294, Lubbock, Texas 79403, United States; Michael Baring, Texas A&M University, Soil & Crop Sciences Dept., Mail Stop 2474, College Station, Texas 77843-2474, United States; Yolanda Lopez, Texas Agricultural Experiment and Extension Center, 1102 East FM 1294, Lubbock, Texas 79403, United States; J.M. Cason, Texas Agricultural Experiment Station, Soil and Crop Sciences, Stephenville, Texas 76401, United States; J. Ayers, Texas Agricultural Experiment Station, Soil and Crop Science, Lubbock, Texas 79403, United States. Received 06/27/2006.

PI 642851. *Arachis hypogaea* L. var. *hypogaea*

Cultivar. Pureline. "TAMRUN OL07"; Tx033630. CV-92; PVP 200800280. Pedigree - Tamrun OL07 was derived from a complex cross between Tamrun 96, breeding line Tx901639-3, and Sun Oleic 95R. The first cross was made in 1995 between Tx901639-3 and Sun Oleic 95R. The F2 progeny were grown in the 1996-97 winter greenhouse and pollen from those F2 progeny were used to make the complex cross with Tamrun 96 in the spring of 1997. Individual plant selections were made on the resulting progeny in the F2, and F4 generations. Yield testing began in 2002 on the F4:7 generation and continued until 2005 on the F4:10 generation. The released material was F4:11 generation. Tamrun OL07 is a runner market-type peanut (*Arachis hypogaea* L. subsp. *hypogaea* var. *hypogaea*) cultivar with a high O/L ratio and having good yield potential. The new variety was tested as Tx033630 and was released by the Texas Agricultural Experiment Station in May 2006. Tamrun OL07 has a larger vine size than that of Tamrun OL 01. The mainstem height is, on average, 13.9cm taller than Tamrun OL 01 ($p! \ 0.01$) and the N+1 branch is 15.3cm longer ($p! \ 0.01$). The mainstem is apparent in most locations and seeding rates that we tested. The lateral branching is profuse like Tamrun OL 01 and the branching pattern is alternate, although not perfectly so. Leaf color is medium green, like Tamrun OL 01 (RHS 137A). Pods of Tamrun OL07 are mostly two seeded with a significantly smaller seed size than Tamrun OL 01 averaging 68.1 vs. 72.3g/100 seed ($p! \ 0.05$), across all locations. Pod constriction between the seeds is moderate and no differences were detected between the two varieties in analysis of pod measurements. Disease ratings indicate that Tamrun OL07 has more resistance to TSWV than Tamrun OL 01, Tamrun OL 02, and Flavorrunner 458. Yield test in a South Texas TSWV nursery showed Tamrun OL07 with a significantly lower infection rate of 28.3% as compared to Tamrun OL 01, Tamrun OL 02, and Flavorrunner 458 with ratings of 58.8%, 55.0%, and 74.1% respectively ($p! \ 0.01$). The lower disease ratings were reflected in higher yields as Tamrun OL07 yielded 5447 Kg/ha as compared to 4160 Kg/ha for Tamrun OL 01, 3508 Kg/ha for Tamrun OL 02, and 2313 Kg/ha for Flavorrunner 458. Disease ratings for Tamrun OL07 in the Central Texas Sclerotinia blight nursery indicate that Tamrun OL 07 has more resistance than the check varieties.

Analysis of test ratings from 2002 through 2005 show that Tamrun OL07 has an average Sclerotinia infection rating of 34.1% compared to Tamrun OL 01 with 46.0%, Tamrun OL 02 with 50.1%, and Flavorranner 458 with 60.7% ($p < 0.05$).

The following were developed by R.S. Malhotra, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; Kadambot Siddique, Centre for Legumes in Mediterranean Agriculture, The University of Western Australia, 35 Stirling Highway, Crawley, Western Australia, Australia; K.L. Regan, Dep. of Agriculture Western Australia, Baron Hay Court, South Perth, Western Australia 6151, Australia. Received 06/23/2006.

PI 642852. *Cicer arietinum* L.

Cultivar. Pureline. "ALMAZ". CV-268. Pedigree - Almaz was developed from single plants selected from segregating material provided by the International Centre for Agriculture in the Dry Areas (ICARDA), Aleppo, Syria. The initial cross was made at Tel Hadya, Syria in 1994. The pedigree is X94TH103/(FLIP 91-186C/FLIP 91-96C)//FLIP 90-109C. Single plants were initially selected from F5 segregating populations sown in field plots in Turkey in 1998 and Western Australia in 2000 based on ascochyta resistance, uniformity, flowering time, seed coat color and seed size. Almaz has been evaluated in Turkey and Australia from 1999 to 2005. Almaz was evaluated in 18 trials between 2002 and 2005 at various sites in WA, VIC, South Australia (SA) and New South Wales (NSW). It produces greater yields than Kaniva (standard variety) with an average yield of 1.26 t/ha across sites and seasons. The plant has a semi-erect growth habit and is medium to tall in height (580 mm). The primary branches are erect and average about three per plant. The stem is woody and anthocyanin pigmentation is absent. Leaves are pinnate (16 mm long by 9 mm wide) with medium green color. The plant produces white flowers, which have medium peduncles. The pods are large (30 mm long by 12.5 mm wide), have a short beak, medium green color, with hairs absent to weak, and average 1.3 ovules. Almaz has a medium time to flowering (113 days after sowing) and early to medium time to maturity. Seeds are large with medium to heavy weight (36-43 mg/seed), a round to angular shape and weak ribbing. Almaz has light beige colored seeds with seed weight approximately 12% greater than Kaniva. Almaz shows greater resistance than Kaniva to ascochyta blight, caused by *Ascochyta rabiei* (Pass.) Labr.

PI 642853. *Cicer arietinum* L.

Cultivar. Pureline. "NAFICE". CV-269. Pedigree - Nafice was developed from single plants selected from segregating material provided by the International Centre for Agriculture in the Dry Areas (ICARDA), Aleppo, Syria. The initial cross was made at Tel Hadya, Syria in 1994. The pedigree is X94TH8/ FLIP86-6//FLIP90-109. Single plants were initially selected from F5 segregating populations sown in field plots in Turkey in 1998 and Western Australia in 2000 based on ascochyta resistance, uniformity, flowering time, seed coat color and seed size. Nafice has been evaluated in Turkey and Australia from 1999 to 2005. Nafice was evaluated in 18 trials between 2002 and 2005 at various sites in WA, VIC, South Australia (SA) and New South Wales (NSW). It produces greater yields than Kaniva (standard variety) with an average yield of 1.03 t/ha across sites and seasons. The plant has a semi-erect growth habit and is medium to tall in height (560 mm). The primary branches are erect and average about five per plant. The stem is woody and anthocyanin

pigmentation is absent. Leaves are pinnate (17 mm long by 10 mm wide) with medium green color. The plant produces white flowers, which have medium peduncles. The pods are large (30 mm long by 13 mm wide), have a short beak, medium green color, strong hair intensity, and average 1.5 ovules. Nafice has a medium time to flowering (117 days after sowing) and early to medium time to maturity. Seeds are large with medium to heavy weight (39-45 mg/seed), a round to angular shape and weak ribbing. Nafice has light to medium beige colored seeds with seed weight approximately 20% greater than Kaniva. Nafice shows greater resistance to ascochyta blight than Kaniva, caused by *Ascochyta rabiei* (Pass.).

The following were developed by Mario C. Therrien, Agriculture and Agri-Food Canada, Brandon Research Centre, Box 1000A, Brandon, Manitoba R7A 5Z7, Canada. Received 06/23/2006.

PI 642854. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "BINSCARTH"; FB006. CV-327. Pedigree - Brandon CC 053/B1602/BT 347//Argyle/Conquest/Duel///(Vivar/AC Rosser). Released 2006. C. 3% higher forage yield than Virden (the forage check cultivar) in western Canada, with a 9% yield advantage in Saskatchewan, its primary area of adaptation. Had 90% the grain yield of the check cultivar, AC Lacombe, which renders Binscarth unsuitable for grain production and classifies it as a forage-only cultivar. Tall cultivar (c. 100 cm) with moderate lodging resistance and mid-maturing. Test weight is relatively low at 58 kg hl⁻¹. Forage quality is high, with total digestible nutrients (TDN) ranging from 57-59% and relative feeding value (RFV) from 118 to 127. Susceptible to *Fusarium* Head Blight (*Fusarium graminearum*); moderately resistant to common root rot and resistant to spot blotch [incited by *Cochliobolus sativus*]; resistant to net blotch (incited by *Pyrenophora teres*); susceptible in reaction to scald (incited by *Rhynchosporium secalis*) and septoria (incited by *Septoria passerinii*); resistant to stem rust (except to race QCCJ, incited by *Puccinia graminis*); susceptible to loose smut (incited by *Ustilago nuda*) and resistant to covered and false loose smuts (incited by *Ustilago hordeii*).

The following were developed by Mario C. Therrien, Agriculture and Agri-Food Canada, Brandon Research Centre, Box 1000A, Brandon, Manitoba R7A 5Z7, Canada; N. Ames, Agriculture and Agri-Food Canada, Research Branch, Cereal Research Centre, Winnipeg, Manitoba R3T 2M9, Canada. Received 06/23/2006.

PI 642855. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "MILLHOUSE"; HB109; H133. CV-328; REST 642855. Pedigree - CDC Silky/Brandon Composite Cross 088//BT 356/Nordic. Released 2006. Standard (non-waxy) 2-rowed hullless barley with very high milling extract (80%) and physiochemical properties that allow for inclusion of large fraction (50-80%) of the flour in noodles and other unleavened products, without adversely affecting these products. Inclusion of Millhouse flour enhances dietary fibre and anti-oxidant content of wheat based products. Susceptible to *Fusarium* Head Blight (*Fusarium graminearum*) but exhibits low levels of deoxynivalenol (DON) mycotoxin; is moderately susceptible to common root rot and spot blotch, caused by *Cochliobolus sativus*; moderately susceptible to net blotch, caused by *Pyrenophora teres*; susceptible in reaction to scald, [caused by *Rhynchosporium secalis*], and septoria, caused by *Septoria passerinii*;

resistant to stem rust except for race QCCJ, (incited by *Puccinia graminis*); intermediate in reaction to loose, false loose and covered smuts (incited by *Ustilago* spp.). Medium height, medium maturity and adapted to primarily semi-arid conditions in the Northern Grant Plains of North America.

The following were developed by Robert H. Busch, USDA, ARS, University of Minnesota, Dept. of Agronomy & Plant Genetics, St. Paul, Minnesota 55108, United States; Don V. McVey, USDA, ARS, University of Minnesota, Cereal Rust Laboratory, St. Paul, Minnesota 55105, United States; G. Hareland, USDA, ARS, Fargo, North Dakota 58105, United States; Jochum Wiersma, University of Minnesota, Northwest Experiment Station, 108 Agricultural Research Center, Crookston, Minnesota 56716, United States; G. Linkert, University of Minnesota, St. Paul, Minnesota 55108, United States; Ruth Dill-Macky, University of Minnesota, Department of Plant Pathology, 495 Borlaug Hall, St. Paul, Minnesota 55108, United States; J.A. Anderson, University of Minnesota, Department of Agronomy & Plant Genetics, 411 Borlaug Hall, St. Paul, Minnesota 55108, United States; James Kolmer, USDA-ARS, Cereal Disease Laboratory, 1551 Lindig, St. Paul, Minnesota 55108, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; J.V. Wiersma, University of Minnesota, Crookston, Minnesota 56716, United States. Received 06/28/2006.

PI 642856. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "ADA"; MN95229-A. CV-1004; PVP 200700088. Pedigree - Ada was derived from the cross SBY189H/ 2375 , made by the former Pioneer Hi-Bred spring wheat breeding program in the U.S. The cultivar 2375, (PI 601477, syn. Pioneer 2375) has the pedigree Olaf // Era / Sugamuxi 68 /3/ Chris /ND487// Lark and was widely grown in Minnesota during the mid-1990 s due its moderate resistance to Fusarium head blight (caused primarily by *Fusarium graminearum* Schwabe). SBY189H is an unreleased spring wheat line from Pioneer Hi-Bred whose pedigree is Butte /3/TZPP/ Sonora 64 // Crim (B. Laskar, personal communication). Released 2006. Ada was released in 2006 on the basis of its high grain yield, high grain protein content, leaf rust resistance, and straw strength. Ada has erect juvenile plant growth, a recurved flag leaf, white glumes with an oblique shoulder and an acuminate beak. The spike is awned, mid-dense, and tapering. The kernel is red and ovate in shape with angular cheeks and a narrow, mid-deep crease. The brush on the kernel has a collar and is medium in length. Ada has medium maturity and produces spikes an average 1.4 d later than Oxen (PI 596770), the most popular cultivar in the region since the late 1990 s. Ada is a semidwarf cultivar and averages 83 cm, 3 cm shorter than Oxen. Ada has moderately strong straw and a mean lodging rating of 1.4 on a scale of 0 (erect) to 9 (lodged). Oxen had mean lodging ratings of 0.9 and 2.0 in the same trials. Ada has a moderate reaction to Fusarium head blight in inoculated, mist-irrigated field nurseries. In eight Fusarium head blight nurseries from 2002 thru 2004, Ada averaged 29% visually diseased spikelets, 17% visually scabby kernels (VSK), and 14.9 mg kg⁻¹ of the mycotoxin deoxynivalenol (DON). Oxen (moderately susceptible) had 52% visually diseased spikelets, 29% VSK, and 14.2 mg kg⁻¹ DON. Ada is highly resistant to prevalent races of stem rust at the seedling and adult plant stages. Ada has good resistance in field plots to a mixture of common leaf rust races over different locations, which indicates that it has effective adult plant resistance genes. Ada has a resistant reaction at the adult plant stage to the foliar disease tan spot [caused

by *Pyrenophora tritici-repentis* (Died.) Drechs.]. Ada had an average grain volume weight of 803 kg m⁻³, grain protein of 147 g kg⁻¹, and loaf volume of 203 cm³. Compared to Oxen, Ada is 13 kg m⁻³ higher in grain volume weight, 8 g kg⁻¹ higher in grain protein and similar in loaf volume. Ada is rated as resistant to preharvest sprouting.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 05/23/2006.

PI 642857 PVPO. *Phaseolus vulgaris* L.
Cultivar. "FIRSTMATE". PVP 200600177.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 05/25/2006.

PI 642858 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE35". PVP 200600206.

PI 642859 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEED". PVP 200600207.

PI 642860 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEGV". PVP 200600208.

PI 642861 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEHR". PVP 200600209.

PI 642862 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEJW". PVP 200600210.

PI 642863 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHC78". PVP 200600216.

PI 642864 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHDPP". PVP 200600217.

PI 642865 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHDRW". PVP 200600218.

PI 642866 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHDWA". PVP 200600219.

PI 642867 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEBA". PVP 200600220.

PI 642868 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEHC". PVP 200600221.

PI 642869 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHENE". PVP 200600222.

The following were developed by Gary C. Peterson, Texas A&M University, Agricultural Research and, Extension Center, Lubbock, Texas 79401-9757, United States; K. Schaefer, Texas A&M University, Texas Agricultural

Experiment Station, 10345 Agnes Street, Corpus Christi, Texas 78406, United States; B.B. Pendleton, West Texas A&M University, Division of Agriculture, P.O. Box 60998, Canyon, Texas 79016, United States. Received 07/03/2006.

PI 642870. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. Tx2962. REST 642870; GP-623. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and moderate resistance to biotype I greenbug. Resistant to headsmut (caused by *Sphacelotheca reiliana*) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis generally earlier than Tx2783 and RTx430.

PI 642871. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. Tx2963. REST 642871; GP-624. Pedigree - (Tx2862*(Tx2868*PI 550607)). Tan plant, red grain, normal endosperm, thin epicarp, no awns, and tan glumes. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and moderate resistance to biotype I greenbug. Resistant to headsmut (caused by *Sphacelotheca reiliana*) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis generally earlier than Tx2783 and RTx430.

PI 642872. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. Tx2964. REST 642872; GP-625. Pedigree - (Tx2862*(Tx2868*PI 550607)). Tan plant, red grain, normal endosperm, thin epicarp, no awns, and tan glumes. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and moderate resistance to biotype I greenbug. Resistant to headsmut (caused by *Sphacelotheca reiliana*) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis generally earlier than Tx2783 and RTx430.

PI 642873. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. Tx2965. REST 642873; GP-626. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and moderate resistance to biotype I greenbug. Resistant to headsmut (caused by *Sphacelotheca reiliana*) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis generally earlier than Tx2783 and RTx430.

PI 642874. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. Tx2966. REST 642874; GP-627. Pedigree - (Tx430*(Tx430*PI 550610)). Purple plant, white grain, yellow endosperm, thin epicarp and awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Resistant to headsmut (caused by *Sphacelotheca reiliana*) in two years of tests. 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642875. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. Tx2967. REST 642875; GP-628. Pedigree - (Tx430*(Tx430*PI 550610)). Purple plant, white grain, yellow endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low to moderate susceptibility to headsmut (caused by *Sphacelotheca*

reiliana) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642876. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2968. REST 642876; GP-629. Pedigree - (Tx430*(Tx430*PI 550610)). Purple plant, white grain, yellow endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low to moderate susceptibility to headsmut (caused by *Sphacelotheca reiliana*) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642877. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2969. REST 642877; GP-630. Pedigree - (Tx430*(Tx430*PI 550610)). Purple plant, white grain, yellow endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low to moderate susceptibility to headsmut (caused by *Sphacelotheca reiliana*) and rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642878. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2970. REST 642878; GP-631. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses high level of resistance to rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642879. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2971. REST 642879; GP-632. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low susceptibility to headsmut (caused by *Sphacelotheca reiliana*). Expresses high level of resistance to rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642880. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2972. REST 642880; GP-633. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low susceptibility to headsmut (caused by *Sphacelotheca reiliana*). Expresses high level of resistance to rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

PI 642881. *Sorghum bicolor* (L.) Moench subsp. bicolor

Breeding. Pureline. Tx2973. REST 642881; GP-634. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low susceptibility to headsmut (caused by *Sphacelotheca reiliana*). Expresses high level of resistance to rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.

- PI 642882. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2974. REST 642882; GP-635. Pedigree - (Tx2862*(Tx2868*PI 550607)). Purple plant, red grain, normal endosperm, thin epicarp, no awns. Expresses a high level of resistance to biotype E greenbug (*Schizaphis graminum*) and to biotype I greenbug. Expresses low susceptibility to headsmut (caused by *Sphacelotheca reiliana*). Expresses high level of resistance to rust (caused by *Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.
- PI 642883. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2975. REST 642883; GP-636. Pedigree - (Tx436*(Tx2862*(Tx2868*PI 550607))). Purple plant, white grain, normal endosperm, thin epicarp, no awns. Expresses a moderate level of resistance to biotype E and I greenbug (*Schizaphis graminum*). Moderately susceptible to headsmut (caused by *Sphacelotheca reiliana*) and rust (*Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.
- PI 642884. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2976. REST 642884; GP-637. Pedigree - (Tx436*(Tx2862*(Tx2868*PI 550607))). Tan plant, white grain, normal endosperm, thin epicarp, no awns, and tan glumes. Expresses a moderate level of resistance to biotype E and I greenbug (*Schizaphis graminum*). Expresses low susceptibility to headsmut (caused by *Sphacelotheca reiliana*) and moderate susceptibility to rust (*Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.
- PI 642885. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2977. REST 642885; GP-638. Pedigree - (Tx2862*(Tx2864*PI 550607)). Red-purple plant, white grain, normal endosperm, thick epicarp, no awns. Expresses high level of resistance to both biotype E and I greenbug (*Schizaphis graminum*). Resistant to headsmut (caused by *Sphacelotheca reiliana*); moderately susceptible to rust (*Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is earlier than Tx2783 and RTx430.
- PI 642886. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
Breeding. Pureline. Tx2978. REST 642886; GP-639. Pedigree - (Tx436*)Tx430*(Tx430*PI 550610)). Red-purple plant, white grain, normal endosperm, thick epicarp, no awns. Expresses moderate level of resistance to both biotype E and I greenbug (*Schizaphis graminum*). Expresses low level of susceptibility to headsmut (caused by *Sphacelotheca reiliana*); moderately resistant to rust (*Puccinia purpurea*). 3 dwarf in height. Days to 50% anthesis is generally earlier than Tx2783 and RTx430.

The following were developed by Phil Bregitzer, USDA-ARS, National Small Grains Germplasm Research Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States; Dolores W. Mornhinweg, USDA, ARS, Plant Science Research Laboratory, 1301 N. Western Street, Stillwater, Oklahoma 74075, United States; David R. Porter, USDA, ARS, 1301 N. Western Road, Stillwater, Oklahoma 74075-2714, United States. Received 07/05/2006.

- PI 642887. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0601B. GP-161. Pedigree - Excel*4/STARS 9577B. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid

(RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0601B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9577B. Even in the absence of RWA, STARS 0601B yields 102% of its recurrent parent, Excel.

PI 642888. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0602B. GP-162. Pedigree - Excel*4/R010. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0602B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 10679. Even in the absence of RWA, STARS 0602B yields 103% of its recurrent parent, Excel.

PI 642889. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0603B. GP-163. Pedigree - Excel*4/MR055. 6-rowed, spring malt barley with moderate tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0603B is rated 4 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 564601. Even in the absence of RWA, STARS 0603B yields 96% of its recurrent parent, Excel.

PI 642890. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0604B. GP-164. Pedigree - Morex*4/R001. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0604B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 1412. Even in the absence of RWA, STARS 0604B yields 98% of its recurrent parent, Morex.

PI 642891. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0605B. GP-165. Pedigree - Morex*4/R007. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0605B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 4166. Even in the absence of RWA, STARS 0605B yields 98% of its recurrent parent, Morex.

PI 642892. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0606B. GP-166. Pedigree - Morex*4/R009. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0606B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 6925. Even in the absence of RWA, STARS 0606B yields 101% of its recurrent parent, Morex.

PI 642893. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0607B. GP-167. Pedigree - Morex*4/R011. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0607B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 10687. Even in the absence of RWA, STARS 0607B yields 101% of its recurrent parent, Morex.

PI 642894. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0608B. GP-168. Pedigree - Morex*4/R016. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0608B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 10712. Even in the absence of RWA, STARS 0608B yields 105% of its recurrent parent, Morex.

PI 642895. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0609B. GP-169. Pedigree - Morex*4/R018. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0609B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 12258. Even in the absence of RWA, STARS 0609B yields 100% of its recurrent parent, Morex.

PI 642896. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0610B. GP-170. Pedigree - Morex*4/R019. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0610B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 13134. Even in the absence of RWA, STARS 0610B yields 106% of its recurrent parent, Morex.

PI 642897. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0611B. GP-171. Pedigree - Morex*4/R028. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0611B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 366453. Even in the absence of RWA, STARS 0611B yields 97% of its recurrent parent, Morex.

PI 642898. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0612B. GP-172. Pedigree - Morex*4/R033. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0612B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of

resistance in this germplasm is derived from CI 6316. Even in the absence of RWA, STARS 0612B yields 103% of its recurrent parent, Morex.

PI 642899. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0613B. GP-173. Pedigree - Morex*4/R043. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0613B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 556966. Even in the absence of RWA, STARS 0613B yields 92% of its recurrent parent, Morex.

PI 642900. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0614B. GP-174. Pedigree - Morex*4/R052. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0614B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 6349. Even in the absence of RWA, STARS 0614B yields 112% of its recurrent parent, Morex.

PI 642901. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0615B. GP-175. Pedigree - Morex*4/R053. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0615B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 13695. Even in the absence of RWA, STARS 0615B yields 113% of its recurrent parent, Morex.

PI 642902. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0616B. GP-176. Pedigree - Morex*4/R054. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0616B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 14242. Even in the absence of RWA, STARS 0616B yields 103% of its recurrent parent, Morex.

PI 642903. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0617B. GP-177. Pedigree - Robust*4/R026. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0617B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 366449. Even in the absence of RWA, STARS 0617B yields 111% of its recurrent parent, Robust.

PI 642904. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0618B. GP-178. Pedigree - Robust*4/R029. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and

9=dead, STARS 0618B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 366454. Even in the absence of RWA, STARS 0618B yields 92% of its recurrent parent, Robust.

PI 642905. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0619B. GP-179. Pedigree - Stander*4/STARS 9301B. 6-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0619B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9301B. Even in the absence of RWA, STARS 0619B yields 102% of its recurrent parent, Stander.

PI 642906. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0620B. GP-144. Pedigree - B1202*4/STARS 9301B. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0620B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9301B. Even in the absence of RWA, STARS 0620B yields 102% of its recurrent parent, B1202.

PI 642907. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0621B. GP-145. Pedigree - B1202*4/STARS 9577B. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0621B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9577B. Even in the absence of RWA, STARS 0621B yields 102% of its recurrent parent, B1202.

PI 642908. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0622B. GP-146. Pedigree - B1202*4/R034. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0622B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 6322. Even in the absence of RWA, STARS 0622B yields 108% of its recurrent parent, B1202.

PI 642909. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0623B. GP-147. Pedigree - B1202*4/R040. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0623B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 14679. Even in the absence of RWA, STARS 0623B yields 100% of its recurrent parent, B1202.

- PI 642910. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0624B. GP-148. Pedigree - B1202*4/R044.
2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0624B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 564608. Even in the absence of RWA, STARS 0624B yields 103% of its recurrent parent, B1202.
- PI 642911. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0625B. GP-149. Pedigree - Crest*4/R021.
2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0625B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 328692. Even in the absence of RWA, STARS 0625B yields 93% of its recurrent parent, Crest.
- PI 642912. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0626B. GP-150. Pedigree - Crystal*4/R004.
2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0626B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 4125. Even in the absence of RWA, STARS 0626B yields 103% of its recurrent parent, Crystal.
- PI 642913. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0627B. GP-151. Pedigree - Crystal*4/R009.
2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0627B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 6925. Even in the absence of RWA, STARS 0627B yields 99% of its recurrent parent, Crystal.
- PI 642914. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0628B. GP-152. Pedigree - Crystal*4/R023.
2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0628B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 366444. Even in the absence of RWA, STARS 0628B yields 86% of its recurrent parent, Crystal.
- PI 642915. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0629B. GP-153. Pedigree - Crystal*4/MR001.
2-rowed, spring malt barley with moderate tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0629B is rated 4 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown

this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 3694. Even in the absence of RWA, STARS 0629B yields 94% of its recurrent parent, Crystal.

PI 642916. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0630B. GP-154. Pedigree - Crystal*4/MR009. 2-rowed, spring malt barley with moderate tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0630B is rated 4 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 10587. Even in the absence of RWA, STARS 0630B yields 95% of its recurrent parent, Crystal.

PI 642917. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0631B. GP-155. Pedigree - Crystal*4/MR013. 2-rowed, spring malt barley with moderate tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0631B is rated 4 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 11958. Even in the absence of RWA, STARS 0631B yields 100% of its recurrent parent, Crystal.

PI 642918. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0632B. GP-156. Pedigree - Crystal*4/MR022. 2-rowed, spring malt barley with moderate tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0632B is rated 4 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 14259. Even in the absence of RWA, STARS 0632B yields 96% of its recurrent parent, Crystal.

PI 642919. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0633B. GP-157. Pedigree - Harrington*4/R002. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0633B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 2432. Even in the absence of RWA, STARS 0633B yields 96% of its recurrent parent, Harrington.

PI 642920. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0634B. GP-158. Pedigree - Harrington*4/R003. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0634B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 2436. Even in the absence of RWA, STARS 0634B yields 99% of its recurrent parent, Harrington.

- PI 642921. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0635B. GP-159. Pedigree - Harrington*4/R029. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0635B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 366454. Even in the absence of RWA, STARS 0635B yields 97% of its recurrent parent, Harrington.
- PI 642922. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0636B. GP-160. Pedigree - Harrington*4/R043. 2-rowed, spring malt barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0636B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI556966. Even in the absence of RWA, STARS 0636B yields 92% of its recurrent parent, Harrington.
- PI 642923. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0637B. GP-189. Pedigree - Bowman*4/STARS 9577B. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0637B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9577B. Even in the absence of RWA, STARS 0637B yields 102% of its recurrent parent, Bowman.
- PI 642924. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0638B. GP-190. Pedigree - Bowman*4/R041. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0638B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 14806. Even in the absence of RWA, STARS 0638B yields 96% of its recurrent parent, Bowman.
- PI 642925. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0639B. GP-191. Pedigree - Bowman*4/R043. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0639B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from PI 556966. Even in the absence of RWA, STARS 0639B yields 101% of its recurrent parent, Bowman.
- PI 642926. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. STARS 0640B. GP-192. Pedigree - Hector*4/STARS 9301B. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Websters scale of 1-9, where 1=immune and 9=dead, STARS 0640B is rated 2 F (F=flat, R=rolled) in greenhouse

seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9301B. Even in the absence of RWA, STARS 0640B yields 108% of its recurrent parent, Hector.

PI 642927. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0641B. GP-193. Pedigree - Hector*4/R003. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0641B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from CI 2436. Even in the absence of RWA, STARS 0641B yields 100% of its recurrent parent, Hector.

PI 642928. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0642B. GP-194. Pedigree - Otis*4/STARS 9577B. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0642B is rated 3 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9577B. Even in the absence of RWA, STARS 0642B yields 113% of its recurrent parent, Otis.

PI 642929. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. STARS 0643B. GP-195. Pedigree - Otis*4/STARS 9301B. 2-rowed, spring feed barley with high tolerance to Russian wheat aphid (RWA), (*Diruaphis noxia*). On Webster s scale of 1-9, where 1=immune and 9=dead, STARS 0643B is rated 2 F (F=flat, R=rolled) in greenhouse seedling screenings. Greenhouse and field testing has shown this resistance to persist throughout the life of the plant. The source of resistance in this germplasm is derived from STARS 9301B. Even in the absence of RWA, STARS 0643B yields 119% of its recurrent parent, Otis.

The following were developed by Pioneer Hi-Bred International, Inc., Plainview, Texas 79072, United States. Received 06/06/2006.

PI 642930 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHBAXY7QIT". PVP 200600191.

PI 642931 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHKRSXF". PVP 200600192.

PI 642932 PVPO. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Cultivar. "PHKU3JBKE". PVP 200600193.

The following were developed by Pure Seed Testing, Inc., P.O. Box 449, Hubbard, Oregon 97032, United States. Received 06/06/2006.

PI 642933 PVPO. *Festuca arundinacea* Schreb.
Cultivar. "5BAB". PVP 200600202.

The following were developed by Grassland Oregon, LLC, Oregon, United States.
Received 06/06/2006.

PI 642934 PVPO. *Poa pratensis* L.
Cultivar. "DURHAM". PVP 200600204.

The following were developed by Virginia Tech Intellectual Properties, Inc.,
Virginia, United States. Received 06/06/2006.

PI 642935 PVPO. *Glycine max* (L.) Merr.
Cultivar. "TEEJAY". PVP 200600205.

PI 642936 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "ARMOR 3015"; VA99W-73. PVP 200600211. Pedigree -
Pio2548//GA-Andy/VA90-21-20.

PI 642937 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "DOMINION"; VA00W-526. PVP 200600212. Pedigree -
FFR555W/VA91-54-343//GA8619D25.

The following were developed by Pioneer Hi-Bred International, Inc.,
Windfall, Indiana, United States. Received 06/06/2006.

PI 642938 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "XW04C"; 25R87. PVP 200600213. Pedigree -
Avalon/3/VPM/Moisson//Champlein/Aronde/4/Coker68-15*3/CI14115/5/Coker68-
15*3//McNair1813/Coker797/6/2552.

PI 642939 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. Pureline. "XW04A"; 25R56. PVP 200600214. Pedigree -
WBJ0249B1/WBE0235B1//25R57 sib.

The following were developed by Syngenta Seeds, Inc. - Vegetable, Boise,
Idaho, United States. Received 06/05/2006.

PI 642940 PVPO. *Phaseolus vulgaris* L.
Cultivar. "BERYL R". PVP 200600224.

The following were developed by Pioneer Hi-Bred International, Inc.,
Johnston, Iowa 50131, United States. Received 06/23/2006.

PI 642941 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHE67". PVP 200600229.

PI 642942 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHF1J". PVP 200600230.

The following were developed by Don Groth, Louisiana State University, Rice
Research Station, P.O. Box 1429, Crowley, Louisiana 70429-1429, United States;
Shannon Pinson, USDA, ARS, 1509 Aggie Drive, Beaumont, Texas 77713-8530,
United States; Marco A. Marchetti, USDA-ARS, Rice Research Station, Texas A&M
Experiment Station, Beaumont, Texas 77713, United States; Robert G.

Fjellstrom, USDA, ARS, Rice Research Unit, 1509 Aggie Dr., Beaumont, Texas 77713, United States; Yulin Jia, USDA-ARS, Dale Bumpers National Rice Res. Ctr., 2890 Hwy 130 East, Stuttgart, Arkansas 72160, United States; Robert Shank, USDA-ARS, 1509 Aggie Drive, Beaumont, Texas 77713, United States; Robert Miller, RiceTec, Inc., P.O. Box 1305, 1925 FM 2917, Alvin, Texas 77512, United States; James Oard, LSU Agricultural Center, School of Plant, Environmental, and Soil Sciences, 104 Sturgis Hall, Baton Rouge, Louisiana 70803, United States; M.H. Jia, USDA-ARS, Dale Bumpers National Rice Research Center, P.O. Box 287, Stuttgart, Arkansas 72160, United States; Z. Li, International Rice Research Institute, Chinese Academy of Agri. Sci. Inst. of Crop Sciences, Beijing, China. Received 10/22/2007.

PI 642943. *Oryza sativa* L.

Breeding. Pureline. TIL:455. GP-112. Pedigree - Lemont/TeQing/BC5/LMNT F5. Released 2007. Three lines total (TIL:455, TIL:514, and TIL:642 also designated PI 642943, PI 642944, and PI 642945, respectively) were selected as having novel sheath blight resistance alleles from TeQing now introgressed into a Lemont (U.S.A. rice cultivar) genetic background. They were selected from a set of 262 TeQing-into-Lemont backcross introgression lines (TILs) produced at IRRI, and further refined and selfed in Beaumont, TX. Selection of these three lines for germplasm release was based on a combination of phenotypic and genotypic data.

PI 642944. *Oryza sativa* L.

Breeding. Pureline. TIL:514. GP-113. Pedigree - Lemont/TeQing/BC5/LMNT F5. Released 2007. Three lines total (TIL:455, TIL:514, and TIL:642 also designated PI 642943, PI 642944, and PI 642945, respectively) were selected as having novel sheath blight resistance alleles from TeQing now introgressed into a Lemont (U.S.A. rice cultivar) genetic background. They were selected from a set of 262 TeQing-into-Lemont backcross introgression lines (TILs) produced at IRRI, and further refined and selfed in Beaumont, TX. Selection of these three lines for germplasm release was based on a combination of phenotypic and genotypic data.

PI 642945. *Oryza sativa* L.

Breeding. Pureline. TIL:642. GP-114. Pedigree - Lamont/TeQing/BC5/LMNT F5. Released 2007. Three lines total (TIL:455, TIL:514, and TIL:642 also designated PI 642943, PI 642944, and PI 642945, respectively) were selected as having novel sheath blight resistance alleles from TeQing now introgressed into a Lemont (U.S.A. rice cultivar) genetic background. They were selected from a set of 262 TeQing-into-Lemont backcross introgression lines (TILs) produced at IRRI, and further refined and selfed in Beaumont, TX. Selection of these three lines for germplasm release was based on a combination of phenotypic and genotypic data.

The following were donated by Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States. Received 07/11/2006.

PI 642946. *Phaseolus vulgaris* L.

Cultivar. "A211"; W6 27856.

PI 642947. *Phaseolus vulgaris* L.
Cultivar. "BAT 477"; W6 27857.

PI 642948. *Phaseolus vulgaris* L.
Cultivar. "Calima"; W6 27858.

PI 642949. *Phaseolus vulgaris* L.
Cultivar. "IPA 1"; W6 27859.

PI 642950. *Phaseolus vulgaris* L.
Cultivar. "HF 465-63-1"; W6 27860.

The following were developed by Robin W. Groose, University of Wyoming, Dept. Plant, Soil and, Insect Sciences, Laramie, Wyoming 82071-3354, United States; James M. Krall, University of Wyoming, SAREC, 2753 State Highway 157, Lingle, Wyoming 82222, United States; M.J. Walsh, University of Western Australia, School of Plant biology, Crawley, Western Australia 6009, Australia; V. Nayighugu, University of Wyoming, Dept. of Animal Sciences, Laramie, Wyoming 82071, United States; J. Cecil, University of Wyoming, Dept. of Plant Sciences, Lingle, Wyoming 82222, United States; B. Hess, University of Wyoming, Dept. of Animal Sciences, Laramie, Wyoming 82071, United States. Received 07/11/2006.

PI 642951. *Medicago rigidula* (L.) All.
Cultivar. Pureline. "LARAMIE"; WY-SA 10343; SA 10343. CV-274; REST 642951. Pedigree - Laramie, as SA 10343, was collected in Russia (E 46° 44'; N 44° 44') at 10 m elevation in a 700 mm annual precipitation zone in 1974.. Released as a potential winter annual 'ley' species for the Central High Plains. Chosen for release because it survived southeastern Wyoming winters, it produced abundant high quality spring forage, it functioned with alfalfa (*M. sativa*) rizobium, it regenerated properly from the soil seed bank, and was acceptable forage for mid-summer grazing by dry ewes. Indeterminate, with long (53 cm at pod stage) relaxed stems (<7 primary branches plant⁻¹), and yellow flowers (3 node⁻¹). Has kidney shapeeeds with yellow cotyledon and seed coat color. Mean 100 dry pod and seed weight is 9.0 and 0.41 g, respectively.

The following were developed by Guo-Liang Jiang, Nanjing Agricultural University, Wheat Research Laboratory, Nanjing, Jiangsu 210095, China; ZhaoXia Chen, Nanjing Agricultural University, Wheat Research Laboratory, Nanjing, Jiangsu 210095, China; Yong Xu, Nanjing Agricultural University, Wheat Research Laboratory, Nanjing, Jiangsu 210095, China; Zhaosu Wu, Nanjing Agricultural University, College of Agriculture, Wheat Research laboratory, Nanjing, China; Jiming Wu, Nanjing Agricultural University, College of Agriculture, Wheat Research Laboratory, Nanjing, China; QiMei Xia, Nanjing Agricultural University, Wheat Research Laboratory, 1 Weigang, Nanjing, China; ShiRong Yu, Nanjing Agricultural University, Wheat Research Laboratory, 1 Weigang, Nanjing, China; XieZhong Wei, Nanjing Agricultural University, Wheat Research Laboratory, 1 Weigang, Nanjing, China; Youjia Shen, Nanjing Agricultural University, Wheat Research Laboratory, 1 Weigang, Nanjing, China. Donated by Guo-Liang Jiang, Michigan State University, Dept. of Crop & Soil Science, East Lansing, Michigan 48824, United States. Received 07/17/2006.

PI 642952. *Triticum aestivum* L. subsp. *aestivum*

Breeding. CJ 8809; Changjiang 8809. GP-815. Pedigree - CJ 8809 was originally derived from an intermating population developed from 55 crosses, by multiple-parent crossing and intermating among hybrids and progenies, with the aid of a dominant gene *Tal* (*ms2*), followed by mass selection of male-sterile plants. The parentage of the 55 crosses included five local agronomically superior cultivars (Yangmai 4, Ningmai 3, Zhemai 1, Qianjiang 1 and Wanjian 7909) and 11 *Fusarium* head blight (FHB or scab) resistant cultivars (Sumai 3, Ning 7840, Emai 9, Wangshuibai, Fanshanxiaomai, Wenzhouhongheshang, Zhen 7495, Jinzhou 1, Xiangmai 1, Nobeokaboutzu-Komugi and Shinchunaga). CJ 8809 is awned, semi-dwarf and red-grained spring type with spindle-shaped spikes and red glumes. It has excellent resistance to *Fusarium* head blight (FHB or scab) caused by *Fusarium graminearum*. CJ 8809 scores for number of scabby spikelets under single-floret inoculation were close to that of the resistant check Sumai 3. CJ 8809 has a higher yielding capacity and better agronomic merits than Sumai 3. It has semi-erect seedlings with moderate tillering ability and winter hardiness. Under the field conditions in Nanjing, China, its plant height was around 85-90 cm, with resilient stems and stronger tolerance to lodging. The spike length, spikelets per spike and kernels per spike for CJ 8809 are 8-9 cm, 17-19 and 30-35, respectively. The grains are red, semi-soft and plump. The 1000-kernel weight is 36-37 g. The duration of growth periods is approximately 210-212 days at Nanjing, and 100 days in greenhouse. Average grain yield in replicated yield trials ranged 4504-5178 kg/ha, 4-5% higher than the check Yangmai 5. CJ 8809 was resistant to sprouting, and moderately resistant to leaf rust and powdery mildew.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 07/07/2006.

PI 642953 PVPO. *Lactuca sativa* L.

Cultivar. "TELLMARK". PVP 200600228.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 07/10/2006.

PI 642954 PVPO. *Zea mays* L. subsp. *mays*

Cultivar. "PHAPT". PVP 200600231.

The following were donated by Robert L. Jarret, USDA, ARS, Plant Genetic Resources Conservation Unit, University of Georgia, Griffin, Georgia 30223-1797, United States. Received 07/03/2006.

PI 642955. *Capsicum* sp.

Cultivar. "Prik Chi Faa"; Kitazawa Seed Company Item No. 270.

PI 642956. *Capsicum* sp.

Cultivar. "Shishito"; Kitazawa Seed Company Item No. 083.

PI 642957. *Capsicum* sp.

Cultivar. "Fushimi"; Kitazawa Seed Company Item No. 081.

The following were developed by Thomas C. Kilen, USDA, ARS, Soybean Production Research, P.O. Box 196, Stoneville, Mississippi 38776, United States; Pat Donald, USDA-ARS, 605 Airways Blvd, Jackson, Tennessee 38301, United States; Alemu Mengistu, USDA/ARS, West Tennessee Experiment Station, 605 Airways Blvd., Jackson, Tennessee 38301, United States. Received 07/26/2006.

PI 642958. *Glycine max* (L.) Merr.

Breeding. Pureline. D95-5048. GP-329. Pedigree - F5 selection from the cross Bedford (5) x sel. (Forest (3) x Tracy). Original donor of Rps 1-b was germplasm line FC 31745. D95-5048 developed by backcrossing the allele Rps 1-b into a Bedford background. Product of backcrossing program to transfer the Rps 1-b gene into a Bedford background. Has value as a parent because of its resistance to Phytophthora rot caused by Phytophthora sojae, and races 3 and 14 of the soybean cyst nematode (*Heterodera glycines*). In four-year trials D95-5048 outyielded Bedford significantly. Will be useful to the research community because it will expand the set of previous releases of Phytophthora rot resistant lines which are near-isogenic to the cultivar Bedford.

The following were developed by Lloyd R. Nelson, Texas A&M University, Agricultural Research & Extension Center, P.O. Box 200, Overton, Texas 75684, United States; J. Crowder, Texas A&M Univ. Agric. REC, P.O. Box 200, Overton, Texas 75684, United States; D.R. Chalmers, Texas A&M University, College Station, Texas 77843-2474, United States. Received 07/20/2006.

PI 642959. *Lolium multiflorum* Lam.

Cultivar. Population. "AXCELLA 2"; TXR2003-TF1. REST 642959; CV-246; PVP 200800373. Pedigree - In 1998-1999, 400 plants from breeding line, TXR98-DBDF (released as Panterra) were space planted at Overton, TX and 30 plants were selected, cross-pollinated and seed bulked. In 1999-2000, 23 late maturing plants out of 550 plants cross-pollinated and seed was bulked. In 2000-2001, 14 plants out of 500 were allowed to cross-pollinate and seed was bulked. In 2002-2003, 50 g of seed was sent to DLF-International Seeds and 500 plants were grown out at Corvallis, Oregon. 10% of plants which had poor seed yield potential, or were not uniform were eliminated from the population. The remainder of plants cross-pollinated, produced seed and seed was bulked under designation, TXR2003-TF1 and released as Axcella 2. Dwarf annual ryegrass developed for overseeding warm season turf grasses in the autumn. Diploid ($2n=2x=14$ chromosomes). In seedling stage, has rolled leaves and no auricles. Plant stature is much shorter than forage type annual ryegrass and relatively shorter than Axcella and Panterra turf-type annual ryegrass. Mature plants at Overton, TX were 65 cm for Axcella 2 compared to 79 and 86 cm for Panterra and Axcella, respectively. Tillers very well. Mean flag leaf length was 13, 16 and 18 cm for Axcella 2, Panterra and Axcella, respectively. Mean awn length at Overton averaged 3.3 mm; however about 15% of plants have very short awns or are awnless. Seed width is approximately 1.7 mm and seed length is 6 mm. One thousand seed weight of Axcella 2 was 2.1 g compared to 2.4, 2.5 and 2.8 g for Panterra, Axcella and TAM 90, respectively. Coleoptile color upon emergence is green or purple. Anther color is 80% yellow and 20% purple. Turf growth rate, or turf height measured in the cold season from December through February in a turf trial at Overton indicated Axcella 2 was significantly shorter than Axcella and Panterra and not

significantly different than Palmer IV and PhD. In turf trials at Overton and College Station, TX, Axcella 2 was similar to Panterra, but superior to Axcella. Has finer textured leaves than Axcella and Panterra. Has darker green leaf color compared to Axcella, but similar to Panterra; however may hold this color longer into the late spring than Panterra. In over seeded turf trials at Overton, TX, began to transition out by 21 April, which is similar to Axcella and Panterra, but significantly earlier than perennial ryegrass cultivars. Exposure to -8°C in 2005 resulted in leaf tip freeze injury but all plants recovered. Not infected with fungal endophyte *Neotyphodium occutans*. Roots tested 92% positive for fluorescence.

The following were developed by Pioneer Hi-Bred International, Inc., Johnston, Iowa 50131, United States. Received 07/20/2006.

PI 642960 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHANF". PVP 200600233.

PI 642961 PVPO. *Zea mays* L. subsp. *mays*
Cultivar. "PHEWW". PVP 200600234.

The following were donated by International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Valle, Colombia. Received 08/03/1998.

PI 642962. *Oryza sativa* L.
Cultivar. Pureline. "INAPOSTOL"; ACC 950; Q 39269. Collected in Philippines.

The following were donated by West Africa Rice Development Association, 01 BP 2551, Bouake, Cote D'Ivoire. Received 04/07/1999.

PI 642963. *Oryza sativa* L.
Cultivar. Pureline. PTB 12; Q 39862. Collected in India.

PI 642964. *Oryza sativa* L.
Breeding. Pureline. Tox 4251-470-3; Q 40017. Developed in Nigeria.

The following were developed by Robert A. Graybosch, USDA-ARS, University of Nebraska, 314 Biochem Hall, Lincoln, Nebraska 68583, United States. Received 08/01/2006.

PI 642965. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. NW03Y2016; NSGC 17756. Pedigree - MO8/Redland//KS91H184/3*Rio Blanco. Hard white winter wheat. Carries the Wsm-1 gene for resistance to wheat streak mosaic virus. Tested in 2006 NRPN.

PI 642966. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. NW03Y2022; NSGC 17757. Pedigree - MO8/NE94406 (=NE86582//84MC29/NE82583)//KS91H184/3*Rio Blanco. Hard white winter wheat. Carries the Wsm-1 gene for resistance to wheat streak mosaic virus. Tested in the 2006 NRPN.

PI 642967. *Triticum aestivum* L. subsp. *aestivum*
Breeding. Pureline. NW03Y2023; NSGC 17758. Pedigree - MO8/NE94406
(=NE86582//84MC29/NE82583)//KS91H184/3*Rio Blanco. Hard white winter
wheat. Carries the Wsm-1 gene for resistance to wheat streak mosaic
virus. Tested in the 2006 NRPN.

The following were donated by Fred R. Miller, Texas A & M University,
Department of Soil & Crop Science, College Station, Texas 77843-2474, United
States. Received 05/25/1989.

PI 642968. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
78C729; Grif 649. Collected in Lesotho.

PI 642969. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
86C12374; IS 1317-127; Grif 670. Collected in India.

PI 642970. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
82C381; Q80-53; Grif 730. Collected in China.

PI 642971. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
79T206; Grif 753; SAN BERNARDO. Collected in Honduras.

PI 642972. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
78C731; Grif 755; SEGALOANE. Collected in Lesotho.

PI 642973. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
79T331; GPR 168; Grif 780. Collected in India.

PI 642974. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
85C932; 42492-Kath 1259; Grif 781. Collected in Australia.

PI 642975. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
88T156; ETS 2313; Grif 814. Collected in Ethiopia.

PI 642976. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
88T170; SAR-285; Grif 828. Collected in South Africa.

The following were donated by Henry Hadley, University of Illinois,
Department of Agronomy, 1102 South Goodwin Avenue, Urbana, Illinois 61801,
United States. Received 08/06/1990.

PI 642977. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
W-4; Grif 5623. Pedigree - FQN X TAN -22.

PI 642978. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
W-6; Grif 5625. Pedigree - LEOTI X 827 -1-3.

PI 642979. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
W-9; Grif 5627; FULTIP #8.

PI 642980. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
W-39; Grif 5648; SZEDEDI 425-70.

PI 642981. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
Grif 5661; ACME.

- PI 642982. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Grif 5670; SELECTION 404. Pedigree - A sister line of Deer.
- PI 642983. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Grif 5674; SEL 2128. Dwarf line 6-7' may segregate for seed shedding.
- PI 642984. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Grif 5679; CHINESE BLACK.
- PI 642985. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Grif 5681; ILLINOIS #1.
- PI 642986. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Grif 5684; MILLERS DWARF.
- PI 642987. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
Grif 5685; O'HAIR.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 642988. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2533; Grif 15987.
- PI 642989. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2685; IS 198; SA 1731; Grif 15988.
- PI 642990. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2687; Buckskin Kafir; SA 362; Grif 15990. Pedigree - Weskan x DD Red 60.
- PI 642991. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2688; IS 208; CIso 1106; Grif 15991; 65I2374; Alliance Kafir.
- PI 642992. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2689; SA 5257-5; Grif 15995; Standard Early Hegari.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States; USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 642993. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2690; SA 343; #255; Grif 15996; Dalhart Resistant Beaver.

Unknown source. Received 1983.

- PI 642994. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2692; SA 342; #252; Grif 15997; Dalhart Resistant Wheatland.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

- PI 642995. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 863; MN 2701; SA 358; Grif 16000; Logear.
- PI 642996. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2703; CIso 946; Grif 16002; Dwarf White Durra.
- PI 642997. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
"Evergreen"; IS 34; MN 2710; 65I 1866; CIso 556; Grif 16003. Standard broomcorn.
- PI 642998. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
"Black Spanish"; MN 2711; CIso 827; Grif 16004. Standard broomcorn.
- PI 642999. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 641; MN 2714; SA 1554; Grif 16005; Leoti-Peltier.
- PI 643000. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2716; SA 1707; Grif 16006.
- PI 643001. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2717; SA 1744; Grif 16007; Red Top (Sumac).
- PI 643002. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 686; MN 2718; SA 1664; Grif 16008; Honey.
- PI 643003. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2720; FC 13492; Grif 16009; Variety A.
- PI 643004. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2721; FC 13491; Grif 16010; Variety Z.
- PI 643005. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2745; Grif 16013. Reddish glume, compact head.
- PI 643006. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2747; Grif 16014. White speckled seed.
- PI 643007. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2749; Grif 16015. Late.
- PI 643008. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2751; Grif 16016. Tan seed.
- PI 643009. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2752; Grif 16017. Red seed.
- PI 643010. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2753; Grif 16018. Brown seed.
- PI 643011. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2754; Grif 16019; Hegari Makwar. White seed.
- PI 643012. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2755; Grif 16020. Straw seed.
- PI 643013. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2756; Grif 16021. Buff seed.

- PI 643014. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2757; Grif 16022. Tan seed.
- PI 643015. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2760; Grif 16023. Early.
- PI 643016. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2761; Grif 16024. Late, straw seed.
- PI 643017. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2762; Grif 16025. Late, light tan seed.
- PI 643018. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2764; Grif 16026. Late, brown seed.
- PI 643019. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2765; Grif 16027. Late, dark brown seed.
- PI 643020. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2766; Grif 16028. Late, reddish seed.
- PI 643021. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2770; Grif 16029. Early.
- PI 643022. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2776; Grif 16031. Early, small brown seed.
- PI 643023. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2779; Grif 16032. Early.
- PI 643024. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2783; Grif 16033. Slate seed.
- PI 643025. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2785; Grif 16035. Brown glume.
- PI 643026. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2786; Grif 16036. Hairy red glume.
- PI 643027. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2787; Grif 16037. Brown seed.
- PI 643028. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2788; Grif 16038. White seed.
- PI 643029. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2790; Grif 16039. Early.
- PI 643030. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2794; Grif 16040. Buff seed.
- PI 643031. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
MN 2795; Grif 16041. Orange seed.

Unknown source. Received 1983.

PI 643032. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
MN 2798; Grif 16043. Early.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 643033. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
MN 2802; Grif 16044. Early.

PI 643034. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
MN 2803; Grif 16045. Late.

PI 643035. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
MN 2804; Grif 16046. Brown seed.

The following were collected by Gary Nabhan, Native Seeds/SEARCH, 3950 W. New York Drive, Tucson, Arizona 85745, United States; L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 643036. *Amaranthus hypochondriacus* L.
Landrace. LF/GN 1; RRC 412; Semilla de Alegria; Ames 5168. Collected 08/03/1979 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Elevation 2200 m. Tulyehualco. The seeds are white, flowers red and green, leaves rufescent. The RRC class type is: Aztec. This amaranth has more branching than normal. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643037. *Amaranthus hypochondriacus* L.
Landrace. LF/GN 2; RRC 413; Ames 5169. Collected 08/03/1979 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Elevation 2200 m. Tulyehualco. Said to be planted in floating gardens. The seeds are white and light gold, flowers marbled, red and green, leaves green and variegated. The RRC class type is: mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643038. *Amaranthus hypochondriacus* L.
Landrace. LF/GN 3; RRC 414; Ames 5170. Collected 08/03/1979 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Elevation 2200 m. Tulyehualco. Planted in floating gardens. The seeds are white, flowers red and green, leaves rufescent. The RRC class type is: Aztec. It has very short branches. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643039. *Amaranthus cruentus* L.
Landrace. LF/GN 5; RRC 415; Ames 5171. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of tomatillos and beans. The seeds are white, glowers red-purple, leaves rufescent. The RRC class type is: Mexican. Branches

mature at the same time as main head; taller than most Mexican grain types. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643040. *Amaranthus cruentus* L.

Landrace. LF/GN 7; RRC 417; Ames 5173. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 42' N. Longitude 98° 46' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers green with a pink tint, leaves green. The RRC type is: Mexican. This amaranth has distinct red stems and petioles. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643041. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 8; RRC 418; Ames 5174. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers green, leaves green. The RRC class type is: mercado. observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643042. *Amaranthus cruentus* L.

Landrace. LF/GN 9; RRC 419; Ames 5175. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers purple-red and marbled, leaves rufescent. The RRC class type is: Mexican. It had severe lygus damage. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643043. *Amaranthus cruentus* L.

Landrace. LF/GN 10; RRC 420; Ames 5176. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of forage legumes and interplant of beans and tomatillos. The seeds are white, flowers marbled, leaves variegated. The RRC class type is: Mexican. There is a distinct flower color pattern, with only tips being red. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643044. *Amaranthus cruentus* L.

Landrace. LF/GN 11; RRC 421; Ames 5177. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of tomatillos and beans. The seeds are white, flowers pink and marbled, leaves pale green and variegated. The RRC class type is: Mexican. It has red stems with some lodging and some unbranched plants. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643045. *Amaranthus cruentus* L.

Landrace. LF/GN 12; RRC 422; Ames 5178. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. This amaranth is

shorter than most. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643046. *Amaranthus cruentus* L.

Landrace. LF/GN 14; RRC 424; Ames 5180. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers pink and marbled, leaves green and variegated. The RRC class type is: Mexican. The plants are too branched and slightly later maturing. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643047. *Amaranthus cruentus* L.

Landrace. LF/GN 15; RRC 425; Ames 5181. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers green and marbled, leaves green. The RRC class type is: Mexican. This amaranth has uneven maturity and is predominantly green-flowered. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643048. *Amaranthus cruentus* L.

Landrace. LF/GN 16; RRC 426; Ames 5182. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of tomatillos and beans. The seeds are white, flowers marbled, leaves green. The RRC class type is: Mexican. This amaranth formed late branches and had uneven maturity. It was shorter than most Mexican grain types. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643049. *Amaranthus cruentus* L.

Landrace. LF/GN 18; RRC 428; Ames 5183. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of tomatillos and beans. The seeds are white, flowers marbled, leaves variegated. The RRC class type is: Mexican. More branching than most with very uneven maturity. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643050. *Amaranthus cruentus* L.

Landrace. LF/GN 19; RRC 429; Ames 5184. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers marbled, leaves variegated and green. The RRC class type is: Mexican. The plants are short and formed late branches. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643051. *Amaranthus cruentus* L.

Landrace. LF/GN 20; RRC 430; Ames 5185. Collected 08/04/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and

interplant of beans and tomatillos. The seeds are black, flowers red, leaves green. The RRC class type is: unique. The plants had excessive branching with no main head and large leathery leaves. It did not mature in the field. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643052. *Amaranthus cruentus* L.

Landrace. LF/GN 21; RRC 431; Ames 5186. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of tomatillos and beans. The seeds are white, flowers purplish red, leaves variegated. The RRC class type is: Mexican. This amaranth has even maturity with a nice main head and high branches. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643053. *Amaranthus cruentus* L.

Landrace. LF/GN 22; RRC 432; Ames 5187. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. Pedigree - This is not the same as PI 490660 because this has stems without red stripes (grown for comparison 1998 by David Brenner in a greenhouse). The seeds are white, flowers marbled, leaves variegated. The RRC class type is: Mexican. This is a short plant with no lodging and a nice main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643054. *Amaranthus cruentus* L.

Landrace. LF/GN 23; RRC 433; Ames 5188. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers green, leaves rufescent. The RRC class type is Mexican. The plants had some lygus resistance. They were less branching than most with a large main head, high yield, and red stems and petioles. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643055. *Amaranthus cruentus* L.

Landrace. LF/GN 24; RRC 434; Ames 5189. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers light rose pink, leaves pale green. The RRC class type is: Mexican. It is less branching than most, with a huge main head and a distinctive flower color. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643056. *Amaranthus cruentus* L.

Landrace. LF/GN 25; RRC 435; Ames 5190. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 1.3 km from Amayuca. Field of a forage legume and interplant of beans and tomatillos. The seeds are white, flowers marbled and green, leaves variegated and green. The RRC class type is: Mexican. It has a huge seed head with some unbranched plants.

Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643057. *Amaranthus cruentus* L.

Landrace. LF/GN 26; RRC 436; Ames 5191. Collected 08/05/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area. The seeds are white, gold and brown, flowers green and marbled, leaves green and variegated. The RRC class type is: Mexican. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643058. *Amaranthus cruentus* L.

Landrace. LF/GN 28; RRC 439; Ames 5193. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 2 km from Amayuca. Flat field, dense planting, rows 0.75 meter apart, plants every 15 cm or less. The seeds are white, flowers red and marbled, leaves green and variegated. The RRC class type is Mexican. It has uniform maturity with the side branches and main head maturing at the same time. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643059. *Amaranthus cruentus* L.

Landrace. LF/GN 29; RRC 440; Ames 5194. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 2 km from Amayuca. Dense planting, rows 0.75 meter apart, plants every 15 cm or less. The seeds are white, flowers marbled, leaves variegated. The RRC class type is: Mexican. This amaranth has excessive branching with many late side branches. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643060. *Amaranthus cruentus* L.

Landrace. LF/GN 30; RRC 441; Ames 5195. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Huazulco. The seeds are white, flowers marbled, leaves green and variegated. The RRC class type is: Mexican. It has a huge main seed head with late side branches. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643061. *Amaranthus cruentus* L.

Landrace. LF/GN 31; RRC 442; Ames 5196. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 2 km from Amayuca. Dense planting, rows 0.75 meter apart, plants every 15 cm or less. The seeds are white, flowers red, leaves green. The RRC class type is: Mexican. The side branches and main head mature at the same time. The stems are red-stripped. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643062. *Amaranthus cruentus* L.

Landrace. LF/GN 32; RRC 443; Ames 5197. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Hualzurco area, 2 km from Amayuca. Flat field, dense planting, rows 0.75 meter apart, plants every 15 cm or less. The seeds are white, flowers marbled, leaves green and variegated. The RRC class type is: Mexican. It is short, very uniform in height with excessive branching.

It had severe lygus damage. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643063. *Amaranthus cruentus* L.

Landrace. LF/GN 34; RRC 445; Ames 5199. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 43' N. Longitude 98° 45' W. Elevation 1200 m. Near Amayuca. The seeds are white, flowers green, leaves green. The RRC class type is: Mexican. There is some lygus resistance and some dry down. It is short, with high yield and many branches, all green. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Center. Emmaus, PA.

PI 643064. *Amaranthus cruentus* L.

Landrace. LF/GN 36; RRC 447; Ames 5201. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 45' 0" N. Longitude 99° 0' 0" W. The seeds are white, flowers marbled and red, leaves variegated and green. The RRC class type is: Mexican. It had severe lygus damage. It has less branching than most with large seeds heads and side brances later than the main head. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643065. *Amaranthus cruentus* L.

Landrace. LF/GN 37; RRC 448; Ames 5202. Collected 08/06/1979 in Morelos, Mexico. Latitude 18° 45' 0" N. Longitude 99° 0' 0" W. The seeds are white, flowers marbled, leaves are green. The RRC class type is: Mexican. It had severe Lygus damage. It has a large main head with less branching than most. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catlaog. Emmaus, PA.

PI 643066. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 38; RRC 449; Alegria; Ames 5203. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white flowers pink and green, leaves are rufescent and green. The RRC class type is: Aztec. The plants are not uniform in the greenhouse. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643067. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 39; RRC 450; Ames 5204. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white, flowers pink and green, leaves rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643068. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 41; RRC 452; Ames 5205. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white, flowers green and red, leaves rufescent. The RRC class type is: Aztec. It has red petioles. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643069. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 42; RRC 453; Ames 5206. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m.

Amecameca. Field next to fava beans. The seeds are white, flowers green, leaves green. The RRC class type is Aztec. It has red stems. Observations from the Rodale Research Center, Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643070. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 43; RRC 454; Ames 5207. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white, flowers green and red, leaves rufescent. The RRC class type is Aztec. It has red and pink petioles and stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643071. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 44; RRC 455; Ames 5208. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white, flowers red, leaves rufescent. The RRC class type is: Aztec. It has red stems and petioles. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643072. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 46; RRC 457; Ames 5209. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white, flowers red and green, leaves green and rufescent. The RRC class type is: Aztec. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643073. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 47; RRC 458; Ames 5210. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. Field next to fava beans. The seeds are white, flowers green, leaves green. The RRC class type is Aztec. It has red stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643074. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 49; RRC 460; Ames 5211. Collected 08/07/1979 in Mexico, Mexico. Latitude 19° 7' N. Longitude 98° 46' W. Elevation 2493 m. Amecameca. The seeds are white, flowers red and green, leaves rufescent and green. The RRC class type is Aztec. It has red stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643075. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 50; RRC 461; Ames 5212. Collected 08/07/1979 in Puebla, Mexico. Latitude 19° 9' N. Longitude 98° 24' W. Elevation 984 m. Huejotzingo. Backyard garden. The seeds are white, flowers red and green, leaves rufescent and green. The RRC class type is: Aztec. There were some early, short segregates, but they did not mature in the field. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by Gary Nabhan, Native Seeds/SEARCH, 3950 W. New York Drive, Tucson, Arizona 85745, United States; L. Feine-Dudley, Rodale

Res. Ctr., Kutztown, Pennsylvania, United States; Universidad Tecnologica de Netzahualcoyotl, Mexico, Mexico. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 03/19/1981.

PI 643076. *Amaranthus hypochondriacus* L.

Landrace. LF/GN 52; RRC 462; Aztec Giant; Ames 5213; Ames 2260. Collected 08/10/1979 in Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Elevation 2200 m. Telyehualco. Collected 08/10/1979 in Federal District, Mexico. Latitude 19° 15' N. Longitude 99° 1' W. Elevation 2200 m. Telyehualco. The seeds are white, flowers red and green, leaves rufescent. The RRC class types is: Aztec. It has red stems. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were collected by Gary Nabhan, Native Seeds/SEARCH, 3950 W. New York Drive, Tucson, Arizona 85745, United States; L. Feine-Dudley, Rodale Res. Ctr., Kutztown, Pennsylvania, United States. Donated by Rodale Research Center, Rodale Press, Box 323, RD 1, Kutztown, Pennsylvania 19530, United States. Received 04/15/1986.

PI 643077. *Amaranthus cruentus* L.

Landrace. LF/GN 53; RRC 463; Ames 5214. Collected 08/10/1979 in Mexico, Mexico. Latitude 19° 24' N. Longitude 99° 9' W. Mexico City. The seeds are white, gold and brown, flowers green, red and marbled, leaves green and variegated. The RRC class type is: Mexican, mercado. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

PI 643078. *Amaranthus cruentus* L.

Landrace. LF/GN 54; RRC 464; Ames 5215. Collected 08/11/1979 in Oaxaca, Mexico. Latitude 17° 0' N. Longitude 96° 30' W. Young men at the place of purchase said that the seeds were from Oaxaca. Pedigree - BULK. The seeds are white and gold, flowers green and red, leaves green. The RRC class type is Mexican, mercado. It is predominately the green-flowered Mexican grain type. Observations from the Rodale Research Center, 1988 Rodale Amaranth Germplasm Catalog. Emmaus, PA.

The following were donated by Universidad Nacional Technica del Altiplano, Puno, Puno, Peru. Received 02/21/2001.

PI 643079. *Chenopodium quinoa* Willd.

Landrace. 04-02-451; Pasankalla; Ames 26191. Collected in Puno, Peru. High altitudes of the altiplano, Puno. The seeds can pop like popcorn, which is said to be unusual for this species.

The following were collected by Art Wells, The Ohio State University, Ornamental Plant Germplasm Center, 670 Tharp Street, Columbus, Ohio 43210-1086, United States; Jennifer Ehrenberger, The Ohio State University, Ornamental Plant Germplasm Center, 670 Tharp Street, Columbus, Ohio 43210-1086, United States; Rick Gardner, Ohio Department of Natural Resources, Division of Natural Areas and Preserves, 2045 Morse Road, Columbus, Ohio 43229, United States. Received 10/19/2004.

PI 643080. *Lespedeza capitata* Michx.

Wild. Population. LC 9; OPGC 1989. Collected 10/19/2004 in Ohio, United States. Latitude 41° 35' 27" N. Longitude 83° 45' 43" W. Louis Campbell State Nature Preserve, Lucas County.

The following were donated by Don Beam, Ohio Prairie Association, 201 THORNE, OARDC-WOOSTER, Wooster, Ohio 44691, United States. Received 08/22/2004.

PI 643081. *Chamaecrista nictitans* (L.) Moench var. *nictitans*

Wild. Population. Stucker Meadow 18; OPGC 2096. Collected in Ohio, United States. Mohican River Bank, Brinkhaven, Knox County.

PI 643082. *Senna marilandica* (L.) Link

Wild. Population. Stucker Meadow 23; OPGC 2101.

The following were collected by Susan Stieve, The Ohio State University, Ornamental Plant Germplasm Center, 670 Tharp Street, Columbus, Ohio 43210-1086, United States; Eric Renze, The Ohio State University, Ornamental Plant Germplasm Center, 670 Tharp Street, Columbus, Ohio 43210-1086, United States; Kensel Clutter, Ohio Prairie Association, 4032 Pole Lane Road, Marion, Ohio 43302, United States. Received 11/01/2005.

PI 643083. *Hibiscus laevis* All.

Wild. Population. GC 9; OPGC 2440. Collected 09/21/2005 in Ohio, United States. Latitude 40° 32' 54" N. Longitude 83° 11' 29" W. Elevation 284 m. Green Camp Railroad Prairie managed by the Marion County Historical Society, Marion County.

PI 643084. *Hibiscus laevis* All.

Wild. Population. GC 23; OPGC 2454. Collected 09/21/2005 in Ohio, United States. Latitude 40° 32' 37" N. Longitude 83° 11' 54" W. Elevation 284 m. Green Camp Railroad Prairie managed by the Marion County Historical Society, Marion County.

The following were developed by Syngenta Seeds, Inc. - Vegetable, Boise, Idaho, United States. Received 07/28/2006.

PI 643085 PVPO. *Lactuca sativa* L.

Cultivar. "BARRACUDA". PVP 200600241.

The following were developed by Bayer Cropscience, United States; Cotton Seed Int'l. Proprietary Limited, Wee Waa, Australia. Received 07/28/2006.

PI 643086 PVPO. *Gossypium hirsutum* L.

Cultivar. "FM 960B2". PVP 200600178.

The following were developed by Robert Hunger, Oklahoma State University, Dept. of Plant Pathology, 110 NRC, Stillwater, Oklahoma 74078-9947, United States; Brett F. Carver, Oklahoma State University, Dept. of Plant & Soil Sciences, 368 Agriculture Hall North, Stillwater, Oklahoma 74078, United States; David R. Porter, USDA, ARS, 1301 N. Western Road, Stillwater, Oklahoma 74075-2714, United States; Oklahoma Agricultural Experiment Station,

Stillwater, Oklahoma, United States; B.W. Seabourn, USDA, ARS, Grain Marketing and Production Research Center, Hard Winter Wheat Quality Lab., Manhattan, Kansas 66506, United States; A.R. Klatt, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; B.C. Martin, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; P. Rayas-Duarte, Oklahoma State University, Dept. of Biochemistry and Molecular Biology, Stillwater, Oklahoma 74078, United States; J.T. Edwards, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; T.F. Peeper, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States. Received 07/28/2006.

PI 643087. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "OKFIELD"; OK02909C. PVP 200600227; CV-1019; Utility Patent 5369022; REST 643087. Pedigree - (TXGH12588-120*4/FS4)/2174. Released 2005. Okfield was developed by crossing 2174 with a single plant selected for imazamox tolerance (commercial rate) from a F2 population with the pedigree, TXGH12588-120*4/FS4. Okfield is a F2-derived line that is phenotypically uniform, except for the segregation of plants either resistant (50%) or susceptible (50%) to biotype E or I greenbug (*Schizaphis graminum* Rondani) in the seedling stage. Resistant plants, which carry the Gb3 gene, are phenotypically indistinguishable from susceptible plants in the absence of the greenbug. Flag leaves of Okfield show high stay-green capacity, especially under high leaf rust (caused by *Puccinia triticina* Eriks) pressure that forces premature senescence of currently available cultivars with imazamox resistance. The high-molecular-weight glutenin-subunit signature for Okfield is 2*/6+8 and 7+9/5+10, compared with 2*/6+8/5+10 for 2174. While agronomic features of Okfield are similar to or superior to those of 2174, the test weight of Okfield is 4.3 kg/hL less than 2174, a cultivar known for its exceptionally high test weight patterns. Okfield reaches the heading stage 4 days later than AP502CL, a very early cultivar, and two days earlier than 2174. It shows an intermediate reaction to acid soils under field conditions with soil pH<4.3. Based on field observations in Oklahoma, Okfield is susceptible to leaf rust and to Wheat soilborne mosaic virus. Reaction to Barley yellow dwarf virus is intermediate, much like 2174. During the severe epidemic that occurred in 2005, it showed an intermediate reaction under natural infection to stripe rust caused by *Puccinia striiformis* f. sp. *tritici*. Based on greenhouse observations, Okfield is susceptible to tan spot (*Pyrenophora tritici-repentis*) and to septoria leaf blotch (*Septoria tritici*) but resistant to powdery mildew (*Blumeria graminis* f. sp. *tritici*). Reaction to natural field infestations of Hessian fly (*Mayetiola destructor*) is tolerant (similar to 2174), but seedling reaction.

The following were developed by North Carolina Agricultural Research Service, North Carolina, United States. Received 07/28/2006.

PI 643088 PVPO. *Avena sativa* L.

Cultivar. "CABALLO". PVP 200600232. Pedigree - NC88-1756//ARFOB-30/Coker 84-27.

The following were developed by Syngenta Seeds, Inc., Junction City, Kansas, United States. Received 07/28/2006.

- PI 643089 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "NuDakota". PVP 200600235. Pedigree - Jagger/Romanian Bulk.
- PI 643090 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "NuGrain". PVP 200600236. Pedigree - Platte/W92-456W.
- PI 643091 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "KELBY". PVP 200600237. Pedigree - N97-0117/3/N92-0098//Sumai 3/Dalen.
- PI 643092 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "COKER 9553"; D00*6874-2. PVP 200600238. Pedigree - 89M-4035A/2580.
- PI 643093 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "POSTROCK". PVP 200600239. Pedigree - Ogallala/KSU94U261//Jagger.
- PI 643094 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "AGRIPRO PALADIN". PVP 200600240. Pedigree - WI90-008(Mesa/Abilene)/W91-040[Roazon/Wrangler//Vona/W76-1141(Nadadores 63/CO652643//Centurk)].
- PI 643095 PVPO. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. Pureline. "9511". PVP 200600242. Pedigree - L881060/L880436.

The following were developed by Washington State University Research Foundation, Washington, United States. Received 07/28/2006.

- PI 643096. *Triticum aestivum* L. subsp. *aestivum***
Cultivar. "MDM"; WA7936; DUPLICATE OF PI 634716.

The following were donated by David J. Andrews, University of Nebraska, Department of Agronomy, Lincoln, Nebraska 68503, United States. Received 09/06/1989.

- PI 643097. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
07072; Grif 500. Collected in India. Pedigree - FLR-1379-1-1.
- PI 643098. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
07078; Grif 505. Collected in India. Pedigree - Rs/RxCSV-4-1525-1-1-4.
- PI 643099. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
07095; Grif 521. Collected in India. Pedigree - Rs/B-8785-1-1-1.
- PI 643100. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
07105; Grif 530. Collected in India. Pedigree - FLR-266xCSV-4-4-3-2.
- PI 643101. *Sorghum bicolor* (L.) Moench subsp. *bicolor***
07107; Grif 532. Collected in India. Pedigree - Diallel-475-746-4-5-2-1.

- PI 643102. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07108; Grif 533. Collected in India. Pedigree - Early pop-5-1-1.
- PI 643103. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07120; Grif 540. Collected in India. Pedigree - Us/R-50-398-2B.
- PI 643104. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07124; Grif 542. Collected in India. Pedigree - Rs/B-162-2B.
- PI 643105. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07151; Grif 564; SEGOALANE-B. Collected in India.
- PI 643106. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07197; IS 155; Grif 597. Collected in India.
- PI 643107. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07203; IS 157; Grif 603. Collected in India.
- PI 643108. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07207; IS 1325; Grif 606. Collected in Kano, Nigeria.
- PI 643109. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07216; Liaoning; Grif 613; JI 7384 (CHI). Collected in China.
- PI 643110. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07217; Liaoning; Grif 614; HONG GAO LIANG (CHAO YANG). Collected in
China.
- PI 643111. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07218; Liaoning; Grif 615; HU XIAO. Collected in China.
- PI 643112. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07225; Liaoning; Grif 622; BAI GAO LIANG (SUI DE). Collected in China.
- PI 643113. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
07230; Liaoning; Grif 627; XIAO HONG GAO LIANG (ZHAO MENG). Collected
in China.

The following were donated by Pieter-Wheeler Seed Company, California, United States. Received 12/28/1959.

- PI 643114. *Daucus carota* L.
Cultivar. 1485; Nunhems 4091-1; DC-1; NSL 2867; White Belgian. Mature in 90 days. Tops 18-22 inches tall. Root 10-12 inches in length, heavy shoulder tapering to tip, pure white flesh, exposed crown is light green. Used exclusively for stock feeding.

The following were donated by Farmers Seed and Nursery Company, Faribault, Minnesota, United States. Received 03/04/1963.

- PI 643115. *Daucus carota* L.
Cultivar. "Tiny Sweet"; Nunhems 4090-1; DC-61; NSL 6033. Listed in Farmer Seed & Nursery Co. Spring 1963 catalog, page 9.

The following were donated by Asgrow Seed Company, New Haven, Connecticut 06500, United States. Received 12/11/1961.

PI 643116. *Daucus carota* L.

Cultivar. "Chanticleer"; Nunhems 4097-1; DC-54; NSL 7389. Listed in Asgrow Catalog #19, page 23.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States; Fidler & Sons. Received 06/1963.

PI 643117. *Daucus carota* L.

Cultivar. "Fidler's Exhibition"; Nunhems 4098-1; DC-77; NSL 27999.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States; Stumpp & Walter Co., New York, New York, United States. Received 06/1963.

PI 643118. *Daucus carota* L.

Cultivar. "Selected Long Orange Improved"; Nunhems 4099-1; DC-89; NSL 28011.

The following were donated by USDA, ARS, Horticultural Station, P.O. Box 1250, Cheyenne, Wyoming, United States. Received 06/1963.

PI 643119. *Daucus carota* L.

Cultivar. "Tilques"; Nunhems 4100-1; DC-90; NSL 28012.

The following were donated by Herbst Brothers Seedsmen Inc., Brewster, New York, United States. Received 12/1978.

PI 643120. *Daucus carota* L.

Cultivar. "Prinant"; 04 183-1; DC-111; NSL 68260. Published in American Vegetable Grower, December 1968.

The following were developed by Karen A. Moldenhauer, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 E, Stuttgart, Arkansas 72160, United States; Fleet N. Lee, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 E, Stuttgart, Arkansas 72160, United States; John Bernhardt, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; M.M. Blocker, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; James W. Gibbons, University of Arkansas, Rice Research & Ext. Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; Richard Norman, University of Arkansas, P.S. 115, Fayetteville, Arkansas 72701, United States; M.M. Anders, University of Arkansas, Rice Research and Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; Jill Bulloch, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 East, Stuttgart, Arkansas 72160, United States; K. Taylor, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States; C.E. Wilson, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States; R.D. Cartwright, University

of Arkansas, Dept. of Plant Pathology, PTSC 217, Fayetteville, Arkansas 72701, United States; A.C. Tolbert, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States; V.A. Boyett, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States. Received 08/10/2006.

PI 643121. *Oryza sativa* L.

Cultivar. Pureline. "SPRING"; RU0101093. CV-128; Utility Patent 11/336470. Pedigree - RU9101001//'Tebonnet'/'Katy'/3/'LaGrue'. RU9101001 is an extremely early line from the cross 'Bonnet73'/CI9837//PI 265116/4/'Vegold'/'Dawn'///'Starbonne't/'Taducan'/3/'L-201'. Released 2005. Spring heads in 70 - 75 days, is approximately 112 cm in height, and on a relative straw strength scale (0 = very strong, 9 = very weak) rates 4 (Francis, Wells, LaGrue, and Cocodrie rate 3, 3, 3, and 2, respectively). Rough rice grain yields of Spring compare favorably with other very-short-season cultivars in the Arkansas Rice Performance Trials (ARPT). In 23 ARPT tests (2001-2004), Spring, Maybelle, Jefferson, and Cocodrie averaged yields of 7862, 6653, 7610, and 8770 kg ha⁻¹ (120 g kg⁻¹ (12%) moisture), respectively. Milling yields (mg g⁻¹ whole kernel:mg g⁻¹ total milled rice) at 120 mg g⁻¹ moisture from the ARPT, averaged 640:710, 610:710, 630:710, and 670:720, for Spring, Maybelle, Jefferson and Cocodrie, respectively. Spring, is rated R to common rice blast (*Pyricularia grisea* (Cooke) Sacc.) races IC-17, IE-1, IG-1, and IH-1 under Arkansas conditions, using the standard disease scale R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible and VS = very susceptible to disease. Spring is rated MR to IB-1, and MR-S to IB-49. Spring is S to blast races IB-33 and IE-1k. Spring is rated MS to sheath blight (*Rhizoctonia solani* K|hn), MS to kernel smut (*Tilletia barclayana* (Bref.) Sacc. & Syd. in Sacc.), S to stem rot (*Magnaporthe salvinii* (Cattaneo) R. Krause & R. K. Webster), MR to leaf smut (*Entyloma oryzae* Syd. & P. Syd.), M to brown leaf spot (*Cochliobolus miyabeanus* (Ito & Kuribayashi in Ito) Drechs. ex Dastur), MS to false smut (*Ustilaginoidea virens* (Cooke) Takah), S to crown (black) sheath rot (*Gaeumannomyces graminis* (sacc.) Arx & D. Olivier var. *graminis*), S to straight head a physiological disorder, and MS to damage caused by the rice stink bug (*Oebalus pugnax*). Spring plants have erect culms, green erect leaves, and glabrous lemma, palea, and leaf blades. Lemma and palea are straw colored with straw to brown colored apiculi, and some short tip awns on the lemma at maturity. Individual milled kernel we.

The following were developed by Syngenta Seeds, Inc. - Vegetable, Boise, Idaho, United States. Received 08/10/2006.

PI 643122 PVPO. *Capsicum annuum* L.

Cultivar. "4228AA". PVP 200600256.

The following were donated by Rosemary Chng, International Plant Genetic Resources Institute, Seed Handling Unit, National University of Singapore, Dept. of Botany, Singapore. Received 09/09/1996.

PI 643123. *Abelmoschus tuberculatus* Pal & Singh

Uncertain. IC 117187; Grif 12689. Collected in Maharashtra, India. Kanpur, Akola.

The following were donated by Eduardo A. Moscone, Instituto Multidisciplinario de Biología Vegetal (IMBIV), Edificio de Investigaciones Biológicas y Tecnológicas, Universidad Nacional De Córdoba - Conicet, Córdoba 5000, Argentina. Received 07/21/2005.

PI 643124. *Capsicum baccatum* var. *umbilicatum* (Vell.) Hunz. & Barboza
Uncertain. Grif 16131.

The following were donated by Richard Gibson, University of Greenwich, Natural Resources Institute, Medway University Campus, Kent, United Kingdom. Received 02/27/2002.

PI 643125. *Ipomoea hildebrandtii* Vatke
Uncertain. Grif 15013. Collected in Uganda. Sipi Falls, Kapchorwa District. Shrub-like plants, 2 to 3 meters in height, short day sensitive, self-incompatible.

The following were donated by Robert L. Jarret, USDA, ARS, Plant Genetic Resources Conservation Unit, University of Georgia, Griffin, Georgia 30223-1797, United States. Received 03/03/2006.

PI 643126. *Solanum scabrum* Mill.
Wild. B and T World Seeds No. 30726; Grif 16402.

The following were developed by Karen A. Moldenhauer, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 E, Stuttgart, Arkansas 72160, United States; Fleet N. Lee, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 E, Stuttgart, Arkansas 72160, United States; John Bernhardt, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; M.M. Blocker, University of Arkansas, Rice Research & Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; James W. Gibbons, University of Arkansas, Rice Research & Ext. Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; Richard Norman, University of Arkansas, P.S. 115, Fayetteville, Arkansas 72701, United States; M.M. Anders, University of Arkansas, Rice Research and Extension Center, P.O. Box 351, Stuttgart, Arkansas 72160, United States; Jill Bulloch, University of Arkansas, Rice Research & Extension Center, 2900 Hwy 130 East, Stuttgart, Arkansas 72160, United States; K. Taylor, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States; C.E. Wilson, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States; R.D. Cartwright, University of Arkansas, Dept. of Plant Pathology, PTSC 217, Fayetteville, Arkansas 72701, United States; A.C. Tolbert, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States; V.A. Boyett, University of Arkansas, Rice Research and Extension Center, 2900 Hwy 130 E., Stuttgart, Arkansas 72160, United States. Received 08/18/2006.

PI 643127. *Oryza sativa* L.
Cultivar. Pureline. "BANKS"; RU0001188. Utility Patent 7,141,726; CV-126. Pedigree - LaGrue//Lemont/RA73/3/LaGrue/4/LaGrue. Released 2004. Banks heads 93 days after emergence and is 112 cm in plant height. On a relative straw strength scale (0 = very strong, 9 = very weak) Banks,

Francis, Wells, LaGrue and Cocodrie rated 4, 3, 3, 3 and 2, respectively. Rough rice grain yields of Banks are one of the highest in the Arkansas Rice Performance Trials (ARPT). In 20 ARPT tests (2000-2003), Banks, Francis, Wells, LaGrue and Cocodrie averaged yields of 9677, 9828, 9727, 9243, and 8669 kg ha⁻¹ (120 g kg⁻¹ (12%) moisture), respectively. Milling yields (mg g⁻¹ whole kernel:mg g⁻¹ total milled rice) at 120 mg g⁻¹ moisture from the ARPT, 2000-2003, averaged 630:710, 650:710, 630:730, 620:700 and 660:710 for Banks, Francis, Wells, LaGrue and Cocodrie, respectively. Banks is resistant to common rice blast (*Pyricularia grisea* (Cooke) Sacc.) races IB-1, IB-49, IB-54, IC-17, IG-1 and IH-1 under Arkansas conditions, with ratings of R, MR, R, MR, R, and R respectively, using the standard disease R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible and VS = very susceptible to disease. Banks is susceptible to the blast race IB-33 and VS to race IE-1k. Banks is rated MS to sheath blight (*Rhizoctonia solani* K|hn), VS for kernel smut (*Tilletia barclayana* (Bref.) Sacc. & Syd. in Sacc.), S to stem rot (*Magnaporthe salvinii* (Cattaneo) R. Krause & R. K. Webster), MR to leaf smut (*Entyloma oryzae* Syd. & P. Syd.), R to brown leaf spot (*Cochliobolus miyabeanus* (Ito & Kuribayashi in Ito) Drechs. ex Dastur), MR to narrow brown leaf spot (*Cercospora oryzae* Miyake), and S to false smut (*Ustilaginoidea virens* (Cooke) Takah). Banks is S to damage caused by rice stink bug (*Oebalus pugnax*). Banks rates MS to straighthead, a physiological disorder. Plants of Banks have erect culms, dark green erect leaves, and glabrous lemma, palea, and leaf blades. The lemma and palea are straw colored with colorless apiculi, and some short tip awns on the lemma at maturity. Individual milled kernel w.

The following were developed by J. Neil Rutger, 1989 Witham Drive, Woodland, California 95776, United States; Lorie Bernhardt, USDA, ARS, Dale Bumpers National Rice Research Ctr., 2890 Hwy 130 East, Stuttgart, Arkansas 72160, United States. Received 08/24/2006.

PI 643128. *Oryza sativa* L.

Genetic. Early Plant Death; GSOR 21. GS-3. Pedigree - Selected from a gamma-ray mutagenized indica (300 Gy) M2 population grown at Stuttgart in 2003. The mutagenized line was a sib to the previously released germplasm line indica-9 (PI 634583) derived from the cross ZHE733/IR64. The early plant death mutant was observed in 5 out of 12 plants in a single M2 row in 2003. In subsequent tests, plant death began soon after emergence and concluded ca. 80 days after planting. In a sample of 100 or more grains, brown rice length, width and weight, from the surviving plants were 6.5 mm, 2.3 mm, and 20 mg, compared to 6.8 mm, 2.4 mm, and 22 mg for the parent genotype. In 2005 seeds from heterozygous normal M4 plants were composited to provide a genetic stock which will segregate 3 normal:1 mutant. Specialized propagation procedures: To maintain the population that segregates 3 normal:1 mutant, grow a segregating population from the above seed source, and harvest the normal (living) plants. The progenies of these plants will again segregate 3 normal:1 mutant and seeds of the segregating progeny parent plants may be bulked to replenish the seed stock.

PI 643129. *Oryza sativa* L.

Genetic. Narrow Leaf; GSOR 22. GS-4. Pedigree - Selected from a gamma-ray mutagenized indica (300 Gy) M2 population grown at Stuttgart in 2003. The mutagenized line was a sib to the previously released

germplasm line indica-9 (PI 634583) derived from the cross ZHE733/IR64. The narrow leaf mutant (GSOR 22) was observed in 2 out of 9 plants in a single M2 row. In subsequent tests, flag leaf dimensions of the chives mutant were 14.88 cm long, and 0.56 cm wide, compared to 14.59 cm and 0.99 cm for the parent. In a sample of 100 or more grains, brown rice length, width and weight of the mutant plants were 6.2 mm, 2.3 mm, and 18 mg, compared to 6.8 mm, 2.4 mm, and 22 mg for the parent genotype. Seeds of chives plants were composited to form a genetic stock that is pure breeding for the narrow leaf mutant phenotype.

PI 643130. *Oryza sativa* L.

Genetic. Extreme Dwarf; GSOR 23. GS-5. Pedigree - Selected from a gamma-ray mutagenized indica (300 Gy) M2 population grown at Stuttgart in 2003. The mutagenized line was a sib to the previously released germplasm line indica-9 (PI 634583) derived from the cross ZHE733/IR64. The extreme dwarf mutant (GSOR 23) was observed in 5 out of 11 plants in a single M2 row in 2003. In subsequent tests, the extreme dwarf plants averaged 24 cm tall compared to 80 cm for the homozygous tall sibs. In a sample of 100 or more grains, brown rice length, width and kernel weight from the mutant plants were 6 mm, 2.1 mm, and 16 mg, compared to 6.8 mm, 2.4 mm, and 22 mg for the parent genotype. Seeds of extreme dwarf plants were composited to form a genetic stock that is pure breeding for the extreme dwarf mutant phenotype.

PI 643131. *Oryza sativa* L.

Genetic. Gold Leaf; GSOR 24. GS-6. Pedigree - Selected from a gamma-ray mutagenized indica (300 Gy) M2 population grown at Stuttgart in 2003. The mutagenized line was a sib to the previously released germplasm line indica-9 (PI 634583) derived from the cross ZHE733/IR64. The gold leaf mutant (GSOR 24) was observed in 2 out of 7 plants in a single M2 row in 2003. In subsequent tests, the gold, or bright yellow, leaf color appeared ca. 78 days after planting and remained in the leaf material through harvest. In a sample of 100 or more grains, brown rice length, width and kernel weight from the mutant plants were 6.7 mm, 2.4 mm, and 21 mg, compared to 6.8 mm, 2.4 mm, and 22 mg for the parent genotype. Seeds of the gold leaf plants were composited to form a genetic stock that is pure breeding for the gold leaf mutant phenotype.

The following were developed by Jorge A. Mosjidis, Auburn University, Department of Agronomy & Soils, 202 Funchess Hall, Auburn, Alabama 36849-5412, United States. Received 08/21/2006.

PI 643132. *Vicia sativa* L.

Cultivar. Pureline. "AU OLYMPIC". CV-10. Pedigree - Selected from a F7 bulk population derived from crosses between Cahaba White and plant introductions 286470, 289500, 289491, 277369 and 202524. Resistant to root-knot nematode (*Meloidogyne arenaria*) and soybean cyst nematode (*Heterodera glycines*). Testing at Brewton, Tallassee and Winfield, AL, in the seasons 1998-99 and 2001-02, showed that forage dry matter yield of AU Olympic was consistently higher than Cahaba White. In 1999, had an average forage dry matter yield 21% higher than Cahaba, and in 2002, was 12.8% higher. Seedlings have green epicotyls and the plants are semi-prostrated with single white flowers. Flowers on the average about the same time as Cahaba White. Seeds have 30-53% orange cotyledons whereas seeds of Cahaba White have 90-99% orange cotyledons. Seeds tend to be smaller than those of Cahaba White. The 1000 seed weight ranged

between 45.5 and 75.8 g whereas Cahaba White seed weight ranged between 52.1 and 82.5 g depending on the sample and location.

The following were developed by Robert Hunger, Oklahoma State University, Dept. of Plant Pathology, 110 NRC, Stillwater, Oklahoma 74078-9947, United States; Brett F. Carver, Oklahoma State University, Dept. of Plant & Soil Sciences, 368 Agriculture Hall North, Stillwater, Oklahoma 74078, United States; David R. Porter, USDA, ARS, 1301 N. Western Road, Stillwater, Oklahoma 74075-2714, United States; Oklahoma Agricultural Experiment Station, Stillwater, Oklahoma, United States; B.W. Seabourn, USDA, ARS, Grain Marketing and Production Research Center, Hard Winter Wheat Quality Lab., Manhattan, Kansas 66506, United States; A.R. Klatt, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; B.C. Martin, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; P. Rayas-Duarte, Oklahoma State University, Dept. of Biochemistry and Molecular Biology, Stillwater, Oklahoma 74078, United States; Guihua Bai, USDA-ARS, 4008 Throckmorton Hall, Kansas State University, Manhattan, Kansas 66506, United States; J.T. Edwards, Oklahoma State University, Dept. of Plant and Soil Sciences, Stillwater, Oklahoma 74078, United States; Liuling Yan, Oklahoma State University, Plant and Soil Sciences, 368 Ag Hall, Stillwater, Oklahoma 74078, United States; F.E. Dowell, USDA-ARS, Grain marketing and Production Res. Ctr., 1515 College Avenue, Manhattan, Kansas 66502, United States. Received 08/24/2006.

PI 643133. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "GUYMON". PVP 200600257; CV-1018. Pedigree - Intrada/W189-163W. Released 2005. Guymon most closely resembles the HW wheat cultivar, Intrada (PI 631402), one of its two parents, on the basis of kernel size (relatively small), juvenile plant growth habit (semi-erect) and winter dormancy release pattern (relatively early), test weight (high), and resistance to wheat soilborne mosaic virus and susceptibility to current races of stripe rust (caused by *Puccinia striiformis* Westend). Plant stature is moderately tall, averaging 80 cm in Oklahoma, or 2 cm taller than Intrada. Unlike Intrada, Guymon has good straw strength under conditions of significant or severe lodging. Guymon has higher (19%) grain yield capacity than Intrada when measured in high-yielding environments free of stripe rust. Based on field observations in Oklahoma, Guymon is resistant to Wheat soilborne mosaic and Wheat spindle streak mosaic virus. Based on field observations of adult plants across Oklahoma through 2006, it shows a resistant reaction to leaf rust, caused by *Puccinia triticina* Eriks. Based on greenhouse observations, Guymon is susceptible to tan spot (*Pyrenophora tritici-repentis*) and to powdery mildew (*Blumeria graminis* f. sp. *tritici*), and it shows an intermediate reaction to septoria leaf blotch (*Septoria tritici*). It is susceptible to biotypes C and E of the greenbug (*Schizaphis graminum* Rondani) and to the Great Plains biotype of Hessian fly (*Mayetiola destructor*). Flag leaves of Guymon at the boot stage are green, recurved, twisted, and non-waxy. Spikes are white-chaffed, awned, oblong, lax, and recurved at harvest-maturity. Kernels are white, hard-textured, elliptical, and they have a midwide, shallow crease, angular cheeks, and large germ. Milling quality is good, dough mixing tolerance is average, and bake loaf volume is excellent.

The following were developed by Cascade International Seed Co., Oregon, United States. Received 08/24/2006.

PI 643134 PVPO. Festuca rubra subsp. commutata Gaudin
Cultivar. "ZODIAC". PVP 200600258.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 08/24/2006.

PI 643135 PVPO. Lactuca sativa L.
Cultivar. "ANTAGO". PVP 200600260.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 08/24/2006.

PI 643136 PVPO. Agrostis stolonifera var. palustris (Huds.) Farw.
Cultivar. "007". PVP 200600263.

The following were developed by Seed Research of Oregon, Inc., Corvallis, Oregon, United States; Rutgers, The State University of New Jersey, New Jersey, United States. Received 08/24/2006.

PI 643137 PVPO. Agrostis stolonifera var. palustris (Huds.) Farw.
Cultivar. "SR 1150". PVP 200600264.

The following were developed by Orsetti Seed Company, Inc., Hollister, California, United States. Received 08/24/2006.

PI 643138 PVPO. Lactuca sativa L.
Cultivar. "RIDGELINE". PVP 200600265.

The following were developed by Syngenta Seeds, Junction City, Kansas, United States. Received 08/24/2006.

PI 643139 PVPO. Triticum aestivum L. subsp. aestivum
Cultivar. "FORAGEMAX"; B980696. PVP 200600266. Pedigree -
L880421/Boranjka.

The following were developed by Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 08/24/2006.

PI 643140 PVPO. Festuca arundinacea Schreb.
Cultivar. "FURY". PVP 200600267.

The following were developed by Cascade International Seed Co., Oregon, United States. Received 08/24/2006.

PI 643141 PVPO. Bromus hybrid
Cultivar. "BIG FOOT". PVP 200600272. Bromus inermis x beibersteinii.

The following were developed by WestBred LLC, Bozeman, Montana, United States. Received 08/24/2006.

PI 643142 PVPO. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "WB-528". PVP 200600273. Pedigree - WestBred 470/Madsen.

The following were developed by Texas Agricultural Experiment Station, Texas, United States. Received 08/24/2006.

PI 643143 PVPO. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "TAM 112"; TX98V9628. PVP 200600274. Pedigree - U1254-7-9-2-1(TAM200/TA2460)/TXGH10440(TAM105*4/Amigo*4//Largo).

The following were developed by Richard L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Anne E. Dorrance, Ohio State University, OARDC - Department of Plant Pathology, 1680 Madison Avenue, Wooster, Ohio 44691-4096, United States; Rouf Mian, USDA-ARS, Corn and Soybean Research Unit, OARDC, 107-A Williams Hall, 1680 Madison Avenue, Wooster, Ohio 44691, United States. Donated by Rouf Mian, USDA-ARS, Corn and Soybean Research Unit, OARDC, 107-A Williams Hall, 1680 Madison Avenue, Wooster, Ohio 44691, United States. Received 03/04/2008.

PI 643146. *Glycine max* (L.) Merr.

Cultivar. Pureline. "Prohio". CV-497. Pedigree - Prohio: HC94-81PR X 'A2506', HC94-81PR: 'Charleston' x 'Sprite 87', Charleston: HC74-634RE x HC78-676; Sprite 87: 'Sprite' x 'Williams 82', A2560 is a high-yielding cultivar from Asgrow Seed Company. Released 12/21/2006. 'Prohio' soybean (*Glycine max* (L.) Merr.) was developed jointly by the USDA-Agricultural Research Service and The Ohio Agricultural Research and Development Center (OARDC) in Wooster, OH and was released as a high-protein high-yielding maturity group IV (relative maturity 4.1) non Roundup Ready cultivar in December 2006. Prohio is a selection from a cross between HC94-81PR x 'A2506'. The protein contents of Prohio ranged between 430 to 460 g/kg and its oil contents were between 200 to 210 g/kg. Prohio averaged 102 cm in plant height and had lodging score of 2.5. Prohio has purple flowers, tawny pubescence, tan pods, dull yellow seeds with black hilum, and indeterminate growth habit. Prohio is a high-protein soybean cultivar with high-yield potential, particularly under high-yielding environments in Ohio.

The following were developed by Perry B. Cregan, USDA, ARS, Soybean Genomics & Improvement Laboratory, Building 006, Room 100, BARC-West, Beltsville, Maryland 20705-2350, United States; Kim Lewers, USDA, ARS, Bldg. 010A, Rm. 210 Fruit Lab, BARC-West, 10300 Baltimore Ave., Beltsville, Maryland 20705-2350, United States; Qijian Song, USDA-ARS, BARC-W, SGIL, Building 006, Room 100, Beltsville, Maryland 20705, United States; Benjamin Matthews, USDA-SGIL, Building 006, Room 118, BARC-West, 10300 Baltimore Avenue, Beltsville, Maryland 20705, United States; M.H. MacDonald, USDA-ARS, Plant Sciences institute, soybean Genomics and improvement Lab., Beltsville, Maryland 20705, United States. Received 09/12/2006.

PI 643148. *Glycine max* (L.) Merr.

Cultivar. Pureline. "MINIMAX". REST 643148; CV-489; PVP 200700279.

Pedigree - MiniMax is an F9-derived line from the cross (AC Colombe x PI 548240 T263) x PI548650 Nattosan. AC Colombe and Nattosan are Maturity Group 00, small seeded, while T263 is a donor of df5df5. T263 was derived from Harosoy 63 x PI 257435 (Bernard 1982). The cross from which MiniMax originated was made in the summer of 1998 at Beltsville, MD. MiniMax was advanced by pedigree inbreeding (F7:9), then by single seed decent with selection for early maturity, small stature, and small seed size to the F9 generation in the field and greenhouse at Beltsville, MD. MiniMax matures in 73 to 85 days in the field at Beltsville, MD (approx. 39° North latitude) with an average plant height of 22 cm. It is an indeterminate cultivar with small seed averaging about 5.1 g per 100 seeds and 14 seeds per plant. MiniMax has purple flowers and brown pods and produces seeds with a yellow seed coat and hilum. It is tolerant to powdery mildew (*Microsphaera diffusa*), and is susceptible to soybean cyst nematode (*Heterodera glycines*) races 3 and 14. It is susceptible to Asian soybean rust (*Phakopsora pachyrhizi*). Seed was harvested from a single F7:9 plant, bulked and increased. MiniMax as well as the AC Colombe, T263 and Nattosan parents were characterized with a core set of 13 simple sequence repeat (SSR) loci, i.e. Satt009, Satt038, Satt114, Satt147, Satt177, Satt191, Satt242, Satt243, Satt294, Satt308, Satt373, Satt414, and Satt534 (Table 1). These SSR loci were from different linkage groups and provide unique allelic fingerprints of even closely related soybean cultivars. Allele sizes were determined on the Applied Biosystems 3730 DNA Analyzer. The allele size of each locus from Minimax was compared with those from 402 genotypes. A 220 bp allele at the Satt009 locus is unique to Minimax and is apparently the result of a mutation.

The following were developed by Jerome D. Franckowiak, North Dakota State University, Department of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States; Richard D. Horsley, North Dakota State University, Department of Plant Sciences, 166 Loftsgard Hall, Fargo, North Dakota 58105-5051, United States; P.B. Schwarz, North Dakota State University, Dept. of Cereal Science, Fargo, North Dakota 58105-5051, United States; Stephen Neate, North Dakota State University, Department of Plant Pathology, 353 Walster Hall, Fargo, North Dakota 58105, United States. Received 08/22/2006.

PI 643149. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "RAWSON"; ND19119-2; NSGC 17763. CV-333; PVP 200800160. Pedigree - ND15403-3/ND15368//ND16453. Released 2005. Two-row spring barley.

The following were developed by Jerome D. Franckowiak, North Dakota State University, Department of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States. Received 08/22/2006.

PI 643150. *Hordeum vulgare* L. subsp. *vulgare*

Genetic. Pureline. I98-351-2-2; LR 1; NSGC 17764. Pedigree - Bowman*6/Sudan. Bowman backcross-derived line carrying leaf rust resistance gene Rph1.a.

PI 643151. *Hordeum vulgare* L. subsp. *vulgare*

Genetic. Pureline. I95-266-1; LR 2; NSGC 17765. Pedigree - Bowman*3/Peruvian. Bowman backcross-derived line carrying leaf rust resistance gene Rph2.b.

- PI 643152. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-372-3-1; LR 3; NSGC 17766. Pedigree -
Bowman*11//CI3410/3.2 uz als. Bowman backcross-derived line carrying
leaf rust resistance gene Rph3.c.
- PI 643153. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-352-8-1; LR 4; NSGC 17767. Pedigree -
Gull/6*Bowman. Bowman backcross-derived line carrying leaf rust
resistance gene Rph4.d.
- PI 643154. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-375-9-1; LR 5; NSGC 17768. Pedigree -
Magnif/8*Bowman. Bowman backcross-derived line carrying leaf rust
resistance gene Rph5.e.
- PI 643155. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-377-2-1; LR 6; NSGC 17769. Pedigree -
Bowman*8/Bolivia. Bowman backcross-derived line carrying leaf rust
resistance gene Rph5.f.
- PI 643156. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I93-21-1; LR 7; NSGC 17770. Pedigree -
Bowman*8/3/7771//Cebada Capa/MT81995. Bowman backcross-derived line
carrying leaf rust resistance gene Rph7.g.
- PI 643157. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-380-2-2; LR 8; NSGC 17771. Pedigree -
Bowman*8/Egypt 4.
- PI 643158. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-381-5-2; LR 9; NSGC 17772. Pedigree -
Bowman*8/HOR2596. Bowman backcross-derived line carrying leaf rust
resistance gene Rph9.l.
- PI 643159. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-354-1-1; LR 10; NSGC 17773. Pedigree - Clipper
BC8/6*Bowman. Bowman backcross-derived line carrying leaf rust
resistance gene Rph10.o.
- PI 643160. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-355-6-1; LR 11; NSGC 17774. Pedigree -
Bowman*6/Clipper BC67 vigor. Bowman backcross-derived line carrying leaf
rust resistance gene Rph11.p.
- PI 643161. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-382-7-1; LR 12; NSGC 17775. Pedigree -
Bowman*8/Triumph.
- PI 643162. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-383-4-1; LR 13; NSGC 17776. Pedigree -
Bowman*7/PI531849 vigor. Bowman backcross-derived line carrying leaf
rust resistance gene Rph13.x.
- PI 643163. *Hordeum vulgare* L. subsp. *vulgare***
Genetic. Pureline. I98-384-2-1; LR 14; NSGC 17777. Pedigree -

Bowman*5/PI584760. Bowman backcross-derived line carrying leaf rust resistance gene Rph14.ab.

PI 643164. *Hordeum vulgare* L. subsp. vulgare

Genetic. Pureline. I98-385-1-1; LR 15; NSGC 17778. Pedigree - PI355447/8*Bowman. Bowman backcross-derived line carrying leaf rust resistance gene Rph15.ad.

PI 643165. *Hordeum vulgare* L. subsp. vulgare

Genetic. Pureline. I98-356-12-2; LR 16; NSGC 17779. Pedigree - Batna/6*Bowman. Bowman backcross-derived line carrying leaf rust resistance gene Rph2.j.

PI 643166. *Hordeum vulgare* L. subsp. vulgare

Genetic. Pureline. I99-255-1; LR 17; NSGC 17780. Pedigree - PI531841A/6*Bowman. Bowman backcross-derived line carrying leaf rust resistance gene Rph2.y.

PI 643167. *Hordeum vulgare* L. subsp. vulgare

Genetic. Pureline. I97-581-4-9; LR 18; NSGC 17781. Pedigree - Bowman*8/Reka 1. Bowman backcross-derived line carrying leaf rust resistance gene Rph2.t.

The following were developed by Kenneth A. Albrecht, University of Wisconsin, Department of Agronomy, 242 Moore Hall-Agronomy, Madison, Wisconsin 53706, United States; Heathcliffe Riday, USDA, ARS, US Dairy Forage Research Center, 1925 Linden Drive West, Madison, Wisconsin 53706, United States. Donated by Heathcliffe Riday, USDA, ARS, US Dairy Forage Research Center, 1925 Linden Drive West, Madison, Wisconsin 53706, United States. Received 09/28/2006.

PI 643168. *Trifolium ambiguum* M. Bieb.

Breeding. KURAL. Pedigree - This material represents the cycle 1 population based on 69 parental plants from the following sources: ARS2678 (6); Cossack (2); Endura (3); KZ4 (4); MS Persist (1); MS670 (1); NSL86671 (1); ORSyn2 (2); PI258788 (1); PI405122 (1); PI405123 (1); PI427121 (3); PI427122 (3); PI440672 (1); PI440676 (1); PI440678 (1); PI440679 (1); PI440682 (1); PI440683 (1); PI440685 (1); PI440686 (1); PI440689 (1); PI440693 (1); PI440695 (2); PI440697 (1); PI440700 (3); PI440712 (1); PI604700 (1); PI604720 (2); PI604743 (1); PI604756 (3); PI604757 (1); PI631896 (1); PI 631899 (1); unknown (7); and WISC1 (5). USDA, ARS ARIS Release. An autohexaploid (2n=6x=48) rhizomatous *Trifolium ambiguum* with white flowers and a delta shaped leafmark. Genetically broad based selection for increased plant vigor and ability to spread rhizomatously in a Southern Wisconsin environment.

The following were donated by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States. Received 11/09/2000.

PI 643169. *Lesquerella argyraea* (A. Gray) S. Watson

Uncertain. 863; PARL 166.

The following were collected by Jon Rebman, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway, Phoenix, Arizona 85040, United States. Received 11/09/2002.

PI 643170. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 1826; PARL 167. Collected 1999 in Arizona, United States. Just south of the junction of route 82 and the Elgin road, east of Sonoita.

The following were collected by Jon Rebman, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway, Phoenix, Arizona 85040, United States. Donated by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States. Received 09/1998.

PI 643171. *Lesquerella fendleri* (A. Gray) S. Watson
Wild. 1852; PARL 170; W6 20861. Collected 05/26/1993 in Arizona, United States. Latitude 31° 39' N. Longitude 110° 1' W. Elevation 1449
3.3 miles S of Tombstone on US 80, ca. 0.5 miles S of Walnut Gulch
USDA exper. watershed.

The following were collected by Charlotte Christy, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway Road, Phoenix, Arizona 85040, United States. Donated by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States. Received 09/1998.

PI 643172. *Lesquerella lasiocarpa* (Hook. ex A. Gray) S. Watson
Wild. 2217; PARL 172; W6 20841. Collected 1994 in Texas, United States. Latitude 28° 38' N. Longitude 99° 23' W. Elevation 198 m. W of Dilley; Rte. 85, 1.2 miles E of Dimmit County.

PI 643173. *Lesquerella lasiocarpa* (Hook. ex A. Gray) S. Watson
Wild. 2228; PARL 174; W6 20840. Collected 1994 in Texas, United States. Latitude 27° 35' N. Longitude 98° 34' W. Elevation 137 m. FM 2295, 5.5 miles E of jct. Rte. 16/FM 2295, 9.1 miles W on jct. FM 2295/Rte. 359 at Benavides.

The following were collected by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States; Jon Rebman, USDA, ARS, U.S. Water Conservation Laboratory, 4331 East Broadway, Phoenix, Arizona 85040, United States. Donated by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States. Received 09/1998.

PI 643174. *Lesquerella lindheimeri* (A. Gray) S. Watson
Wild. 2232; PARL 175; W6 20842. Collected 1994 in Texas, United States. Latitude 27° 40' N. Longitude 97° 40' W. Elevation 107 m. FM 892; 0.1 miles N of jct. 892/665 & 4.4 miles S of jct. FM 892/2826; SW of Corpus Christi.

The following were donated by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States. Received 11/09/2000.

PI 643175. *Lesquerella mexicana* Rollins

Wild. 3344; PARL 177. Collected 1999 in Coahuila, Mexico.

The following were collected by David A. Dierig, USDA, ARS, U.S. Water Conservation Laboratory, 4331 E. Broadway Rd., Phoenix, Arizona 85040, United States; Andrew Salywon, U.S. Water Conservation Laboratory, 4331 E. Broadway, Phoenix, Arizona 85040, United States. Received 11/09/2000.

PI 643176. *Lesquerella fendleri* (A. Gray) S. Watson

Wild. 4002; PARL 179. Collected 1999 in Coahuila, Mexico. Latitude 28° 7' 54" N. Longitude 101° 7' 22" W. Elevation 1301 m. 7km south km post 150 Hwy 57 south of Gordornices. Vegetation: Acacia, Prosopis, Yucca, Leucophyllum and grasses. Limestone soils.

PI 643177. *Lesquerella fendleri* (A. Gray) S. Watson

Wild. 4005; PARL 181. Collected 1999 in Coahuila, Mexico. Latitude 28° 44' 19" N. Longitude 100° 54' 45" W. Elevation 1100 m. 42.6km Northwest Allenda, Hwy 29 by Rancho A La Fragua. Vegetation: Acacia, Proposis, Leucophyllum, Yucca. Limestone soils.

PI 643178. *Lesquerella argyraea* (A. Gray) S. Watson

Wild. 4014; PARL 184. Collected 1999 in Coahuila, Mexico. White distrurbed roadside and West of Hwy just south of junction to Chuatomac & Junction 4.5 miles South Hwy 54 on hwy 57 libre at 233km marker post. Larrea, Clindropuntia imbricata, Prosopis vegetation.

PI 643179. *Lesquerella fendleri* (A. Gray) S. Watson

Wild. 4016; PARL 185. Collected 1999 in Zacatecas, Mexico. Latitude 24° 22' 39" N. Longitude 101° 23' 19" W. Elevation 1840 m. Hwy 54 28.6km South of Concepcion del Oro Westside of Hwy. small rocky drainage, on thin soil on limestone rock just North of km 212. Larrea, Yucca, Prosopis, Acacia, Agave, Cyllindropuntia, Platyopuntia vegetation assoc.

PI 643180. *Lesquerella schaffneri* (S. Watson) S. Watson

Wild. 4030; PARL 187. Collected 1999 in Durango, Mexico. Latitude 22° 37' 6" N. Longitude 100° 29' 17" W. Elevation 1756 m. 4km East on road to Guadalcyar East of Charco Blnco off Hwy 57 North of San Luis Potesi.

The following were collected by Michael Plotkin, University of California, Davis, Plant Biology, 5346 Storer Hall, Davis, California 96161, United States; Maria M. Jenderek, USDA, ARS, National Arid Land Plant Genetic, Resources Unit, Parlier, California 93648, United States; Jerry Serimian, USDA, ARS, National Arid Land Plant Genetic, Resources Unit, Parlier, California 93648, United States. Received 05/03/2004.

PI 643181. *Limnanthes* sp.

Wild. PARL 423. Collected 04/16/2004 in California, United States. Latitude 39° 22' 24" N. Longitude 121° 19' 1" E. East of Chico, CA, North Hwy 70, South Cherokee Raod. Gated cow pasture. brown seed.

PI 643182. *Limnanthes douglasii* subsp. *nivea* (C. T. Mason) C. T. Mason

Wild. PARL 424. Collected 04/16/2004 in California, United States.

Latitude 39° 21' 12" N. Longitude 121° 19' 38" E. East of Chico,
CA, North Hwy 70, South Cherokee Raod. Open cow pasture. brown seed.

The following were collected by Maria M. Jenderek, USDA, ARS, National Arid Land Plant Genetic, Resources Unit, Parlier, California 93648, United States; Jerry Serimian, USDA, ARS, National Arid Land Plant Genetic, Resources Unit, Parlier, California 93648, United States; Gary L. Smith, USDA, ARS, National Arid Land Plant Genetic, Resources Unit, Parlier, California 93648, United States. Received 05/03/2004.

PI 643183. *Limnanthes douglasii* subsp. *rosea* (Hartw. ex Benth.) C. T. Mason Wild. PARL 425. Collected 05/03/2004 in California, United States. Latitude 39° 28' 19" N. Longitude 121° 30' 46" E. Elevation 73 m. Airport, Chico, CA. light brown, light tan seeds.

PI 643184. *Limnanthes douglasii* subsp. *rosea* (Hartw. ex Benth.) C. T. Mason Wild. PARL 426. Collected 05/03/2004 in California, United States. Latitude 39° 28' 14" N. Longitude 121° 30' 44" E. Elevation 61 m. Airport, Chico, CA. light brown, light tan seeds.

PI 643185. *Limnanthes douglasii* subsp. *rosea* (Hartw. ex Benth.) C. T. Mason Wild. PARL 427. Collected 05/03/2004 in California, United States. Latitude 39° 28' 35" N. Longitude 121° 30' 40" E. Elevation 51 m. Airport, Chico, CA. light brown, light tan seeds.

PI 643186. *Limnanthes douglasii* subsp. *rosea* (Hartw. ex Benth.) C. T. Mason Wild. PARL 428. Collected 05/03/2004 in California, United States. Latitude 39° 28' 9" N. Longitude 121° 30' 38" E. Elevation 52 m. Airport, Chico, CA. light brown, light tan seeds.

PI 643187. *Limnanthes alba* Hartw. ex Benth. subsp. *alba* Wild. PARL 429. Collected 05/03/2004 in California, United States. Latitude 38° 32' 49" N. Longitude 121° 11' 26" E. Elevation 34 m. Hwy 65, about 3 miles north of Lincoln, CA. Housing development. dark brown seeds.

PI 643188. *Limnanthes alba* Hartw. ex Benth. subsp. *alba* Wild. PARL 430. Collected 05/03/2004 in California, United States. Latitude 38° 34' 6" N. Longitude 121° 12' 48" E. Elevation 29 m. Hwy 65, about 5 miles north of Lincoln, CA. Drainage ditch. brown seeds

PI 643189. *Limnanthes alba* Hartw. ex Benth. subsp. *alba* Wild. PARL 431. Collected 05/03/2004 in California, United States. Latitude 38° 34' 41" N. Longitude 121° 13' 1" E. Elevation 23 m. Hwy 65, about 5.5 miles north of Lincoln, CA. Meadow swale. brown seeds

PI 643190. *Limnanthes alba* Hartw. ex Benth. subsp. *alba* Wild. PARL 432. Collected 05/03/2004 in California, United States. Latitude 38° 34' 48" N. Longitude 121° 13' 10" E. Elevation 18 m. Hwy 65, south of Sheridan, CA. Meadow swale. brown and light brown seeds.

PI 643191. *Limnanthes alba* Hartw. ex Benth. subsp. *alba* Wild. PARL 433. Collected 05/03/2004 in California, United States.

Latitude 38° 35' 28" N. Longitude 121° 13' 46" E. Elevation 18 m. Hwy 65, north of Sheridan, CA. Meadow swale, vernal pool. brown seeds.

- PI 643192. *Limnanthes alba* Hartw. ex Benth. subsp. *alba***
Wild. PARL 434. Collected 05/03/2004 in California, United States.
Latitude 39° 2' 5" N. Longitude 121° 18' 7" E. Elevation 6 m.
Hwy 65, north of Wheatland, CA. Vernal pool in a pasture. brown seeds.

Unknown source. Received 05/03/2004.

- PI 643193. *Limnanthes* sp.**
Uncertain. PARL 439.

The following were developed by David S. Marshall, Texas A&M University, Research & Extension Center, 17360 Coit Road, Dallas, Texas 75252-6599, United States. Donated by Russell L. Sutton, Texas A&M University, Texas A&M University Res. & Ext. Center, 17360 Coit Road, Dallas, Texas 75252, United States. Received 05/20/2003.

- PI 643194. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX98D724; BX86D006-7-23-7-42-4; NSGC 8876. Pedigree - TAMBAR402/Dundy//Perry/VA73-42-19.
- PI 643195. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX98D746; BX90D006-20-1-8; NSGC 8877. Pedigree - Wysor//TAMBAR 402/TX75D1966.
- PI 643196. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX99D590; 97ST3204-6; NSGC 8884. Pedigree - OK92910/OK87819.
- PI 643197. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D219; 97ST3229-5-11; NSGC 8913. Pedigree - 6B80-761/G144-8.
- PI 643198. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D233; SC880248-P11; NSGC 8925. Pedigree - VA72-42-45/SC793556/CI 2457.
- PI 643199. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D234; SC880248-P23; NSGC 8926. Pedigree - VA72-42-45/SC793556/CI 2457.
- PI 643200. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D237; SC880248-P43; NSGC 8929. Pedigree - VA72-42-45/SC793556/CI 2457.
- PI 643201. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D239; SC880248-P63; NSGC 8931. Pedigree - VA72-42-45/SC793556/CI 2457.
- PI 643202. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D303; SC860972-D1-110; NSGC 8978. Pedigree - VA72-42-45/SC793556/CI2457.

- PI 643203. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX02D311; 97ST2786-2; NSGC 8984. Pedigree - B2601/VA93-42-48.
- PI 643204. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX01D112; 97ST2626-P-36; NSGC 9010. Pedigree - OK95939/OK93806.
- PI 643205. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX01D131; 97ST2867-P-24 gms; NSGC 9029. Pedigree - Russell/Perkins//Plaisant.
- PI 643206. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX01D136; 97ST2902-P-16; NSGC 9034. Pedigree - ND11116/OK84817.
- PI 643207. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX01D221; 97STGH855-P-16; NSGC 9119. Pedigree - 87AB9478/WA1997-87//M75/NE86594.
- PI 643208. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. TX01D236; 97STGH867-P-49; NSGC 9134. Pedigree - B1614/92AB561.

The following were developed by Jerome D. Franckowiak, North Dakota State University, Department of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States. Received 03/20/2006.

- PI 643209. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. NDB134; NSGC 17782. Pedigree - Vantage/Jet//Vantmor/3/2*Parkland/4/Dickson.
- PI 643210. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. NDB135; NSGC 17783. Pedigree - Dickson/3/CIho 4738//Trail/UM 570-2.
- PI 643211. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. NDB136; NSGC 17784. Pedigree - Traill/ND B112//Dickson.
- PI 643212. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. NDB138; NSGC 17785. Pedigree - Dickson/3/CIho 4738//Trail/UM 570-2.
- PI 643213. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. A64; NSGC 17786. Pedigree - Foster/CIho 4196.

The following were developed by Jerome D. Franckowiak, North Dakota State University, Department of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105-5051, 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 03/20/2006.

PI 643214. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. CI4196-2; CIho4196-2; NSGC 17787. Pedigree - selection from CIho 4196.

The following were developed by Jerome D. Franckowiak, North Dakota State University, Department of Plant Sciences, P.O. Box 5051, Fargo, North Dakota 58105-5051, United States. Received 03/20/2006.

PI 643215. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. F103-61; NSGC 17788. Pedigree - Foster/Zhedar 2//ND9712.

PI 643216. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. FR819-77-1; NSGC 17789. Pedigree - Beacon/ND497.

PI 643217. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. FR926-77; NSGC 17790. Pedigree - 3853-69-4//ND1381/Beacon.

PI 643218. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. I89-294-2; NSGC 17791. Pedigree - Bowman*4//Multiple Recessive/7/Wolfe chrom 1*3/CIho 934/3/ND5835//ND4064/ND2199/5/MN1111/6/3*Bowman.

PI 643219. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND2679-4-2; NSGC 17792. Pedigree - Klages//Fergus/Nordic.

PI 643220. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND2685; NSGC 17793. Pedigree - Klages//Fergus/Nordic.

PI 643221. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND3962; NSGC 17794. Pedigree - Domen//Zephyr/Bonanza.

PI 643222. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND4064-1(-T); NSGC 17795. Pedigree - Coho//Kristina/Bonanza.

PI 643223. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND4064-3(+T); NSGC 17796. Pedigree - Coho//Kristina/Bonanza.

PI 643224. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND4642; NSGC 17797. Pedigree - Vanguard/3/H316/ND B137//Bonanza.

PI 643225. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND4698; NSGC 17798. Pedigree - Vanguard*2/3/H316/ND B137//Bonanza.

PI 643226. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND4758-1; NSGC 17799. Pedigree - Klages//4/Vanguard/3/H316/ND B137//Bonanza.

PI 643227. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND4856; NSGC 17800. Pedigree - Klages//H316/ND B130.

- PI 643228. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND4880; NSGC 17801. Pedigree - Klages/3/H316/ND B137//Bonanza.
- PI 643229. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND4954; NSGC 17802. Pedigree - Klages//Fergus/Nordic/3/Manker/4/Hector.
- PI 643230. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND4994-15; NSGC 17803. Pedigree - Klages//Fergus/Nordic/3/Bonanza//ND B138/C61-24-21-1/4/Hector.
- PI 643231. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND4998; NSGC 17804. Pedigree - Klages//Fergus/Nordic/3/Bonanza//ND B138/C61-24-21-1/4/Hector.
- PI 643232. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5021-3; NSGC 17805. Pedigree - H316/ND B130/3/Klages//Fergus/Nordic/4/Hector.
- PI 643233. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5096-2; NSGC 17806. Pedigree - Klages//Fergus/Nordic/6/Betzes//CIho 5791/2*Parkland/3/Betzes/Piroline/4/Akka/5/Centennial.
- PI 643234. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5692; NSGC 17807. Pedigree - Klages//Fergus/Nordic/3/702-10//Summit.
- PI 643235. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5698-2; NSGC 17808. Pedigree - Klages//Fergus/Nordic/3/702-10//Faifield.
- PI 643236. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5835; NSGC 17809. Pedigree - Pauline/Karl.
- PI 643237. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5883; NSGC 17810. Pedigree - Clipper/6/Betzes//CIho 5791/2*Parkland/3/Betzes/Piroline/4/Akka/5/Centennial.
- PI 643238. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND5976; NSGC 17811. Pedigree - Maris Concord/Klages/3/Klages//Fergus/Nordic.
- PI 643239. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7014; NSGC 17812. Pedigree - Domen//Zephyr/Bonanza/4/Klages//Fergus/Nordic/3/Manker/4/Hector.
- PI 643240. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7015; NSGC 17813. Pedigree - Domen//Zephyr/Bonanza/4/Klages//Fergus/Nordic/3/Manker/4/Hector.
- PI 643241. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7085; NSGC 17814. Pedigree - H316/ND B130/3/Klages//Fergus/Nordic/4/Hector/5/Multum/ND1351//Karl.

- PI 643242. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7159; NSGC 17815. Pedigree - Klages//Fergus/Nordic/3/ND156/4/Klages//Fergus/Nordic/3/Bonanza//ND B138/C61-24-21-1/4/Hector.
- PI 643243. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7534; NSGC 17816. Pedigree - Fairfield/3/Klages/ND1351//CM 72.
- PI 643244. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7556; NSGC 17817. Pedigree - Norbert/4/Klages//H316/ND B130/4/Manker/Karl/M18 (M18=Larker*7/Br. 5750-2//M1/Dicksn).
- PI 643245. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND7819; NSGC 17818. Pedigree - Klages/ND3103//ND2678-7/5/Karl/4/Vanguard*2/3/H316/ND B137//Bonanza.
- PI 643246. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND8742; NSGC 17819. Pedigree - ND586/Ciho 2376//ND4880/3/ND2674/ND2679-4.
- PI 643247. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND8763; NSGC 17820. Pedigree - Harrington/6/Klages//Fergus/Nordic/3/702-10//Summit/5/Robust.
- PI 643248. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND8830; NSGC 17821. Pedigree - Ellice/5/Klages/3/H316/ND B137//Bonanza/4/Multum/ND1351//Karl.
- PI 643249. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND8923; NSGC 17822. Pedigree - S74232/TR201//TR207/3/ND7015.
- PI 643250. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND9034; NSGC 17823. Pedigree - ND6069//Karl/ND4698/3/Bowman.
- PI 643251. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND9147; NSGC 17824. Pedigree - Maris Concord/Klages//ND2679-4/3/ND4853/ND4998.
- PI 643252. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND9163; NSGC 17825. Pedigree - ND5021/ND6034//Bowman sib.
- PI 643253. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND9870; NSGC 17826. Pedigree - ND3692/ND4954//Bowman sib.
- PI 643254. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10232; NSGC 17827. Pedigree - Stein/4/ND586/Ciho 2376//ND4880/3/ND2674/ND2679-4.

- PI 643255. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10235; NSGC 17828. Pedigree - Stein/4/ND586/CIho
2376//ND4880/3/ND2674/ND2679-4.
- PI 643256. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10242; NSGC 17829. Pedigree -
Bearpaw/3/Nklages/ND1351//ND6034/4/Bowman sib.
- PI 643257. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10270; NSGC 17830. Pedigree -
Harrington//ND5692/Robust/3/Bowman.
- PI 643258. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10277; NSGC 17831. Pedigree -
Ellice//ND4873/ND6034/3/Bowman.
- PI 643259. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10278; NSGC 17832. Pedigree -
Ellice//ND4873/ND6034/3/Bowman.
- PI 643260. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND10419; NSGC 17833. Pedigree -
Harrington//ND4758/M37/3/Bowman/4/Pauline/Karl.
- PI 643261. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND11231-01; NSGC 17834. Pedigree -
ND5021/ND6034//Bowman sib/3/Norbert//ND4856/M37.
- PI 643262. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND11231-06; NSGC 17835. Pedigree -
ND5021/ND6034//Bowman sib/3/Norbert//ND4856/M37.
- PI 643263. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND11853-3; NSGC 17836. Pedigree -
Norbert//ND4856/M37/3/ND7014/ND4994-15.
- PI 643264. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND11883; NSGC 17837. Pedigree -
Bowman//ND5835/ND5377/3/Camas (ND5377 = Glenn/Karl).
- PI 643265. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND11894; NSGC 17838. Pedigree -
Gitane//ND4642/Robust/3/Bearpaw/4/TR218/ND7015/3/Norbert//ND4856/M37.
- PI 643266. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND11993; NSGC 17839. Pedigree - ND7015//TR215/Bowman
sib/3/ND7085/Bowman sib.
- PI 643267. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND12567; NSGC 17840. Pedigree -
Norbert/ND5424/4/Ellice/3/Wa8953-75//ND2674/FR926-77/5/ND7085/Bowman sib
(ND5424 = Glenn/Karl) (Wa8953-75 = Klages/Zephyr).
- PI 643268. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND12671; NSGC 17841. Pedigree -
Bearpaw//ND7069/ND4994-15/4/ND586/CI2376//ND4880/3/3*Bowman.

- PI 643269. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13076; NSGC 17842. Pedigree - ND586/CIho
2376//ND4880/3/3*Bowman/4/Bowman*2/3/ND7771??Cebada Capa/MT81195.
- PI 643270. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13083; NSGC 17843. Pedigree -
ND7819/Bowman/3/ND3715/ND4064//ND7085.
- PI 643271. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13100; NSGC 17844. Pedigree - CIho 9214/3/Bowman
sib//Masurka/ND5698/4/ND8763/Bowman.
- PI 643272. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13111; NSGC 17845. Pedigree - ND7819/Bowman//AC
Oxbow.
- PI 643273. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13162-2; NSGC 17846. Pedigree -
ND7015//ND7534/Bowman/3/ND8763/Bowman.
- PI 643274. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13296; NSGC 17847. Pedigree -
Harrington//ND4758/M37/3/Bowman/4/ND5835/5/ND7819/Bowman/6/AC Oxbow.
- PI 643275. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13297; NSGC 17848. Pedigree -
Harrington//ND4758/M37/3/Bowman/4/ND5835/5/ND7819/Bowman/6/AC Oxbow.
- PI 643276. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13300-1; NSGC 17849. Pedigree - Bowman*2/Birgitta
mutant//TR479/ND8742.
- PI 643277. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND13890-1; NSGC 17850. Pedigree -
TR479/ND8742//Logan sib.
- PI 643278. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14016; NSGC 17851. Pedigree -
ND7085/ND4994-15//ND7556/3/TR479/ND8742//Logan sib.
- PI 643279. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14599; NSGC 17852. Pedigree -
(ND8830/Bowman)*2/Shyri.
- PI 643280. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14636; NSGC 17853. Pedigree - ND9882/Camas//Logan
sib.
- PI 643281. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14651; NSGC 17854. Pedigree -
ND8830/Bowman//Shyri/3/Logan sib/Shyri.
- PI 643282. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14695; NSGC 17855. Pedigree -
ND10242/4/ND586/CI2376//ND4880/3/3*Bowman/5/ND10071//ND8923/ND7556.

- PI 643283. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14701; NSGC 17856. Pedigree -
ND10242/4/ND586/CI2376//ND4880/3/3*Bowman/5/ND10071//ND8923/ND7556.
- PI 643284. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14715; NSGC 17857. Pedigree -
TR479/ND8742/4/ND586/CIho
2376//ND4880/3/4*Bowman/5/ND10071//ND8923/ND7556.
- PI 643285. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14753; NSGC 17858. Pedigree -
TR479/ND8742/4/ND586/CIho
2376//ND4880/3/4*Bowman/5/ND10071//ND8923/ND7556.
- PI 643286. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND14760; NSGC 17859. Pedigree - ND586/CIho2376//
ND4880/3/4*Bowman/4/CMB84A-1651/5/ND8830/Bowman (EldoS" =
PO/3/KI/3*BA//MC/4/80.5015/5/Gloria"S"/Come"S").
- PI 643287. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15062; NSGC 17860. Pedigree -
ND10232/5/ND586/CIho2376// ND4880/4/4*Bowman/6/Bowman/Majorana.
- PI 643288. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15079; NSGC 17861. Pedigree -
Bowman/Majorana//Logan sib (Majorana =
Mola"S"/4/Brea"S"/DL70//Mozdosky/3/Ari/Kristina//M66.85).
- PI 643289. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15147; NSGC 17862. Pedigree - Logan sib/TR231
(TR231 = AC Oxbow/Manley).
- PI 643290. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15238; NSGC 17863. Pedigree -
ND7085/ND4994-15//ND7556/3/ND13076/Shyri.
- PI 643291. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15368; NSGC 17864. Pedigree - ND9035/ND9856/3/CIho
9214/ND8671//ND10270.
- PI 643292. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15403; NSGC 17865. Pedigree - Logan
sib/3/ND10419//ND9034/AC Oxbow.
- PI 643293. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15409; NSGC 17866. Pedigree - ND7556/ND9870//TR231
(TR231 = AC Oxbow/Manley).
- PI 643294. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15443; NSGC 17867. Pedigree -
ND9999/ND8972//Azafran (Azafran =Shyri//Gloria/Copal/3/Shyri/Grit).
- PI 643295. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15451; NSGC 17868. Pedigree -
ND9035/ND9856/6/ND586/CIho2376// ND4880/3/4*Bowman/4/EldoS"/5/ND10278.

- PI 643296. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15462; NSGC 17869. Pedigree -
ND9035/ND9856/6/ND586/CIho2376// ND4880/3/4*Bowman/4/Eldo"S"/5/ND10279.
- PI 643297. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15468; NSGC 17870. Pedigree -
ND10071//ND7556/Bowman/3/ND10235/Logan sib.
- PI 643298. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15509; NSGC 17871. Pedigree - Logan
sib/6/Bowman*10/Mult. Dom./6/Logan sib/6/Mult. Dom./Bowman//BGS
1005/3/3*Bowman/4/ND11177/5/ND10341/3/Bowman*4//Estate/3.2 Multi.
Recess. Marker. Black lemma.
- PI 643299. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15537; NSGC 17872. Pedigree - ND10419//ND9034/AC
Oxbow/4/Higuerilla*2/Gobernadora/3/Bowman*2/DWS1008//ND1023.
- PI 643300. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND15562; NSGC 17873. Pedigree -
ND10235/ND11231/5/ND10242/4/ND586/CI2376//ND4880/3/3*Bowman/4/Azafran.
- PI 643301. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16050; NSGC 17874. Pedigree -
ND11224//ND10235/ND11231/3/Gobernadora.
- PI 643302. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16092-2; NSGC 17875. Pedigree - ND10419//ND9034/AC
Oxbow/3/ND12671/ND11894.
- PI 643303. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16453; NSGC 17876. Pedigree -
ND10122/ND10270/Logan sib//Majorana.
- PI 643304. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16461; NSGC 17877. Pedigree - ND10419//ND9034/AC
Oxbow/6/ND586/CIho2376// ND4880/3/4*Bowman/4/Eldo"S"/5/ND10278. Low
protein.
- PI 643305. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16462; NSGC 17878. Pedigree - ND10419//ND9034/AC
Oxbow/6/ND586/CIho2376// ND4880/3/4*Bowman/4/Eldo"S"/5/ND10279. Low
protein.
- PI 643306. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16523; NSGC 17879. Pedigree - CDC
Dolly//ND10122/ND10270.
- PI 643307. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16680; NSGC 17880. Pedigree -
ND10277*2/Shyri/8/Black
Bowman/6/ND7556/5/ND6869/Crystal/4/ND5835//ND4064/ND2199/3/BowmanND/6/Lo
gan sib/7/Zhedar 1 (Black Bowman = Multiple Dominant/Bowman//BGS
1005/3*Bowman).

- PI 643308. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND16723; NSGC 17881. Pedigree -
??/4/Stander/3/ND10419//ND9034/AC Oxbow.
- PI 643309. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND17266; NSGC 17882. Pedigree - Bowman/PC84//Logan
sib/3/Conlon.
- PI 643310. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND17274; NSGC 17883. Pedigree -
Conlon/3/ND11246//ND13076/Shyri.
- PI 643311. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND17291; NSGC 17884. Pedigree -
ND10277*2/Shyri//ND12567/Norte?a Carumba.
- PI 643312. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND17293-1; NSGC 17885. Pedigree -
ND10277/Shyri//ND11231/Shyri/3/ND13254//Bowman/PC84.
- PI 643313. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND17437; NSGC 17886. Pedigree -
ND13296//CMB85-533-H/ND13300/3/ND13254//Bowman/PC84 (CMB85-533
=Higuerilla*2/Gobernadora).
- PI 643314. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND17470; NSGC 17887. Pedigree -
ND13154//3/ND10277/Shyri//Logan sib/Shyri//7/ND11231-12/6/Multiple
Dominant/4*Bowman/4/ND11177/5/ND10341/Gle.
- PI 643315. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18076; NSGC 17888. Pedigree -
ND12567/Azafran/3/Bowman/PC84//ND11231-12.
- PI 643316. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18172-1; NSGC 17889. Pedigree -
ND11231-6/TR231/4/Foster/Zhedar 2//ND9712/3/ND11883/ND11231.
- PI 643317. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18187; NSGC 17890. Pedigree -
ND10232/3/Bowman*4//Estate/3.2 Multiple Marker/4/ND11853/5/ND11968/Logan
sib//Ruth/Laurel (ND11968 = Camus//3/Bowman//ND5835/ND5377)).
- PI 643318. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18204; NSGC 17891. Pedigree -
ND13154/ND13897/4/ND13296//CMB85-533-H/ND13300/3/ND13254//Bowman/Majoran
a.
- PI 643319. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18341; NSGC 17892. Pedigree -
ND11231-1/ND13297/3/Foster/Gobernadora//ND9712/4/Horny
Peseky//ND11883/ND11231.
- PI 643320. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18365-1; NSGC 17893. Pedigree -
Merit//ND11231-1/ND13297.

- PI 643321. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18370; NSGC 17894. Pedigree - Merit//ND11231-1/ND13297.
- PI 643322. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18380-1; NSGC 17895. Pedigree - ND13296/5/ND10232/4/ND586/CI2376//ND4880/3/4*Bowman/6/Stander/7/ND10235/Logan sib/8/ND10235/ND11231/3/Q21861/Chervon.
- PI 643323. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18413-1; NSGC 17896. Pedigree - Horny Peseky//ND11883/ND11231/4/ZAU 2/3/ND13254//Bowman/PC84.
- PI 643324. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND18998; NSGC 17897. Pedigree - ND12567/ND11853/5/ND13890/4/Bowman*4/Multiple Recessive/3/ND13076/6/ND15403.
- PI 643325. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19012; NSGC 17898. Pedigree - Logan/3/ND13296/ND14760//ND11853-1/TR231.
- PI 643326. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19040; NSGC 17899. Pedigree - ND13082/ND14760/3/ND13083/ND13100//ND13297/ND14701.
- PI 643327. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19053-1; NSGC 17900. Pedigree - ND14016/Gobernadora//ND13296/ND14760.
- PI 643328. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19088; NSGC 17901. Pedigree - ND14855-2/ND14636//ND13296/ND14760.
- PI 643329. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19098-1; NSGC 17902. Pedigree - ND14599//ND15509/Zhedar 1/3/CMB85-533-H//ND11231-1/ND13297. Puccinia stiffformis resistant.
- PI 643330. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19119-5; NSGC 17903. Pedigree - ND11231-1/ND13297//ND13083/ND13100/3/ND13162-2/ND11231-12//PC84. Puccinia hordei resistant, very large kernel, low protein.
- PI 643331. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19130; NSGC 17904. Pedigree - ND13154/ND13897//ND13083/ND13100/3/ND13296/ND14760.
- PI 643332. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19164; NSGC 17905. Pedigree - ND13296/ND14760/3/Smai/Super Precoz//2*Bowman.
- PI 643333. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19184; NSGC 17906. Pedigree - ND15225/Conlon//ND13296/ND14760 (ND15225 = Bowman*4/Multiple recessive//Bowman*4/Multiple Recessive/4/ND10232/3/Bowman*4//Estate/3.2 Multiple Marker). Hulless.

- PI 643334. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19852-1; NSGC 17907. Pedigree -
ND11231-1/ND13297//ND13296/ND14760.
- PI 643335. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19854-8; NSGC 17908. Pedigree -
ND11231-1/ND13297//ND13296/ND14760.
- PI 643336. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19855; NSGC 17909. Pedigree -
ND11231-1/ND13297//ND13296/ND14760.
- PI 643337. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19869-1; NSGC 17910. Pedigree -
ND13154/ND13897/3/ND15183//Stander/ND13897.
- PI 643338. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19872; NSGC 17911. Pedigree -
ND13162-2/ND11231-12//PC84/3/ND13154/ND13897/4/ND13297/ND14701.
- PI 643339. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19922; NSGC 17912. Pedigree -
ND11231-1/ND13297/3/PI 355447/5*Bowman//Norte?a Carumba. Puccinia hordei
ressistant (Rph15).
- PI 643340. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19929-5; NSGC 17913. Pedigree -
TR128//TR236/WM862-6/3/ND15537/ND15062.
- PI 643341. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19931; NSGC 17914. Pedigree -
TR128//TR236/WM862-6/3/ND15537/ND15062.
- PI 643342. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19957; NSGC 17915. Pedigree -
Conlon/ND15238//ND13296/ND14760/3/ND13154/ND13897.
- PI 643343. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND19974; NSGC 17916. Pedigree -
ND15537/ND15062//ND15562/Conlon.
- PI 643344. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20028-3; NSGC 17917. Pedigree - DH
6/2*Bowman//ND13296/ND14760.
- PI 643345. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20040; NSGC 17918. Pedigree -
ND11231-1/ND13297/4/ND13162-2/ND11231-12//PC84/3/A64.
- PI 643346. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20135-2; NSGC 17919. Pedigree - Norte?a
Dayman//ND15471/ND15509.
- PI 643347. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20790; NSGC 17920. Pedigree -
ND13297/ND14701//ND15080/Conlon.

- PI 643348. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20798-12; NSGC 17921. Pedigree -
ND13296/ND14760//ND15080/Conlon.
- PI 643349. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20801; NSGC 17922. Pedigree -
ND13296/ND14760/6/ND14599/4/Black Bowman/ND11177//ND11231/3/Zhedar
1/5/A64.
- PI 643350. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND20879; NSGC 17923. Pedigree -
ND15537/ND15062/6/ND14796/4/ND11853-3/3/Bowman*6//Estate/3.2 Multiple
Marker/5/ND15183//Stander/ND13897.
- PI 643351. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21089-2; NSGC 17924. Pedigree -
ND15147//F103-105/ND14636/3/ND15443/ND15079.
- PI 643352. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21099; NSGC 17925. Pedigree -
ND15147//F103-105/ND14636/4/TR706/3/PI 355447/5*Bowman//Norte?a Carumba.
- PI 643353. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21821; NSGC 17926. Pedigree -
ND11231-1/ND13297/6/ND14796/4/ND11853-3/3/Bowman*6//Estate/3.2 Multiple
Marker/5/ND15183//Stander/ND13897.
- PI 643354. *Hordeum vulgare* L. subsp. *vulgare***
Cultivar. Pureline. "PINNACLE"; ND21863-2; NSGC 17927. Pedigree -
ND15147//F103-105/ND14636/3/ND15468/ND16092//ND16461.
- PI 643355. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21865-6; NSGC 17928. Pedigree -
ND15147//F103-105/ND14636/3/ND15468/ND16092//ND16461.
- PI 643356. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21867; NSGC 17929. Pedigree -
ND15147//F103-105/ND14636/3/ND15468/ND16092//ND16461.
- PI 643357. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21957-2; NSGC 17930. Pedigree -
ND10232/ND11231//ND15562/F101-78/3/ND16518/ND16461.
- PI 643358. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND21972; NSGC 17931. Pedigree -
ND15291/3/ND14900//RUTH/LAUREL/6/ND14636/ND15295/5/ND11231-1/ND13297/4/N
D13162-2/ND11231-12//PC84/3/A64.
- PI 643359. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22025; NSGC 17932. Pedigree -
ND16518/ND16461/4/ND14599/ND15163/3/ND16880//CMB85-533-H/ND15403-3.
- PI 643360. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22162; NSGC 17933. Pedigree -
ND15403/F101-78//Horny Peseky/ND14636/3/Bichy 2000/4/ND16050/ND16461.

- PI 643361. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22170; NSGC 17934. Pedigree -
ND15403/F101-78//Horny Peseky/ND14636/3/Bichy
2000/4/ND16461/3/Smai/Super Precoz//2*Bowman.
- PI 643362. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22182; NSGC 17935. Pedigree - Horny
Peseky/ND14636//ZAU
2/ND15602/3/ND15468/ND16092//ND15403/ND15368/4/ND16461/3/Smai/Super
Precoz//2*Bowman.
- PI 643363. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22185; NSGC 17936. Pedigree -
ND14636/ND14763//ND15509/3/Mokkei 93-78/ND15462//ND16723/4/ND19088.
Black lemma.
- PI 643364. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22895; NSGC 17937. Pedigree -
ND15183/Stander/13897/4/13890/3/Q21861/Chervon/5/ND15403-4//ND16461/Symk
o.
- PI 643365. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22927; NSGC 17938. Pedigree - Rawson
sib/3/TR258/ND17437.
- PI 643366. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22928; NSGC 17939. Pedigree - Rawson
sib/3/TR258/ND17437.
- PI 643367. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22947; NSGC 17940. Pedigree - Rawson
sib/3/TR258/ND17437.
- PI 643368. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22996; NSGC 17941. Pedigree - ND15403-3/3/PI
355447/5*Bowman//ND13111/4/ND15147//F103-105/ND14636. Puccinia hordei
ressistant (Rph15).
- PI 643369. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND23117; NSGC 17942. Pedigree - Mokkei
93-08/3/ND15451//ND15368/ND16092/4/DH 6/2*Bowman//ND16461-2.
- PI 643370. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND23146; NSGC 17943. Pedigree -
ND15291/3/ND14900//Ruth/Laurel/4/Merit/ND15403/3/Rawson sib.
- PI 643371. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND23164; NSGC 17944. Pedigree -
Logan//ND16463/ND15409/3/TR258/ND17437.
- PI 643372. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND23203; NSGC 17945. Pedigree -
ND17274//ND16461/ND15468/5/ND15183/Stander/13897/4/13890/3/Q21861/Chervo
n.
- PI 643373. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND24179; NSGC 17946. Pedigree -

ND15403-3/ND15368//ND16453/6/ND15183/Stander/13897/4/13890/3/Q21861/Cher von/5/TR258/ND17437.

PI 643374. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24190; NSGC 17947. Pedigree - ND15403-3/ND16462//ND15468/ND16723.

PI 643375. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24205; NSGC 17948. Pedigree - ND15403-3/ND16462//ND16092-1/ND17266.

PI 643376. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24379; NSGC 17949. Pedigree - CIMMYT 13/ND16680//ND16092/4/DH 6/2*Bowman//ND16461-2 /3/Rawson sib.

PI 643377. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24393; NSGC 17950. Pedigree - Conlon/ND15238//Rawson sib/3/ND15403-3/ND16462.

PI 643378. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24408; NSGC 17951. Pedigree - ND14636/ND14763//ND15509/3/Mokkei 93-78/ND15462//ND16723/4/ND19088/ND19854.

PI 643379. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24434; NSGC 17952. Pedigree - Shenmai 3/Rawson sib/5/ND18172/4/TR706/3/PI355447/5*Bowman//ND13111.

PI 643380. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24455; NSGC 17953. Pedigree - ND16518/ND16461/4/ND14599/ND15163/3/ND16880//CMB85-533-H/ND15403-3/5/She nmai 3/Rawson sib.

PI 643381. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24518; NSGC 17954. Pedigree - ND16453//ND15468/ND16092/3/Rawson sib/PI 386392.

PI 643382. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24519; NSGC 17955. Pedigree - ND15403-3/3/PI 355447/5*Bowman//ND13111/4/ND15468/ND16092//ND16461. Puccinia hordei resistant (Rph15).

PI 643383. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. ND24564; NSGC 17956. Pedigree - ND15403-3/ND16462//Rawson sib/3/TR258/ND17437.

PI 643384. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. C2-02-134-2-2; NSGC 17957. Pedigree - ND15403-3/3/PI 355447/5*Bowman//ND13111/4/ND17437/ND17444//Rawson sib. Puccinia hordei resistant (Rph15 and another gene).

PI 643385. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. C2-00-279-44; NSGC 17958. Pedigree - Supi 1//ND13297/ND14701. Fusarium resistant.

- PI 643386. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. C2-00-303-18; NSGC 17959. Pedigree - ZAU
7//ND13297/ND14701. Fusarium resistant.
- PI 643387. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. C2-00-303-74; NSGC 17960. Pedigree - ZAU
7//ND13297/ND14701. Fusarium resistant.
- PI 643388. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22023-2; NSGC 17961. Pedigree -
ND16518/ND16461/4/ND14599/ND15163/3/ND16880//CMB85-533-H/ND15403-3.
Fusarium resistant.
- PI 643389. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22089-2; NSGC 17962. Pedigree -
ND15468/ND16092//ND16461/4/Imperial/ND15403//ND15468/3/SEIJO
11/ND15388//ND15368. Early heading.
- PI 643390. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND23025; NSGC 17963. Pedigree -
TR258/ND17437//Rawson sib. Fusarium resistant.
- PI 643391. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND22942; NSGC 17964. Pedigree - Rawson
sib/3/TR258/ND17437. Early heading, good malt quality, low protein.
- PI 643392. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. ND24319; NSGC 17965. Pedigree -
ND17437//ND16485/ND16723/3/Logan//TR258/ND17437. Fusarium resistant.
- PI 643393. *Hordeum vulgare* L. subsp. *vulgare***
Breeding. Pureline. SHN105; NSGC 17966. Pedigree - Gobernadora/Humai
10/3/ND15403-3/ND15368//ND16453. Fusarium resistant.

The following were developed by T. Scott Abney, USDA-ARS, Purdue University, Dept. of Botany and Plant Pathology, West Lafayette, Indiana 47907, United States; Allen LeRoy, Purdue University, Department of Agronomy, 915 West State Street, West Lafayette, Indiana 47907-2054, United States. Received 09/27/2006.

- PI 643394. *Glycine max* (L.) Merr.**
Cultivar. "CL0J173-6-2". REST 643394; CV-490. Pedigree - F6 plant selections from CL0J176-6, an F3 plant selection from the cross Kottman x Dwight. Indeterminate line classified as early Group III maturity (relative maturity 3.0) with white flowers, light tawny pubescence, tan pods at maturity, seeds with black hila and dull seed coat. Have good yield potential combined with above average seed protein and was developed for the non-GMO soybean market. Not developed by genetic engineering and are susceptible to glyphosate [N-(phosphonomethyl)glycine] herbicide. Comparisons show that CL0J173-6-2 is approximately 2 inches taller and has more seed protein than CL0J173-6-8 while CL0J173-6-8 is the higher yielding line. Hypocotyl inoculation with a series of isolates of *Phytophthora sojae* demonstrated that CL0J173-6-2 and CL0J173-6-8 both carry the Rps3 gene for race-specific resistance to *Phytophthora* root and stem rot. Across 6 environments of field tests in 2004, CL0J173-6 displayed moderate

resistance to sudden death syndrome (SDS) caused by *Fusarium solani* f.sp. *glycines* Roy (= *Fusarium virguliforme* O Donnell & T. Aoki).

PI 643395. *Glycine max* (L.) Merr.

Cultivar. "CL0J173-6-8". REST 643395; CV-491. Pedigree - F6 plant selections from CL0J173-6, an F3 plant selection from the cross Kottman x Dwight. Indeterminate line classified as early Group III maturity (relative maturity 3.0) with white flowers, light tawny pubescence, tan pods at maturity, seeds with black hila and dull seed coat. Have good yield potential combined with above average seed protein and was developed for the non-GMO soybean market. Not developed by genetic engineering and are susceptible to glyphosate [N-(phosphonomethyl)glycine] herbicide. Comparisons show that CL0J173-6-2 is approximately 2 inches taller and has more seed protein than CL0J173-6-8 while CL0J173-6-8 is the higher yielding line. Hypocotyl inoculation with a series of isolates of *Phytophthora sojae* demonstrated that CL0J173-6-2 and CL0J173-6-8 both carry the *Rps3* gene for race-specific resistance to *Phytophthora* root and stem rot. Across 6 environments of field tests in 2004, CL0J173-6 displayed moderate resistance to sudden death syndrome (SDS) caused by *Fusarium solani* f.sp. *glycines* Roy (= *Fusarium virguliforme* O Donnell & T. Aoki).

The following were developed by Don R. Viands, Cornell University, Department of Plant Breeding, 523 Bradfield Hall, Ithaca, New York 14853, United States; J.L. Hansen, Cornell University, Dept. of Plant Breeding and Biometry, Ithaca, New York 14853-1902, United States; Jamie L. Neally, Cornell University, Department of Plant Breeding Forage Project, 101 Love Laboratory, Ithaca, New York 14853, United States; E.M. Thomas, Cornell University, Dept. of Plant Breeding and Genetics, Ithaca, New York 14853, United States. Received 10/05/2006.

PI 643396. *Medicago sativa* L.

Cultivar. Population. "ReGen". CV-204. Pedigree - ReGen is the result of a three-way population cross. The initial cross was between two plant populations: Seedway 9558 and germplasm related to Iroquois, Saranac AR, Oneida VR, and Vertus, followed by phenotypic recurrent selection for multiple disease resistance and selection in the field for plant vigor, agronomic traits, and higher forage quality. Progenies of this population cross were crossed with a population derived from Magnum III after selection for resistance to multiple diseases. ReGen is a dormant variety with fall dormancy similar to the FD3 check. Its flower color is 93% purple and 7% variegated, and pod shape is 96% tightly coiled and 4% loosely coiled. ReGen has high resistance to *Fusarium* wilt [caused by *Fusarium oxysporum* Schlecht. f. sp. *medicaginis* (Weimer) Snyder & Hans.), *Verticillium* wilt (caused by *Verticillium albo-atrum* Reinke & Berth.), and anthracnose (Race 1) (caused by *Colletotrichum trifolii* Bain & Essary); resistance to bacterial wilt [caused by *Clavibacter michiganensis* subsp. *insidiosum* (McCull.) Davis et al.] and *Phytophthora* root rot (caused by *Phytophthora megasperma* Drechs. f. sp. *medicaginis* Kuan & Erwin); and low resistance to *Aphanomyces* root rot (Race 1).

The following were developed by Steven D. Linscombe, Louisiana State University, LSU Rice Experiment Station, 1373 Caffey Road, Rayne, Louisiana 70578, United States; Xueyan Sha, Louisiana State University, Louisiana Agric. Exp. Station, Rice Research Station, Rayne, Louisiana 70578, United

States; D.E. Groth, Louisiana State University AgCenter, Rice Research Station, 1373 Caffey Road, Rayne, Louisiana 70578, United States. Received 10/11/2006.

PI 643397. *Oryza sativa* L.

Breeding. Pureline. LM-1. GP-106. Pedigree - Developed from 60Co irradiation of the US cultivar 'Lemont' (PI 475833). LM-1 is a short stature mutant that averaged 0.86 m in height compared to 0.90 m for Lemont and 0.92 m for Cocodrie (PI 606331). The line is similar to Lemont in plant type having light green broad leaves but heads approximately 3-4 days later. LM-1 had an average sheath blight rating of 4.6 on a 0-9 rating scale, where 0 indicates immunity and 9 indicates very susceptible, after inoculation with the sheath blight fungus, indicating moderate resistance to sheath blight as compared to 8.0 and 7.8 ratings for the very susceptible cultivars Lemont and Cocodrie respectively. When inoculated with bacterial panicle blight the line rated 1.6 (very resistant), on a 0-9 rating scale, where again 0 indicates immunity and 9 indicates very susceptible, as compared to 4.2 and 7.0 for the moderately susceptible and susceptible varieties Lemont and Cocodrie respectively. The line also express immunity to narrow brown leaf spot rating 0.0 on a 0-9 scale compared to 2.3 for Lemont and 3.3 for Cocodrie under light natural disease pressure.

PI 643398. *Oryza sativa* L.

Breeding. Pureline. LMT-1. GP-107. Pedigree - Developed from 60Co irradiation of the US cultivar 'Lemont' (PI 475833). LMT-1 is a slightly taller stature mutant that averaged 0.88 m in height compared to 0.90 m for Lemont and 0.92 m for Cocodrie (PI 606331). The line is similar to Lemont in plant type having light green broad leaves but heads approximately 3-4 days later. LM-1 had an average sheath blight rating of 4.6 on a 0-9 rating scale, where 0 indicates immunity and 9 indicates very susceptible, after inoculation with the sheath blight fungus, indicating moderate resistance to sheath blight as compared to 8.0 and 7.8 ratings for the very susceptible cultivars Lemont and Cocodrie respectively. When inoculated with bacterial panicle blight the line rated 1.6 (very resistant), on a 0-9 rating scale, where again 0 indicates immunity and 9 indicates very susceptible, as compared to 4.2 and 7.0 for the moderately susceptible and susceptible varieties Lemont and Cocodrie respectively. The line also express immunity to narrow brown leaf spot rating 0.0 on a 0-9 scale compared to 2.3 for Lemont and 3.3 for Cocodrie under light natural disease pressure.

The following were developed by G.F. Marais, University of Stellenbosch, Department of Genetics, Private Bag X1, Matieland, Cape Province 7602, South Africa; Cheryl Baker, USDA-ARS, 1301 N. Western Street, Stillwater, Oklahoma 74075, United States; Brett F. Carver, Oklahoma State University, Dept. of Plant & Soil Sciences, 368 Agriculture Hall North, Stillwater, Oklahoma 74078, United States; David R. Porter, USDA, ARS, 1301 N. Western Road, Stillwater, Oklahoma 74075-2714, United States. Received 09/27/2006.

PI 643399. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. STARS 0601W; 02 Altus 034; OK03825. GP-836. Pedigree - Custer *3/94M81. Hard red winter wheat with resistance to biotypes 1 and 2 of the Russian wheat aphid (RWA), *Diuraphis noxia*. Seedling reaction to RWA feeding was characterized as resistant (score of 2) a scale of 1 to 9 (where 1 = no damage, to 9= dead plant) in greenhouse

tests. The source of RWA resistance (94M81) in this germplasm is derived from the line 93M45-14, reported to carry a 1BL.1RS wheat-rye translocation developed through an intergeneric transfer from 'Turkey 77' rye (*Secale cereale*) to Veery common wheat. RWA resistance is conferred by the Dn7 resistance gene carried on the 1BL.1RS translocation. Has agronomic and end-use characteristics similar to 'Custer' hard red winter wheat.

The following were developed by Luther Talbert, Montana State University, Department of Plant Sciences, Bozeman, Montana 59717, United States; Dale R. Clark, WestBred, LLC, 8111 Timberline Drive, Bozeman, Montana 59718-8184, United States; Susan P. Lanning, Montana State University, Plant Sciences & Plant Pathology Department, Leon Johnson Hall, 324A, Bozeman, Montana 59717, United States; Jamie Sherman, Montana State University, Plant Sciences Department, Leon Johnson Hall, Bozeman, Montana 59717, United States.
Received 09/29/2006.

PI 643400. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 21-3. GP-816. Pedigree - McNeal (PI 574642) *7/Choteau (PI 633397). Sister line to MAS 21-10 and contains the pinB-D1b mutation for hard kernel texture. Similar in appearance to McNeal, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643401. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 21-10. GP-817. Pedigree - McNeal (PI 574642) *7/Choteau (PI 633397). Sister line to MAS 21-3 and contains the pinA-D1b mutation causing hard kernel texture. Similar in appearance to McNeal, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643402. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 22-5. GP-818. Pedigree - McNeal (PI 574642) *7/Choteau (PI 633397). Sister line to MAS 22-16 and contains the pinB-D1b mutation causing hard kernel texture. Similar in appearance in McNeal, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643403. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 22-6. GP-819. Pedigree - McNeal (PI 574642) *7/Choteau (PI 633397). Sister line to MAS 22-5 and contains the pinA-D1b mutation causing hard kernel texture. Similar in appearance to McNeal, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643404. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 3G-BB. GP-820. Pedigree - Outlook (PI 632252) *7/Choteau (PI 633397). Sister line to MAS 3G-AA and contains the pinB-D1b mutation causing hard kernel texture. Similar in appearance to Outlook, which has red kernels, semi-dwarf growth habit and red-brown chaff.

PI 643405. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 3G-AA. GP-821. Pedigree - Outlook (PI 632252) *7/Choteau (PI 633397). Sister line to MAS 3G-BB and contains the pinA-D1b mutation causing hard kernel texture. Similar in appearance to

Outlook, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643406. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 3B-BB. GP-822. Pedigree - Outlook (PI 632252) *7/Choteau (PI 633397). Sister line to MAS 3B-AA and contains the pinB-D1b mutation causing hard kernel texture. Similar in appearance to Outlook, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643407. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 3B-AA. GP-823. Pedigree - Outlook (PI 632252) *7/Choteau (PI 633397). Sister line to MAS 3B-BB and contains the pinA-D1b mutation causing hard kernel texture. Similar in appearance to Outlook, which has red kernels, semi-dwarf growth habit, and red-brown chaff.

PI 643408. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 71-3. GP-824. Pedigree - Hank (BZ992322) *7/Choteau (PI 633397). Sister line to MAS 71-1 and contains the pinB-D1b mutation causing hard kernel texture. Similar to Hank, which is a semi-dwarf cultivar with red kernels and tan chaff.

PI 643409. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 71-1. GP-825. Pedigree - Hank (BZ992322) *7/Choteau (PI 633397). Sister line to MAS 71-3 and contains the pinA-D1b mutation causing hard kernel texture. Similar to Hank, which is a semi-dwarf cultivar with red kernels and tan chaff.

PI 643410. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 70-3. GP-826. Pedigree - Hank (BZ992322) *7/Choteau (PI 633397). Sister line to MAS 70-15 and contains the pinB-D1b mutation causing hard kernel texture. Similar to Hank, which is a semi-dwarf cultivar with red kernels and tan chaff.

PI 643411. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 70-15. GP-827. Pedigree - Hank (BZ992322) *7/Choteau (PI 633397). Sister line to MAS 70-3 and contains the pinA-D1b mutation causing hard kernel texture. Similar to Hank, which is a semi-dwarf cultivar with red kernels and tan chaff.

PI 643412. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 46-8. GP-828. Pedigree - Scholar (PI 607557) *7/Choteau (PI 633397). Sister line to MAS 46-10 and contains the pinB-D1b mutation causing hard kernel texture. Similar to Scholar, which is a standard height cultivar with red kernels and semi-solid stems.

PI 643413. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 46-10. GP-829. Pedigree - Scholar (PI 607557) *7/Choteau (PI 633397). Sister line to MAS 46-8 and contains the pinA-D1b mutation causing hard kernel texture. Similar to Scholar, which is a standard height cultivar with red kernels and semi-solid stems.

PI 643414. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 47-1. GP-830. Pedigree - Scholar (PI 607557) *7/Choteau (PI 633397). Sister line to MAS 47-5 and contains the

pinB-D1b mutation causing hard kernel texture. Similar to Scholar, which is a standard height cultivar with red kernels and semi-solid stems.

PI 643415. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 47-5. GP-831. Pedigree - Scholar (PI 607557) *7/Choteau (PI 633397). Sister line to MAS 47-1 and contains the pinA-D1b mutation causing hard kernel texture. Similar to Scholar, which is a standard height cultivar with red kernels and semi-solid stems.

PI 643416. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 141-5. GP-832. Pedigree - Explorer (PI 619086) *7/Choteau (PI 633397). Sister line to MAS 141-4 and contains the pinB-D1b mutation causing hard kernel texture. Similar to Explorer, which is a semi-dwarf cultivar with white kernels, white chaff, and semi-solid stems.

PI 643417. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 141-4. GP-833. Pedigree - Explorer (PI 619086) *7/Choteau (PI 633397). Sister line to MAS 141-5 and contains the pinA-D1b mutation causing hard kernel texture. Similar to Explorer, which is a semi-dwarf cultivar with white kernels, white chaff, and semi-solid stems.

PI 643418. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 142-8. GP-834. Pedigree - Explorer (PI 619086) *7/Choteau (PI 633397). Sister line to MAS 142-7 and contains the pinB-D1b mutation causing hard kernel texture. Similar to Explorer, which is a semi-dwarf cultivar with white kernels, white chaff, and semi-solid stems.

PI 643419. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. MAS 142-7. GP-835. Pedigree - Explorer (PI 619086) *7/Choteau (PI 633397). Sister line to MAS 142-8 and contains the pinA-D1b mutation causing hard kernel texture. Similar to Explorer, which is a semi-dwarf cultivar with white kernels, white chaff, and semi-solid stems.

The following were developed by Linda M. Pollak, USDA, ARS, Iowa State University, Dept. of Agronomy, Ames, Iowa 50011, United States; Mark Campbell, Truman State University, Division of Science, 162 Barnett Hall, Kirksville, Missouri 63501, United States; Jay-Lin Jane, Iowa State University, Food Science & Human Nutrition Department, 2312 Food Sciences Building, Ames, Iowa 50011-1061, United States; Mike Blanco, USDA, ARS, Iowa State University, Regional Plant Introduction Station, Ames, Iowa 50011-1170, United States; Anna O'Brien, Truman State University, Dept. of Agronomy, 100 E. Normal, Kirksville, Missouri 63501, United States. Donated by Mark Campbell, Truman State University, Division of Science, 162 Barnett Hall, Kirksville, Missouri 63501, United States. Received 10/11/2006.

PI 643420. *Zea mays* L. subsp. *mays*

Breeding. Partinbred. GEMS-0067. GP-550. Pedigree - Selection for high amylose modifier genes began in 1997 at Truman State when a sister-line hybrid H99ae x OH43 ae (provided by Dr. David Glover, Purdue University) was used as a male in crosses with many sources of exotic maize germplasm. These included several hundred plant introductions including 70 accessions from the Latin American Maize Project (LAMP). Our results

revealed several plant introductions that contributed high amylose modifiers raising amylose levels to at least 70% in the F3 kernels. Only lines from GUAT209:S13 x (H99ae x OH43ae) were found to survive inbreeding and therefore used in subsequent breeding studies while the others were dropped. GUAT209:S13 is a 50% tropical exotic derived from crossing the LAMP accession Guatemala 209 (PI 498583) to a proprietary stiff stalk inbred from a private GEM cooperator designated as company 13. Guatemala 209 is a yellow flint population from the tropical race, Tus n. The original GUAT209:S13 F1 seed was planted in a winter nursery in Puerto Rico; F1 plants produced ears segregating F2 seeds in the expected 3:1 phenotypic ratio for normal and ae-type kernels. Mutant ae F2 kernels were visually selected and used to establish F2 plants producing homozygous ae F2 ears (F3seed) in the summer of 1998 at Kirksville, MO. For each (H99ae x OH43ae) x exotic cross, grain samples from at least three F2 ears were analyzed for starch amylose using a colorimetric iodine-amylose procedure (Williams, 1958) following starch extraction and purification. Remnant grain samples were used for inbreeding in order to attempt to fix the modifiers. GEMS-0067 is currently maintained as an S4 line from GUAT209:S13 x (H99ae x OH43ae). Vigorous line with pollen shed occurring approx. 4 d before B73, average plant height of 174 cm, upright leaf structure, yellow kernels and red cob. From the non-stiff stalk source H99ae x OH 43ae; of mixed heterotic derivation, composed of 50% non-stiff stalk and 50% stiff stalk. Subsequent crosses made with GEMS-0067 to both SS and NS testers have shown good yield in preliminary data over 2 years. GEMS-0067, having modifiers from GUAT209-S13 was compared to several public inbreds possessing the ae gene but without high amylose modifier genes. Starch was isolated from 2 bulk samples obtained from independent single-row plots derived from 2 GEMS-0067 S4 ears produced in 2004. Bulk samples from the converted lines H99ae, OH43ae, B89ae and B84ae grown in the same year were used for starch isolation. Analysis of amylose using the IA method confirmed the presence of modifiers in 2 samples obtained from GEMS-0067. Apparent amylose can be elevated as the result of long chained amylopectin; gel permeation chromatography (GPC) separates amylopectin from amylose and the intermediate components. Therefore, the GPC analysis method results in higher amylose values in comparison to the IA method ; GEMS-0067 displayed a relatively higher amylose value based on analysis of GPC amylose peaks. The resistant starch (RS) was also measured by using the Assoc. of Official Analytical Chemists (AOAC) method for total dietary fiber content for all samples. The RS content of GEMS-0067 starch samples was approximately two times higher than that of the converted public lines. The RS content of the starch samples was positively correlated with the amylose content of the starch, with a correlation coefficient (r) of 0.89. Thermal properties of the native high-amylose maize starch: water mixtures (3:1 ratio) were determined by Differential Scanning Calorimetry (DSC). All of the starch samples displayed similar onset gelatinization temperature (63.8-65.0°C). Broader gelatinization temperature ran.

The following were developed by Mark J. Bassett, University of Florida, Department of Vegetable Crops, 1253 Fifield Hall, Gainesville, Florida 32611, United States; Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States. Received 10/23/2006.

PI 643421. Phaseolus vulgaris L.

Genetic. Genetic Marker 117; W6 29775. Pedigree - Derived from the Phaseolus coccineus parent 'Painted Lady' (indeterminate plant habit). Has the bicolor (bic) gene for flower color pattern (violet banner and white wings) and dark olive brown seed coats with P C J B V. It was determined that bic is non-allelic with T, P, V, and Wb.

The following were developed by Blue Moon Farm LLC, Lebanon, Oregon, United States. Received 09/12/2006.

PI 643422 PVPO. Lolium perenne L.

Cultivar. "ACAPPELLA". PVP 200600275.

The following were developed by WestBred LLC, Bozeman, Montana, United States. Received 09/12/2006.

PI 643423 PVPO. Triticum aestivum L. subsp. aestivum

Cultivar. "EDDY". PVP 200600277. Pedigree - BZ9W92-709/MTSF1142.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 09/12/2006.

PI 643424 PVPO. Agrostis stolonifera var. palustris (Huds.) Farw.

Cultivar. "13M". PVP 200600280.

The following were developed by Monsanto Company, Creve Coeur, Missouri 63167, United States. Received 09/12/2006.

PI 643425 PVPO. Triticum aestivum L. subsp. aestivum

Cultivar. "DPC05". PVP 200600281. Pedigree - Lars//Sonja/WI88-028.

The following were developed by WestBred LLC, Bozeman, Montana, United States. Received 09/12/2006.

PI 643426 PVPO. Triticum aestivum L. subsp. aestivum

Cultivar. "RUSH". PVP 200600282. Pedigree - Keystone/Granite. Hard red spring wheat.

The following were developed by Virginia Tech, Blacksburg, Virginia, United States. Received 09/12/2006.

PI 643427 PVPO. Triticum aestivum L. subsp. aestivum

Cultivar. "176"; VA99W-176. PVP 200600283. Pedigree - VA91-54-343/VA92-52-52.

The following were developed by Greg D. Kushnak, Montana State University, Western Triangle Agric. Research Center, P.O. Box 1474, Conrad, Montana 59425, United States; Phil L. Bruckner, Montana State University, Dept. of Plant Sciences & Plant Pathology, 407 Leon Johnson Hall, Bozeman, Montana 59717, United States; N.R. Riveland, Williston Research Extension Center,

North Dakota Agric. Exp. Sta., 14120 Highway 2, Williston, North Dakota 58801, United States; G.R. Carlson, Montana State University, Northern Agric. Research Center, Star Rt. 36, Havre, Montana 59501, United States; Joyce L. Eckhoff, Montana State University, Eastern Agric. Research Center, 1501 N. Central Avenue, Sidney, Montana 59270, United States; D.W. Wichman, Montana State University, Central Agric. Research Center, Moccasin, Montana 59462, United States; Robert N. Stougaard, Montana State University, Northwestern Agric. Research Center, 4570 MT Hwy 35, Kalispell, Montana 59901, United States; J.E. Berg, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; Ken Kephart, Montana State University, MSU Southern Ag. Research Center, 748 Railroad Highway, Huntley, Montana 59037, United States; Xianming Chen, USDA-ARS, WSU - Wheat Genetics Unit, PO Box 646430, Pullman, Washington 99164-6430, United States; W.E. Grey, Montana State University, Bozeman, Montana 59717, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; Montana Agricultural Experiment Station, Bozeman, Montana, United States; D. Nash, Montana State University, Dept. of Plant Sciences and Plant Pathology, Bozeman, Montana 59717, United States; A. Dyer, Montana State University, Dept. of Plant Sciences and Plant Pathology, Bozeman, Montana 59717, United States. Received 09/12/2006.

PI 643428. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "YELLOWSTONE"; MT00159. PVP 200600284; CV-1012. Pedigree - Selected from a composite of F2 seed from two closely related populations: Promontory/Judith and Judith-phenotypic dwarf selection/Promontory. Released 2005. Yellowstone is an awned, white-chaffed, medium maturity, intermediate height hard red winter wheat with good winter hardiness and high yield potential in Montana. Yellowstone has medium maturity, 165.0 d to heading from 1 January (n=29). Yellowstone is relatively tall (85 cm, n=30). Coleoptile length of Yellowstone (69 mm, n=4) is relatively short. Yellowstone is susceptible to stem rust (caused by *Puccinia graminis* Pers.:Pers. f. sp. *tritici* Eriks. & E. Henn) isolates TPMK, QTHJ, TTTT, RCRS, and QFCS, and susceptible to leaf rust (caused by *Puccinia triticina* Eriks.). Yellowstone has shown an intermediate to high level of field resistance to stripe rust (caused by *Puccinia striiformis* Westend. f. sp. *tritici* Eriks.). Average stripe rust infection at Bozeman and Kalispell, MT in 2005 and 2006 (n=4) of Yellowstone was 3.8% compared to other resistant (<10%) and susceptible cultivars (37 to 78%). Yellowstone is susceptible to Russian wheat aphid (*Diuraphis noxia* Mordvilko) and wheat sawfly (*Cephus cinctus* Norton). In the Montana Intrastate and Off-station winter wheat yield nurseries from 2003 to 2006 (n=84), grain yield of Yellowstone (4354 kg ha⁻¹) was significantly higher than all other tested cultivars. Relative to available winter wheat cultivars adapted to Montana Yellowstone is intermediate for grain volume weight (767 kg m⁻³) and grain protein content (130 g kg⁻¹). Yellowstone has acceptable hard red winter wheat milling and baking characteristics. Based on three years of evaluation (n=12) milling characteristics of Yellowstone including endosperm hardness (SKCS kernel hardness index=80.2), Brabender Automat flour extraction (678 g kg⁻¹), and flour ash (3.9 g kg⁻¹) were acceptable. Yellowstone has strong dough mixing characteristics with high bake water absorption, long mixing time, and high loaf volume.

The following were developed by Greg D. Kushnak, Montana State University, Western Triangle Agric. Research Center, P.O. Box 1474, Conrad, Montana

59425, United States; Phil L. Bruckner, Montana State University, Dept. of Plant Sciences & Plant Pathology, 407 Leon Johnson Hall, Bozeman, Montana 59717, United States; N.R. Riveland, Williston Research Extension Center, North Dakota Agric. Exp. Sta., 14120 Highway 2, Williston, North Dakota 58801, United States; G.R. Carlson, Montana State University, Northern Agric. Research Center, Star Rt. 36, Havre, Montana 59501, United States; Joyce L. Eckhoff, Montana State University, Eastern Agric. Research Center, 1501 N. Central Avenue, Sidney, Montana 59270, United States; D.W. Wichman, Montana State University, Central Agric. Research Center, Moccasin, Montana 59462, United States; Robert N. Stougaard, Montana State University, Northwestern Agric. Research Center, 4570 MT Hwy 35, Kalispell, Montana 59901, United States; J.E. Berg, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; Ken Kephart, Montana State University, MSU Southern Ag. Research Center, 748 Railroad Highway, Huntley, Montana 59037, United States; W.E. Grey, Montana State University, Bozeman, Montana 59717, United States; Montana Agricultural Experiment Station, Bozeman, Montana, United States; D. Nash, Montana State University, Dept. of Plant Sciences and Plant Pathology, Bozeman, Montana 59717, United States; E.S. Davis, Montana State University, Dept. of Land Resources & Environmental Sciences, Bozeman, Montana 59717, United States. Received 09/12/2006.

PI 643429. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "BYNUM"; MYCL0318. PVP 200600285; REST 643429; CV-1013. Pedigree - Derived from the cross: Rampart (PI 593889)/FS2//CDC Kestrel. FS2 was developed by BASF by mutagenesis of Fidel and contains a single gene at the *als 1* locus for acetolactate synthesis, which conveys tolerance to imidazolinone herbicides. Rampart is a well-adapted, solid-stem cultivar released by the Montana Agric. Exp. Stn. CDC Kestrel is a winter-hardy cultivar developed by the Crop Development Centre in Saskatoon, Sask. Released 2005. Bynum is an awned, red-chaffed, medium maturity, solid-stem hard red CLEARFIELD winter wheat similar in appearance and performance to the cultivar Rampart. Average heading date of Bynum is 159.7 days from 1 Jan., n=26 and average height of Bynum is 96 cm, n=28). Winter survival of Bynum is relatively low, similar to Rampart. Under natural infection in Montana, Bynum is moderately resistant to stem rust (caused by *Puccinia graminis* Pers.:Pers. f. sp. *tritici* Eriks. & E. Henn.), and resistant to stripe rust (caused by *Puccinia striiformis* Westend. f. sp. *tritici* Eriks.). Average stripe rust infection at Bozeman and Kalispell, MT in 2005 and 2006 (n=4) of Bynum was 8.8% compared to resistant cultivars (<10%) and susceptible cultivars (35-80%). Based on seven Montana crop tolerance trials, tolerance of Bynum to imazamox is equivalent to that of Above and MT1159CL. In 31 trials in Montana in 2004 and 2005, average grain yield of Bynum (4784 kg ha⁻¹) was similar to current Clearfield cultivars. Average grain volume weight for Bynum (790 g m⁻³, n=32) and average grain protein of Bynum (139 g kg⁻¹, n=32) are relatively high and similar to Rampart. Stem solidness of Bynum (18.7, n=21) is lower than stem solidness of Rampart (20.5) but higher than hollow-stemmed Neeley (5.7). Average stem cutting in Bynum (10.8%) in nine environments with differential cutting by wheat stem sawfly was similar to that of solid-stem check, Rampart (5.2%). Milling and baking characteristics of Bynum are similar to those of parental cultivar, Rampart.

PI 643430. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "NORRIS"; MTCL0316. PVP 200600286; REST 643430; CV-1015. Pedigree - Originated from the cross BigSky//TXGH12588-26*4/FS2. BigSky

(PI 619166) is hard red winter wheat released by MT Agric. Exp. Stn. TX12588-26*4/FS2 is an imazamox-tolerant selection from a segregating population developed by Texas A&M. TXGH12588-26 is a sib selection of TAM 110 (PI 595757). FS2 was developed by BASF by mutagenesis of Fidel and contains a single gene at the *als1* locus for acetolactate synthesis, which conveys tolerance to imidazolinone herbicides. Released 2005. Norris is a medium to early maturing, conventional height CLEARFIELD hard red winter wheat. Average heading date of Norris is 158.7 days from 1 Jan., n=26, and average height of Norris is 97 cm, n=28. Winter survival of Norris (67%) is intermediate in trials exhibiting differential survival. Under natural infection in Montana, Norris is susceptible to stem rust (caused by *Puccinia graminis* Pers. f. sp. *tritici* Eriks. & E. Henn.), and stripe rust (caused by *Puccinia striiformis* Westend. f. sp. *tritici* Eriks.). Based on seven Montana crop tolerance trials, tolerance of Norris to imazamox is equivalent to that of Above and MT1159CL. In 31 trials in Montana in 2004 and 2005, average grain yield of Norris (5160 kg ha⁻¹) was higher than current commercially available CLEARFIELD cultivars. Average grain volume weight for Norris (786 g m⁻³, n=32) and average grain protein of Norris (128 g kg⁻¹, n=32) were within the range of existing cultivars adapted to Montana. Milling and baking characteristics of Norris are similar to long term check cultivar, Neeley.

The following were developed by Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 09/12/2006.

PI 643431 PVPO. *Poa pratensis* L.

Cultivar. "HIGH NOON". PVP 200600287.

The following were developed by Blue Moon Farm LLC, Lebanon, Oregon, United States. Received 09/12/2006.

PI 643432 PVPO. *Lolium perenne* L.

Cultivar. "LS2200". PVP 200600288.

The following were developed by Jerry L. Baker, Samuel Roberts Noble Foundation, Inc., P. O. Box 2180, 2510 Highway 199 East, Ardmore, Oklahoma 73402, United States; Malay Saha, The Samuel Roberts Noble Foundation, 2510 Sam Noble Parkway, Ardmore, Oklahoma 73401, United States; The Samuel Roberts Noble Foundation, Inc., Ardmore, Oklahoma, United States; Joe Bouton, The Samuel Roberts Noble Foundation, Inc., 2510 Sam Noble Parkway, Ardmore, Oklahoma 73401, United States. Received 09/12/2006.

PI 643433. *Secale cereale* L.

Cultivar. "MATON II". PVP 200600289; CV-19.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 09/12/2006.

PI 643434 PVPO. *Lactuca sativa* L.

Cultivar. "MATADOR". PVP 200600290.

The following were developed by Craig F. Morris, USDA-ARS, Western Wheat Quality Lab., E-202 FSHN Facility East, Pullman, Washington 99164-6394, United States; Blair J. Goates, USDA-ARS, National Small Grains Germplasm Res. Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States; Robert E. Allan, USDA-ARS, Dept. of Crop & Soil Science, 209 Johnson Hall, Pullman, Washington 99164, United States; James A. Anderson, USDA, ARS, Washington State University, 209 Johnson Hall, Pullman, Washington 99164, United States; Lynn M. Little, USDA, ARS, Wheat Genetics, Quality, Physiology & Disease Res., Washington State University, Pullman, Washington 99164-6420, United States; Kimberly Garland Campbell, USDA, ARS, Washington State University, P.O. Box 646420, Pullman, Washington 99164-6420, United States; Xianming Chen, USDA-ARS, WSU - Wheat Genetics Unit, PO Box 646430, Pullman, Washington 99164-6430, United States; D.A. Engle, Washington State University, Dept. of Crop and Soil Sciences, Pullman, Washington 99164-6420, United States; J.W. Burns, Washington State University, Dept. of Crop and Soil Sciences, Pullman, Washington 99164-6420, United States; J.A. Pritchett, USDA-ARS, Wheat Genetics, Quality, Phys., & dis. Res. Unit, Washington State University, Pullman, Washington 99164-6420, United States; David A. Wood, USDA-ARS, Wheat Genetics, 209 Johnson Hall, Pullman, Washington 99164-6420, United States. Received 10/26/2006.

PI 643435. *Triticum aestivum* subsp. *compactum* (Host) Mackey

Cultivar. Pureline. "CARA"; ARS97-135-9; A97-135; NSGC 17969. Pedigree - WA7752//WA6581/WA7217 - WA7752 = Tres//WA7163/Tres - WA7163 = VPM/Moisson951//Yamhill/Hyslop/3/Hill81 - WA6581 = PI 486428 - WA7217 = VPM/Moisson951//2*Barbee. Soft white winter club wheat. Carries resistance to common bunt (*Tilletia caries*), dwarf bunt (*Tilletia controversa*), powdery mildew (*Erysiphe graminis*), and stripe rust (*Puccinia striiformis*). Cara has the Pchl gene, derived from VPM providing resistance to eyespot (*Tapesia yellunde*).

The following were developed by R.S. Malhotra, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; G. Khalaf, ICARDA, Integrated Gene Management Program, P.O. Box 5466, Aleppo, Syria; A. Fikre, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; S. Ahmed, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; Geletu Bejiga, Ethiopian Institute of Agricultural Research, Addis Ababa, Ethiopia; Yadeta Anbessa, Ethiopian Institute of Agricultural Research, Addis Ababa, Ethiopia; Million Eshete, Ethiopian Institute of Agricultural Research, Addis Ababa, Ethiopia; Negussie Tadesse, Ethiopian Institute of Agricultural Research, Addis Ababa, Ethiopia; Ketama Daba, Ethiopian Institute of Agricultural Research, Addis Ababa, Ethiopia. Received 10/26/2006.

PI 643436. *Cicer arietinum* L.

Cultivar. Pureline. "EJERE"; FLIP 97-263c; CHALA. CV-276. Pedigree - Developed from the cross FLIP 87-59C/UC 15 made in 1994 at ICARDA's headquarters in Tel Hadya, near Aleppo. Syria. FLIP 87-59C developed at ICARDA from the cross ILC 3843/FLIP 82-130C in 1985. FLIP 82-130C developed at ICARDA from the cross ILC 262/ILC 783 in 1979. Following pedigree method of selection, the uniform lines were bulked in F5 and given FLIP numbers. One of these lines, FLIP 97-263C was later released for general cultivation and given name 'Ejere'. Improved line developed at ICARDA, shared with Ethiopian national program and evaluated in different locations and years in Ethiopia during 1999-2004 seasons. Gave yields similar to the standard check (Arerti), and 25% higher than the

local check (DZ-10-4), and showed resistance reaction to Fusarium wilt. Semi-erect in growth habit (34.2 cm tall), has compound leaf, and takes about 59 d to flower. Large seeded (100-seed wt. 37.2 g) with typical Kabuli type (ram-head shaped) beige colored seeds. Released as 'Ejere' by National Variety Release Committee in 2005 for general cultivation in mid- to high-altitude areas in Ethiopia's semi-moist agro-ecological zones.

PI 643437. *Cicer arietinum* L.

Cultivar. Pureline. "TEJI"; FLIP 97-266C; TEFKI. CV-277. Pedigree - Developed from the cross FLIP 87-58C/UC 15 made in 1993-94 at ICARDA headquarters in Tel Hadya in northern Syria. FLIP 87-58C was derived from a cross ILC 3777/FLIP 83-46C in 1985. FLIP 83-46C derived from a cross ILC 72/ILC 215 made in 1980. Pedigree method of selection was followed through F5 when the uniform lines were bulked and accessed at ICARDA. One such line, FLIP 97-266C was later released in Ethiopia as 'Teji'. Gave the highest seed yield (2747 kg/ha), 1.5% more than the improved check 'Arerti', and 28% more than the local check 'DZ-10-4' in 20 trials conducted in different locations in Ethiopia. Large-seeded (100-seed wt. 38.1 g), with ram-head shaped Kabuli type seeds. Compound leaves, flowers in 54 d and semi-erect in growth habit (plant height 39.8 cm). Resistant to Fusarium wilt under Ethiopian conditions. Recommended for mid- to high-altitude areas (1800-2600 m) in sub-moist agro-ecological zones of Ethiopia.

The following were developed by F.M. Bourland, University of Arkansas, Northeast Research and Ext. Center, P.O. Box 48, Keiser, Arkansas 72351, United States; D.C. Jones, Cotton Incorporated, 6399 Weston Parkway, Cary, North Carolina 27513, United States. Received 10/26/2006.

PI 643438. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9304a. GP-870. Pedigree - H1244 // DES 119 / Miscot 7803-52. Morphological traits are similar to SG105, check cultivar, except that Arkot 9304a displays high glanding characteristic (gossypol glands in calyx crown), intermediate level of leaf pubescence and smaller bracts. Over 12 replicated field tests in Arkansas, Arkot 9304a yielded the same as SG 105. Compared to SG105, Arkot 9304a tended to higher fibers per seed, seed index, and lint index; similar open bolls percentage, plant height, lint percentage, micronaire, fiber length, length uniformity and fiber strength; and lower seed per area. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt, caused by *Fusarium oxysporum*, was intermediate to known resistant and susceptible checks. Resistance of Arkot 9304a to tarnished plant bug [*Lygus lineolaris*] was equal to that of SG105.

PI 643439. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9304b. GP-871. Pedigree - H1244 // DES 119 / Miscot 7803-52. Morphological traits are similar to SG105 (check cultivar) except that Arkot 9304b displays high glanding characteristic (gossypol glands in calyx crown), intermediate level of leaf pubescence and smaller bracts. Over 12 replicated field tests in Arkansas, Arkot 9304b yielded 3% more than SG 105. Compared to SG 105, Arkot 9304b tended to have higher lint percentage, open bolls percentage, fibers per seed, seed index, and lint index; similar plant height, micronaire, length uniformity, and fiber strength, lower fiber length and seed per

area. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistant to fusarium wilt [caused by *Fusarium oxysporum* sp. *vasinfectum*] was equal to a known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] was equal to SG 105.

PI 643440. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9308. GP-872. Pedigree - H1215 // DES 237-7 / Miscot 7824. Morphological traits similar to SG 105 (check cultivar) except that Arkot 9308 displays high glanding characteristic (gossypol glands in calyx crown) and smaller bracts. Over 12 replicated field tests in Arkansas, yielded 2% more than SG 105. Compared to SG 105, Arkot 9308 tended to have higher plant height, lint percentage, open bolls percentage, seed index, lint index, micronaire and fiber strength, similar fibers per seed, fiber length and length uniformity and lower seed per area. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistant to fusarium wilt [caused by *Fusarium oxysporum* sp. *vasinfectum*] was intermediate to known resistant and susceptible checks. Resistance to tarnished plant bug [*Lygus lineolaris*] was equal to that of SG 105.

PI 643441. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9314. GP-873. Pedigree - H1215 / Miscot 8606. Morphological traits similar to SG 105 (check cultivar) except that Arkot 9314 displays high glanding characteristic (gossypol glands in calyx crown) and smaller bracts. Over 12 replicated field tests in Arkansas yielded 5% more than SG 105. Compared to SG 105, Arkot 9314 tended to have higher plant height, lint percentage, open bolls percentage, seed index, lint index, fibers per seed, micronaire, similar fiber length, length uniformity, and fiber strength, lower seed per area. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum* sp. *vasinfectum*] intermediate to known resistant and susceptible checks. Resistance to tarnished plant bug [*Lygus lineolaris*] was equal to that of SG 105.

PI 643442. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9506. GP-874. Pedigree - F1(DP90/ST825//F1(Miscot 7918/Miscot 7803-52)///F1(Miscot T8-27/Miscot 7803-52). Morphological traits similar to SG 105 (check cultivar) except that Arkot 9506 displays smaller bracts. Over 15 replicated field tests in Arkansas yielded 6% more than SG 105. Compared to SG 105, Arkot 9506 tended to have higher lint percentage, lint index, and fibers per seed, similar open bolls percentage, seed index, and micronaire, lower plant height, fiber length, length uniformity, fiber strength and seed per area. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum* sp. *vasinfectum*] intermediate to known resistant and susceptible checks. Resistance to tarnished plant bug [*Lygus lineolaris*] was equal to that of SG 105.

PI 643443. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot 9513. GP-875. Pedigree - H1330/St81-21-2///Arkot 8712 (sister line) //F1(Miscot T8-27/Miscot 7803-52). Morphological traits similar to SG 105 (check cultivar) except that Arkot 9513 displays smaller bracts. Over 15 replicated field tests in Arkansas, Arkot 9513 yielded the same as SG 105. Compared to SG 105,

Arkot 9513 tended to have higher lint percentage, open boll percentage, lint index, fibers per seed, fiber strength, similar plant height, seed index, micronaire, fiber length and length uniformity and lower seed per area. Resistance to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum* sp. *vasinfectum*] was equal to a known resistant check. Resistance of Arkot 9513 to tarnished plant bug [*Lygus lineolaris*] was equal to that of SG 105.

PI 643444. *Gossypium hirsutum* L.

Breeding. Pureline. Arkot RM24. GP-881. Pedigree - DES 119/Miscot 8606. Morphological traits similar to SG 105 (check cultivar) except that Arkot RM24 displays intermediate leaf pubescence, higher marginal bract trichome density, and smaller bracts. Over 15 replicated field tests in Arkansas, yielded 12% more than SG 105. Compared to SG 105, Arkot RM24 tended to have higher lint percentage, open bolls percentage, seed per area, and fibers per seed, similar plant height, lint index, micronaire, and fiber length, lower seed index, length uniformity, and fiber strength. Resistant to all U.S. races of *Xanthomonas campestris* pv. *malvacearum*, the causal agent of bacterial blight. Resistance to fusarium wilt [caused by *Fusarium oxysporum* sp. *vasinfectum*] was as resistant as a known resistant check. Resistance to tarnished plant bug [*Lygus lineolaris*] was equal to that of SG 105.

The following were developed by Donald F. Salmon, Alberta Agriculture, Field Crop Research Centre, 5030-50 Street, Lacombe, Alberta T4L 1W8, Canada; James H. Helm, Alberta Agriculture, Food and Rural Development, Field Crop Development Centre, Lacombe, Alberta T4L 1W8, Canada; Patricia E. Juskiw, Alberta Agriculture, Field Crop Development Centre, 5030-50 St., Lacombe, Alberta T4L 1W8, Canada; Joseph M. Nyachiro, Alberta Agriculture, Food & Rural Development, Field Crop Development Centre, Lacombe, Alberta T4L 1W8, Canada; M. Oro, Alberta Agriculture, Food and Rural Developmentt. Centre, Field Crop Development Center, Lacombe, Alberta T4L 1W8, Canada. Received 10/26/2006.

PI 643445. *Hordeum vulgare* L. subsp. *vulgare*

Cultivar. Pureline. "SUNDRE"; BT 566; H92068001. CV-332; REST 643445. Pedigree - BT 636/Tukwa. Released 2006. Six-rowed, smooth-awned, feed barley with purplish auricles. Medium height (~88cm), matures in about 95 d with relatively strong straw and medium lodging resistance. Has juvenile growth habit between erect and intermediate with a short green coleoptile. Its juvenile plants have wide, long and upright flag leaves with purplish auricles. Has medium spikes with long and slightly purplish tipped awns. Has medium long-medium wide kernels with clasping lodicules and horseshoe-shaped basal markings. Has good feed quality traits such as high digestible energy and proteins. Has good field resistance to scald, based on combined data from Western Co-operative Six-Rowed Barley Test and Cimmyt. In Mexico under high scald pressure, BT 566 was rated as 'TR' (trace resistant) in 2001 and 'MR' (moderately resistant) in 2002. In inoculated tests for smut in 2003-2004 at FCDC, H92068001 was shown to be moderately susceptible to loose smut [caused by *Ustilago nuda*]. In Western Co-operative Six-Rowed Barley Tests, BT 566 had good resistance to covered smut [caused by *U. hordei*]. Sundre has good resistance or tolerance to false loose smut [caused by *U. nigra*]. Showed moderately resistant and moderately susceptible in reaction to net-form of net blotch [caused by *Pyrenophora teres* f.

teres] and stem rust [caused by *Puccinia graminis*]. Moderately susceptible to common root rot [caused by *Cochliobolus sativus*] and speckled leaf blotch [caused by *Septoria passerinii*]. Moderately susceptible to fusarium head blight (scab) (mainly caused by *Fusarium graminearum*].

The following were developed by Charles Brummer, University of Georgia, Crop and Soil Science Department, Center for Applied Genetic Technologies, Athens, Georgia 30602, United States; Heathcliffe Riday, USDA, ARS, US Dairy Forage Research Center, 1925 Linden Drive West, Madison, Wisconsin 53706, United States. Received 11/01/2006.

PI 643446. *Medicago sativa* subsp. *falcata* (L.) Arcang.

Breeding. Population. IAMF101; IAFAL. GP-347. Pedigree - This is a cycle 2 out of the following source populations (number of plants in parentheses): IA-3018 (3), PI 314092 (2), PI 315476 (2), PI 384507 (4), PI 494661 (2), PI 502441 (2), PI 502450 (2), PI 502453 (3), PI 505872 (1), PI 538985 (1), PI 538989 (1), PI 538993 (1), PI 538994 (2), PI 573175 (1), PI 631597 (4), PI 631806 (2), WISFAL (3). Genetically broad based tetraploid ($2n=4x=32$) yellow-flowered alfalfa, pods range from *falcata* (sickle-shape) to single coiled. Developed by two cycles of recurrent phenotypic selection for persistence, autumn regrowth, and vigor from a broad based, yellow-flowered alfalfa germplasm collection. Parent plants were selected on Sept. 22, 1999 from a germplasm evaluation trial at Iowa St. Univ. Agronomy and Agric. Engineering Farm near Ames, IA that had been planted in spring 1997. Selection was based on yield performance, freedom from disease and insect pests, and autumn regrowth. Experimental *falcata* population IA-3018 was developed at Iowa State Univ by C.P. Wilsie in 1960's. Parental plants were intercrossed by hand in the greenhouse at Ames, IA during the winter of 1999-2000 and equal quantities of seed from each parent were bulked. Seeds were germinated in spring 2000 in the greenhouse, and approx. 1000 seedlings were transplanted to the field at the Iowa State Univ Agronomy and Agric. Engineering Farm at Ames, IA in May 2000. In Sept. 2003, 56 plants were selected based on persistence, vigor, autumn regrowth, moved to the greenhouse, and intercrossed. Equal quantities of seed from each plant were bulked to form the Syn 1 generation of IAMF101. Syn 2 seed was produced in Idaho in 2004 and 2005. This *falcata* population has better fall growth compared with other *falcata* populations.

PI 643447. *Medicago sativa* subsp. *falcata* (L.) Arcang.

Breeding. Population. IAMF102; HFAL. GP-348. Pedigree - Cycle 1 out of following source populations (number of plants in parentheses): IA-5291/88 (1), 5299/88 (1), IA-3018 (4), Lodgepole (2), PI 314092 (2), PI 468015 (1), PI 494661 (1), PI 502441 (2), PI 502453 (2), PI 631579 (3), PI 631597 (1), PI 631796 (4), PI 631857 (3), SD 201 (1), WISFAL (4). Genetically broad based tetraploid ($2n=4x=32$) yellow-flowered alfalfa, pods that range from *falcata* (sickle-shaped) to single coiled. Developed from one cycle of selection. Germplasms 5291/88 and 5299/88 obtained from Institute of Agrobotany, Hungary. Experimental *falcata* populations IA-3018 developed at Iowa St. Univ. by C.P. Wilsie in 1960's. Lodgepole is naturalized *falcata* population found in the Grand River National Grassland near Lodgepole, SD. The SD 201 plant was tetraploid, developed by treating seed of the SD 201 germplasm with colchicine. The 32 parental genotypes were selected from among 104 genotypes that had been testcrossed to four elite alfalfa populations. Selections were based on

testcross performance for yield in field trials at the Iowa St. Univ. Agronomy and Agric. Engineering Farm near Ames, IA and at the Iowa State Univ. Northeast Res. Farm near Nashua, IA from 2002 to 2003. Parents were intercrossed by hand without emasculation in the greenhouse during the winter 2003-2004. Equal quantities of seed were bulked from each parent to constitute the Syn 1 generation of the IAMF102 population. Syn 2 seed was produced in Idaho in 2004 and 2005. Has moderate frequency of 'creeping rooted' alfalfa. Source populations of the creeping rooted trait are PI 494661, PI 631579, and PI 631857. This germplasm has good first harvest dry matter yield.

The following were developed by W. Erskine, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Sarker, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; M. Kharrat, Institute of Agronomy Research in Tunisia, Tunis, Tunisia. Received 10/26/2006.

PI 643448. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "KEF"; ILL 5582. CV-26. Pedigree - Developed through single-plant selection from a Jordanian landrace, ILL 8. Single plant selection was made at ICARDA with its selection number 78S26002. Was accessed as ILL 5582 in ICARDA germplasm catalog. Has semi-erect growth habit with strong stem, providing lodging resistance; is suitable for machine harvest. Lowest pod sets at about 15 cm above soil level, which reduces harvest losses. Plants are medium-statured (36 cm) and produce more primary branches. Flowers in 108 to 116 d in Beja and in 110 to 120 d in Kef. Matures in 155 d. Has 100-seed weight of 4.5 to 5.5 g. Resistant to frost damage at any vegetative stage compared to the locals and previously released cultivars.

The following were developed by W. Erskine, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Sarker, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; H. El Hassan, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; H. Machleb, Lebanese Agricultural Research Institute, Talamara, Bekka Valley, Lebanon; P. Kiwan, International Center for Agricultural Res. in the Dry Areas, Grain Legumes, Terbol, Bekka Valley, Lebanon. Received 10/26/2006.

PI 643449. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "HALA"; FLIP 90-41L; ILL 7010. CV-23. Pedigree - Breeding line derived from a cross between Sel. 80S42188 and ILL 223. The female parent is a breeding line developed from the cross 76TA25 between the parents ILL 474 of Syrian origin and ILL 485 of Lebanese origin. Semi-erect and tall cultivar with average height of 30 cm. First pod-bearing node is about 16 cm above ground level, allowing machine harvest with minimum loss. Leaves are dark green with pubescence, comprised of 14-16 narrow leaflets and end with long tendrils which help the canopy to be upright. Plants bear an average of 41 pods with 1.4 seeds per pod. Seed coat color is grey with dots. Seed size is larger (3.3 gl00-1) than locals (2.8 gl00-1). Has bright red cotyledons. Flowers in 103 d and matures in 126 d. Dehulled seed contains 26.2% protein.

PI 643450. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "RACHAYYA"; FLIP 87-56L; ILL 6246. CV-27. Pedigree - Breeding line developed from a cross between ILL 2129 and ILL 13. The female parent, ILL 2129 is a landrace from Syria; the male parent ILL 13 is a landrace from Jordan. Semi-erect and medium-statured cultivar averaging 30 cm tall, develops an average of 3 primary branches per plant. Height of first pod-bearing node is at about 15 cm above ground level, helping reduce harvest losses by combine and double-knife cutter bar. Leaves are dark green, slightly pubescent and have long tendrils. Flowering takes place in 105 d, maturity in 128 d. Seeds are round with bright red cotyledons and weigh 3.2 g. 100-1 seeds. Dehulled seeds contain 26.2% and straw has 6.6% protein. Cooking time is about 34 minutes.

The following were developed by A. Sarker, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria. Received 10/26/2006.

PI 643451. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "ALEM TINA"; ILL 7980. Pedigree - Developed at ICARDA through cross breeding. Following a bulk-pedigree method the lentil line FLIP 96-49L was developed and later accessed by ICARCA as ILL 7980. Erect growth habit with primary branches in upright condition with lodging resistance. Due to erect and upright growth habit, more plants can be accommodated per unit area leading to higher seed yield. Plants are medium-statured (32 cm), leaves and stems are pubescent and devoid of pigmentation. Seed weight is 3.9 g 100-1 seed, compared to 2.2 g for local check. Ground color of tests is light brown to grey with patterns in black spots, cotyledons are bright red. Fifty % flowering time ranges from 41 to 66 d, maturity attains in 94 to 126 d. Protein concentration for dehulled seeds is 25.7% and straw has 6.6% protein.

The following were developed by W. Erskine, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Sarker, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; E. Fikru, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; A. Fikre, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; S. Ahmed, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia; K. Ali, Ethiopian Agricultural Research Organization, Addis Ababa, Ethiopia. Received 10/26/2006.

PI 643452. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "ASSANO"; FLIP 88-46L; ILL 6819. CV-24. Pedigree - Breeding line derived from a cross between ILL 1233 and ILL 4536. Female parent, ILL 1233 is a landrace from Iran; the male parent ILL 4536 is a germplasm accession from Turkey. Semi-erect, medium-statured (34 cm) cultivar with 3-4 long fruiting branches. Leaves have light pubescence, comprised of 12-15 broad leaflets which end in well-developed tendril. Seed coat color is light pinkish without dots and cotyledon color is pale-yellow. Has 100 seed weight of about 4.3 g. Flowers after 60 d; reaches physiological maturity after 116 d with no pod shedding at complete maturity. Protein concentration of seeds is 25.6%. Approximate cooking time is 40 minutes.

The following were developed by W. Erskine, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; A. Sarker, Int. Center for Agricultural Research in the Dry Areas, P.O. Box 5466, Aleppo, Syria; M. Kharrat, Institute of Agronomy Research in Tunisia, Tunis, Tunisia. Received 10/26/2006.

PI 643453. *Lens culinaris* Medik. subsp. *culinaris*

Cultivar. Pureline. "SALIANA"; FLIP 90-13L; ILL 6982. CV-25. Pedigree - Breeding line derived from a cross between ILL 4400 and ILL 5582 at ICARDA. Female parent, ILL 4400, known as Syrian local large, an improved landrace from Syria and male parent, ILL 5582, is a selection from a Jordanian landrace ILL 8. Semi-erect, medium statured variety measuring an average plant height of 35 cm. Matures in 162 d, same as Nsir, but slightly later than Nefza. Seed weight is 6-7 g 100-1, testa color is cream without a pattern, cotyledon is yellow. Its lowest pod height is about 14 cm from the ground level, suitable for machine harvest. 23.8% Protein content in dehulled seed is 23.8% compared to 23.34% in Nefza and 25.36% in Nsir.

The following were developed by Antonio Martin, Instituto de Agricultura Sostenible, Apdo 4084, Cordoba, Cordoba E - 14080, Spain; Sergio G. Atienza, Consejo Superior de Investigaciones Cientificas, Finca Alameda del Obispo s/n. Apdo. 4084, Cordoba, Spain; J. Ballesteros, Instituto de Agricultura Sostenible, Apartado 4084, E-14080, Cordoba, Spain; M.C. Ramirez, Instituto de Agricultura Sostenible, Apartado 4084, E-14080, Cordoba, Cordoba, Spain; A. Cabrera, ETSIAM-UCO, Departamento de Genetica, Edificio Mendel (C5), Cordoba, Spain; A. Aardse, Instituto de Agricultura Sostenible, Apartado 4084, E-14080, Cordoba, Spain. Received 10/26/2006.

PI 643454 QUAR. X *Triticosecale* sp.

Breeding. Population. TS1. GP-18. Pedigree - $2n=4x=28$; DDDR. T6/Huescar. Shows excessive height (155 = 165 cm) which leads to lodging; late flowering (around 128 d after sowing) and low grain yield (around 1,500 Kg/Ha). Has very long spikes (22-23 cm), with low density of spikelets per spike, low fertility, tough rachis and hard glume. Seeds are long and small causing a low thousand kernel weight. They show very long and narrow leaves. Has very low harvest index (around 0.1). Shows high potential for biomass production. In Guadalquivir River Valley conditions (37° 85' N; -4° 85' W) it has biomass yields between 13000 and 18000 Kg/Ha. At flowering, flowers open and anthers go out spreading pollen. Low fertility of these lines is not explained by an auto-incompatibility phenomenon since we have developed populations involving several lines expecting to increase both fertility and yields. Neither of these objectives was achieved. Certain degree of cross pollination may be expected since anthers mature out of flowers, the percentage of cross fertilization has not been estimated.

PI 643455 QUAR. X *Triticosecale* sp.

Breeding. Population. TS10. GP-19. Pedigree - $2n=4x=28$; DDDR. T4/Centeio do Alto. Excessive height (155-175 cm) which leads to lodging; late flowering (around 140 d after sowing) and low grain yield (around 1600 Kg/Ha). Has very long spikes (18-22 cm), with low density of spikelets per spike, low fertility, tough rachis and hard glume. Seeds are long and small causing a low thousand kernel weight. Very long and narrow leaves. Has very low harvest index (less than 0.1). Shows a high potential for biomass production. In Guadalquivir River Valley

conditions (37° 85' N; -4° 85' W) has biomass yields between 15500 and 19500 Kg/Ha. At flowering, flowers open and anthers go out spreading pollen. Low fertility of these lines is not explained by an auto-incompatibility phenomenon since we have developed populations involving several lines expecting to increase both fertility and yields. Neither of these objectives was achieved. Certain degree of cross pollination may be expected since anthers mature out of the flowers, the percentage of cross fertilization has not been estimated.

PI 643456 QUAR. X *Triticosecale* sp.

Breeding. Population. TS41. GP-20. Pedigree - 2n=4x=28; DRRR. Sando 208/Grand Crouelle. Excessive height (around 160 cm) which leads to lodging; late flowering (around 142 d after sowing) low grain yield (around 800 Kh/Ha). Has very long spikes (26-28 cm), with low density of spikelets per spike, low fertility, tough rachis and hard glume. Seeds are long and small causing a low thousand kernel weight. Very long and narrow leaves. Has very low harvest index (less than 0.06). Shows a high potential for biomass production. In Guadalquivir River Valley conditions (37° 85' N; -4° 85' W) has biomass yields between 14000 and 18000 Kh/Ha. At flowering, flowers open and anthers go out spreading pollen. Low fertility of these lines not explained by an auto-incompatibility phenomenon since we have developed populations involving several lines expecting to increase both fertility and yields. Neither of these objectives was achieved. Certain degree of cross pollination may be expected since anthers mature out of the flowers, the percentage of cross fertilization has not been estimated.

The following were donated by Robert L. Jarret, USDA, ARS, Plant Genetic Resources Conservation Unit, University of Georgia, Griffin, Georgia 30223-1797, United States. Received 03/13/2002.

PI 643457. *Solanum dulcamara* L.

Wild. Sheffield's Seed Co. Lot No. 9804.

The following were collected by Sergey Shuvalov, N.I. Vavilov Research Institute of Plant Industry, Foreign Relations, 42-44, Bolshaya Morskaya Street, St. Petersburg, Leningrad 190000, Russian Federation; Sergei Bulyntsev, N.I. Vavilov Institute for Plant Industry, 44 Bolshaya Morskaja Street, Department of Leguminous Crops, St. Petersburg, Leningrad 190000, Russian Federation; Ken Street, ICARDA, Aleppo, Syria; Zebuniso Muminshoeva, Tajik Agricultural Academy, Tajikistan; Ivan Maltsev, Botanical Institute, Uzbekistan. Received 11/17/2004.

PI 643458. *Sesamum indicum* L.

Uncertain. TJK04-26; IG 139469; Grif 16441. Collected 07/16/2004 in Tajikistan. Latitude 37° 52' 58" N. Longitude 68° 16' 1" E. Elevation 523 m. Shortugay village a few km S of Ishakabad along border river with Uzbekistan. Kurgan Tyube Province. All accessions from Farm stores. All material irrigated from river. Local varieties.

PI 643459. *Sesamum indicum* L.

Uncertain. TJK04-33; IG 139475; Grif 16442. Collected 07/16/2004 in Tajikistan. Latitude 37° 39' 41" N. Longitude 68° 8' 23" E. Elevation 457 m. Yangibod village 30 km S of Shortugay village along

Uzbek border. Kurgan Tyube Province. Material taken from several farm stores. Irrigated village.

The following were collected by Maia Akhalkatsi, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia. Received 01/27/2006.

PI 643460. *Hibiscus ponticus* Rupr.

Wild. GE-2005-61. Collected 10/25/2005 in Georgia. Latitude 42° 5' 16" N. Longitude 41° 47' 42" E. Elevation -1 m. Maltakva, Dedabera, Khobi District, Samegrelo Province.

The following were donated by USDA, ARS, U.S. Sugarcane Field Station, Meridian, Mississippi, United States. Received 1983.

PI 643461. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

MN 2695; IS 841; SA 1327-2-13-3; Pythium Resistant Quadroon; 66I 4783; Grif 15998. Root rot (Pythium) resistant.

PI 643462. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3150; Grif 16161.

PI 643463. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 3151; Grif 16162.

PI 643464. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4055; IS 3986; Grif 16289. Witchweed resistant.

PI 643465. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4057; IS 3988; SA 262; Grif 16290. Witchweed resistant.

PI 643466. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4548; IS 10356; Martin B-line; TX 398B; Grif 16361; 69I 7429.

PI 643467. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Uncertain. MN 4585; IS 3991; Grif 16362. Bird resistant.

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

PI 643468. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

IS 1182; NSL 50396; 65I 1154. Collected in India.

PI 643469. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

IS 451; NSL 50419; 65I 1177. Collected in United States.

PI 643470. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

IS 452; NSL 50420; 65I 1178. Collected in United States.

PI 643471. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

IS 453; NSL 50421; 65I 1179. Collected in United States.

- PI 643472. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 455; NSL 50422; 65I 1180. Collected in United States.
- PI 643473. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 457; NSL 50423; 65I 1181. Collected in United States.
- PI 643474. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 458; NSL 50424; 65I 1182. Collected in United States.
- PI 643475. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 462; NSL 50425; 65I 1183. Collected in United States.
- PI 643476. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 463; NSL 50426; 65I 1184. Collected in United States.
- PI 643477. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 464; NSL 50427; 65I 1185. Collected in United States.
- PI 643478. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 465; NSL 50428; 65I 1186.
- PI 643479. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 466; NSL 50429; 65I 1187.
- PI 643480. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 467; NSL 50430; 65I 1188.
- PI 643481. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 468; NSL 50431; 65I 1189.
- PI 643482. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 470; NSL 50432; 65I 1190.
- PI 643483. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 471; NSL 50433; 65I 1191.
- PI 643484. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 501; NSL 50434; 65I 1192.
- PI 643485. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2950; SA 7526-1-20-8-2-10-1; NSL 50437; 65I 1195. Collected in
United States.
- PI 643486. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2952; SA 7530-1-2-2-4-4-1M; NSL 50438; 65I 1196. Collected in United
States.
- PI 643487. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2953; 5080; NSL 50439; 65I 1197. Collected in United States.
- PI 643488. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1156; NSL 50898; 65I 1656. Collected in Sierra Leone.
- PI 643489. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1216; NSL 51072; 65I 1833. Collected in China.

PI 643490. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1217; NSL 51073; 65I 1834. Collected in China.

PI 643491. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1220; NSL 51074; 65I 1835. Collected in China.

PI 643492. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1208; NSL 51081; 65I 1842. Collected in China.

PI 643493. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1210; NSL 51083; 65I 1844. Collected in China.

PI 643494. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1211; NSL 51084; 65I 1845. Collected in China.

PI 643495. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1215; NSL 51086; 65I 1847. Collected in China.

PI 643496. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1219; NSL 51087; 65I 1848. Collected in China.

PI 643497. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1221; NSL 51088; 65I 1849. Collected in China.

PI 643498. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1222; NSL 51089; 65I 1850. Collected in China.

PI 643499. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1223; NSL 51090; 65I 1851. Collected in China.

PI 643500. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1564; NSL 51091; 65I 1852. Collected in India.

PI 643501. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 26; NSL 51104; 65I 1865.

PI 643502. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 36; NSL 51106; 65I 1867.

PI 643503. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 35; NSL 51110; 65I 1871.

PI 643504. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2; NSL 51112; 65I 1873.

PI 643505. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 4; NSL 51113; 65I 1874.

PI 643506. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 29; 5117; NSL 51114; 65I 1875.

PI 643507. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 37; NSL 51115; 65I 1876.

PI 643508. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 38; NSL 51116; 65I 1877.

- PI 643509. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 39; NSL 51117; 65I 1878.
- PI 643510. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 709; NSL 51125; 65I 1886.
- PI 643511. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 710; NSL 51128; 65I 1889. Collected in United States.
- PI 643512. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 713; NSL 51146; 65I 1907. Collected in United States.
- PI 643513. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 714; NSL 51147; 65I 1908. Collected in United States.
- PI 643514. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 716; NSL 51148; 65I 1909. Collected in United States.
- PI 643515. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 718; NSL 51149; 65I 1910. Collected in United States.
- PI 643516. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 509; NSL 51158; 65I 1919.
- PI 643517. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 643; FC 13438; 65I 1920; NSL 51159.
- PI 643518. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1242; NSL 51172; 65I 1933. Collected in India.
- PI 643519. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1245; NSL 51174; 65I 1935. Collected in India.
- PI 643520. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1257; NSL 51180; 65I 1941. Collected in India.
- PI 643521. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1290; NSL 51186; 65I 1947. Collected in Tanzania.
- PI 643522. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2249; NSL 51189; 65I 1950. Collected in India.
- PI 643523. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2250; NSL 51190; 65I 1951. Collected in India.
- PI 643524. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2888; NSL 51207; 65I 1968. Collected in Italy.
- PI 643525. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1416; NSL 51226; 65I 1988. Collected in India.
- PI 643526. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 907; NSL 51241; 65I 2003. Collected in Mexico.
- PI 643527. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 908; NSL 51242; 65I 2004. Collected in Mexico.

- PI 643528. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 637; NSL 51322; 65I 2089.
- PI 643529. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 616; NSL 51334; 65I 2101.
- PI 643530. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1251; NSL 51337; 65I 2104.
- PI 643531. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 708; NSL 51350; 65I 2118.
- PI 643532. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 719; NSL 51351; 65I 2119. Collected in United States.
- PI 643533. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1212; NSL 51380; 65I 2148. Collected in China.
- PI 643534. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 673; 65I 2164; NSL 51396. Collected in United States.
- PI 643535. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 188; NSL 51402; 65I 2170.
- PI 643536. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 189; SA 367; NSL 51403; 65I 2171; Texas Blackhull Kafir (Tall
Mutation). Developed in United States.
- PI 643537. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 216; NSL 51407; 65I 2175. Collected in United States.
- PI 643538. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1300; NSL 51413; 65I 2181. Collected in Australia.
- PI 643539. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1601; 5130; NSL 51416; 65I 2184. Collected in Texas, United States.
- PI 643540. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 232; NSL 51417; 65I 2185. Collected in United States.
- PI 643541. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 628; NSL 51418; 65I 2186.
- PI 643542. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 630; NSL 51419; 65I 2187.
- PI 643543. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 171; NSL 51421; 65I 2189.
- PI 643544. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 172; NSL 51422; 65I 2190.
- PI 643545. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 219; NSL 51432; 65I 2200. Collected in United States.
- PI 643546. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 220; NSL 51433; 65I 2201. Collected in United States.

- PI 643547. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 156; 5136; NSL 51453; 65I 2221.
- PI 643548. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 158; NSL 51454; 65I 2222.
- PI 643549. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 163; NSL 51455; 65I 2223.
- PI 643550. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 168; NSL 51456; 65I 2224.
- PI 643551. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 225; NSL 51463; 65I 2231. Collected in United States.
- PI 643552. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 227; NSL 51464; 65I 2232. Collected in United States.
- PI 643553. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 228; 5138; NSL 51465; 65I 2233. Collected in United States.
- PI 643554. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 229; NSL 51466; 65I 2234. Collected in United States.
- PI 643555. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 503; NSL 51467; 65I 2235.
- PI 643556. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 629; NSL 51468; 65I 2236.
- PI 643557. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 725; NSL 51469; 65I 2237. Collected in United States.
- PI 643558. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1531; NSL 51470; 65I 2238. Collected in India.
- PI 643559. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2042; NSL 51471; 65I 2239. Collected in Texas, United States.
- PI 643560. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2188; NSL 51472; 65I 2240. Collected in India.
- PI 643561. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2935; NSL 51473; 65I 2241.
- PI 643562. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2936; SA 8026-2-5-2; NSL 51474; 65I 2242. Collected in Zimbabwe.
- PI 643563. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2939; SA 8026-1-21-1; NSL 51475; 65I 2243. Collected in United States.
- PI 643564. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2942; SA 8026-1-24 M2; NSL 51477; 65I 2245. Collected in United States.

- PI 643565. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 832; NSL 51493; 65I 2261. Collected in United States.
- PI 643566. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1299; NSL 51494; 65I 2262. Collected in Australia.
- PI 643567. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 876; NSL 51510; 65I 2278. Collected in United States.
- PI 643568. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 877; NSL 51511; 65I 2279. Collected in United States.
- PI 643569. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 891; NSL 51512; 65I 2280. Collected in United States.
- PI 643570. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1295; NSL 51515; 65I 2283. Collected in South Africa.
- PI 643571. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2889; NSL 51526; 65I 2294. Collected in Italy.
- PI 643572. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2283; Mantaat Q2-2-36; NSL 51534; 65I 2301. Collected in United States.
- PI 643573. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2886; FAO 8485; NSL 51560; 65I 2327. Collected in Italy.
- PI 643574. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2211; NSL 51568; 65I 2335. Collected in Nebraska, United States.
- PI 643575. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2214A; NSL 51569; 65I 2336. Collected in Nebraska, United States.
- PI 643576. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2214B; NSL 51570; 65I 2337. Collected in Nebraska, United States.
- PI 643577. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2215; NSL 51571; 65I 2338. Collected in Nebraska, United States.
- PI 643578. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2217; NSL 51572; 65I 2339. Collected in Nebraska, United States.
- PI 643579. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2219; NSL 51573; 65I 2340. Collected in Nebraska, United States.
- PI 643580. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2221; NSL 51574; 65I 2341. Collected in Nebraska, United States.
- PI 643581. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2222; NSL 51575; 65I 2342. Collected in Nebraska, United States.
- PI 643582. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2223; NSL 51576; 65I 2343. Collected in Nebraska, United States.
- PI 643583. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2224; NSL 51577; 65I 2344. Collected in Nebraska, United States.

- PI 643584. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2225; NSL 51578; 65I 2345. Collected in Nebraska, United States.
- PI 643585. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2226; 5151; NSL 51579; 65I 2346. Collected in Nebraska, United States.
- PI 643586. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2227; NSL 51580; 65I 2347. Collected in Nebraska, United States.
- PI 643587. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2229; NSL 51582; 65I 2349. Collected in Nebraska, United States.
- PI 643588. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2230; NSL 51583; 65I 2350. Collected in Nebraska, United States.
- PI 643589. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2231; NSL 51584; 65I 2351. Collected in Nebraska, United States.
- PI 643590. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2232; NSL 51585; 65I 2352. Collected in Nebraska, United States.
- PI 643591. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2233; NSL 51586; 65I 2353. Collected in Nebraska, United States.
- PI 643592. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2234; NSL 51587; 65I 2354. Collected in Nebraska, United States.
- PI 643593. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2236; NSL 51588; 65I 2355. Collected in Nebraska, United States.
- PI 643594. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2237; NSL 51589; 65I 2356. Collected in Nebraska, United States.
- PI 643595. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2239; NSL 51590; 65I 2357. Collected in Nebraska, United States.
- PI 643596. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2240; NSL 51591; 65I 2358. Collected in United States.
- PI 643597. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 404; NSL 51610; 65I 2377. Collected in United States.
- PI 643598. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 875; NSL 51616; 65I 2383. Collected in United States.
- PI 643599. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 883; NSL 51617; 65I 2384. Collected in United States.
- PI 643600. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1363; NSL 51618; 65I 2385. Collected in India.
- PI 643601. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1381; NSL 51619; 65I 2386. Collected in India.

- PI 643602. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1382; NSL 51620; 65I 2387. Collected in India.
- PI 643603. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 691; NSL 51636; 66I 2403.
- PI 643604. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 226; NSL 51638; 65I 2405. Collected in United States.
- PI 643605. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 238; NSL 51639; 65I 2406.
- PI 643606. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 401; NSL 51640; 65I 2407. Collected in United States.
- PI 643607. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 807; NSL 51642; 65I 2409. Collected in United States.
- PI 643608. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 808; NSL 51643; 65I 2410. Collected in United States.
- PI 643609. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 809; NSL 51644; 65I 2411. Collected in United States.
- PI 643610. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 812; NSL 51645; 65I 2412. Collected in United States.
- PI 643611. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 823; NSL 51646; 65I 2413. Collected in United States.
- PI 643612. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 824; NSL 51647; 65I 2414. Collected in United States.
- PI 643613. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 881; NSL 51650; 65I 2417. Collected in United States.
- PI 643614. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 895; NSL 51651; 65I 2418. Collected in Oklahoma, United States.
- PI 643615. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 896; NSL 51652; 65I 2419. Collected in Oklahoma, United States.
- PI 643616. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2926; SA 7699-25-3-1; NSL 51654; 65I 2421. Collected in United States.
- PI 643617. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 631; NSL 51745; 65I 2513.
- PI 643618. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2284; Haak Doorn Q2-2-37; NSL 51757; 65I 2525. Collected in United States.
- PI 643619. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2197; NSL 51859; 65I 2627. Collected in India.

- PI 643620. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2638; NSL 51860; 65I 2628. Collected in India.
- PI 643621. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 72; NSL 51894; 65I 2662.
- PI 643622. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 83; NSL 51895; 65I 2663.
- PI 643623. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 85; NSL 51896; 65I 2664.
- PI 643624. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1218; NSL 52017; 65I 2785. Collected in China.
- PI 643625. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1348; NSL 52018; 65I 2786. Collected in Mexico.
- PI 643626. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 78; MN 67; CIso 182; NSL 52033; 65I 2801; Feterita.
- PI 643627. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1315; NSL 52035; 65I 2803. Collected in United States.
- PI 643628. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1349; NSL 52036; 65I 2804. Collected in Tanzania.
- PI 643629. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1352; NSL 52076; 65I 2845. Collected in Kenya.
- PI 643630. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 80; NSL 52077; 65I 2846.
- PI 643631. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 82; NSL 52078; 65I 2847.
- PI 643632. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1178; NSL 52308; 65I 1075. Collected in India.
- PI 643633. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1192; NSL 52309; 65I 1076. Collected in India.
- PI 643634. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 525; NSL 54126; 66I 3023.
- PI 643635. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 527; NSL 54127; 66I 3024.
- PI 643636. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 825; 5229; NSL 54182; 66I 3082. Collected in United States.
- PI 643637. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 508; NSL 54185; 66I 3085.
- PI 643638. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 510; NSL 54186; 66I 3086.

PI 643639. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 511; NSL 54187; 66I 3087.

PI 643640. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 517; NSL 54188; 66I 3088.

PI 643641. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 518; 5232; NSL 54189; 66I 3089.

PI 643642. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 519; NSL 54190; 66I 3090.

PI 643643. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 819; NSL 54191; 66I 3091. Collected in United States.

PI 643644. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 820; NSL 54192; 66I 3092. Collected in United States.

PI 643645. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2012; NSL 54193; 66I 3093. Collected in Texas, United States.

PI 643646. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2013; NSL 54194; 66I 3094. Collected in Texas, United States.

PI 643647. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2014; NSL 54195; 66I 3095. Collected in Texas, United States.

PI 643648. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2918; Double Dwarf White Hegari; SA 7706-5-1; NSL 54292; 66I 3196.
Collected in United States.

PI 643649. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 123; NSL 54324; 66I 3228.

PI 643650. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 103; NSL 54351; 66I 3254.

PI 643651. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 106; NSL 54352; 66I 3255.

PI 643652. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1283; NSL 54355; 66I 3258. Collected in Zambia.

PI 643653. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 101; NSL 54379; 66I 3282.

PI 643654. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 102; NSL 54380; 66I 3283.

PI 643655. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 104; NSL 54381; 66I 3284.

PI 643656. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 112; NSL 54382; 66I 3285.

PI 643657. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 114; NSL 54383; 66I 3286.

PI 643658. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 115; NSL 54384; 66I 3287.

PI 643659. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 120; NSL 54385; 66I 3288.

PI 643660. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 122; NSL 54386; 66I 3289.

PI 643661. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 124; NSL 54387; 66I 3290.

PI 643662. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 126; NSL 54388; 66I 3291.

PI 643663. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 128; NSL 54390; 66I 3293.

PI 643664. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 129; NSL 54391; 66I 3294.

PI 643665. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 132; NSL 54392; 66I 3295.

PI 643666. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 139; NSL 54393; 66I 3296.

PI 643667. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 135; NSL 54394; 66I 3297.

PI 643668. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 136; NSL 54395; 66I 3298.

PI 643669. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 138; NSL 54396; 66I 3299.

PI 643670. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 142; NSL 54397; 66I 3300.

PI 643671. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 145; NSL 54398; 66I 3301.

PI 643672. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 146; NSL 54399; 66I 3302.

PI 643673. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 531; NSL 54400; 66I 3303.

PI 643674. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 532; NSL 54401; 66I 3304.

PI 643675. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 533; NSL 54402; 66I 3305.

PI 643676. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 535; NSL 54403; 66I 3306.

- PI 643677. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 627; NSL 54404; 66I 3307.
- PI 643678. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 815; NSL 54405; 66I 3308. Collected in United States.
- PI 643679. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 816; NSL 54406; 66I 3309. Collected in United States.
- PI 643680. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 821; NSL 54407; 66I 3310. Collected in United States.
- PI 643681. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2007; NSL 54408; 66I 3311. Collected in Texas, United States.
- PI 643682. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2026; NSL 54409; 66I 3312. Collected in Texas, United States.
- PI 643683. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2043; NSL 54412; 66I 3315. Collected in Texas, United States.
- PI 643684. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2921; NSL 54416; 66I 3319. Collected in United States.
- PI 643685. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2934; SA 7532-1-1-1-1-6; NSL 54420; 66I 3323. Collected in United States.
- PI 643686. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 57; NSL 54512; 66I 3414.
- PI 643687. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 520; NSL 54558; 66I 3460.
- PI 643688. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 522; NSL 54559; 66I 3461.
- PI 643689. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 524; NSL 54560; 66I 3462.
- PI 643690. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1498; NSL 54561; 66I 3463. Collected in India.
- PI 643691. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 932; FC 4625; 66I 3487; NSL 54586. Collected in Sudan.
- PI 643692. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 911; NSL 54634; 66I 3536. Collected in Mexico.
- PI 643693. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1099; NSL 54653; 66I 3555. Collected in India.
- PI 643694. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1444; NSL 54664; 66I 3567. Collected in Pakistan.

- PI 643695. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1458; NSL 54667; 66I 3570. Collected in India.
- PI 643696. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1461; AS 356; NSL 54668; 66I 3571. Collected in India.
- PI 643697. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1472; NSL 54670; 66I 3573. Collected in India.
- PI 643698. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1492; NSL 54675; 66I 3578. Collected in India.
- PI 643699. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1493; NSL 54676; 66I 3579. Collected in India.
- PI 643700. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1511; NSL 54682; 66I 3585. Collected in India.
- PI 643701. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1521; NSL 54684; 66I 3587. Collected in India.
- PI 643702. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1524; NSL 54685; 66I 3588. Collected in India.
- PI 643703. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1530; NSL 54687; 66I 3590. Collected in India.
- PI 643704. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1533; NSL 54688; 66I 3591. Collected in India.
- PI 643705. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1537; NSL 54689; 66I 3592. Collected in India.
- PI 643706. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1546; NSL 54692; 66I 3595. Collected in India.
- PI 643707. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1573; NSL 54700; 66I 3603. Collected in India.
- PI 643708. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2204; NSL 54703; 66I 3606. Collected in India.
- PI 643709. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2235; NSL 54737; 66I 3642. Collected in Nebraska, United States.
- PI 643710. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2353; NSL 54738; 66I 3643. Collected in United States.
- PI 643711. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1067; NSL 55217; 66I 4129. Collected in India.
- PI 643712. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1149; NSL 55220; 66I 4132. Collected in India.
- PI 643713. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1463; NSL 55221; 66I 4133. Collected in India.

- PI 643714. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2195; NSL 55225; 66I 4138. Collected in India.
- PI 643715. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1407; NSL 55239; 66I 4151. Collected in India.
- PI 643716. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2890; NSL 55244; 66I 4157. Collected in Iraq.
- PI 643717. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 632; NSL 55248; 66I 4161.
- PI 643718. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2375; NSL 55254; 66I 4167. Collected in India.
- PI 643719. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1480; NSL 55262; 66I 4175. Collected in India.
- PI 643720. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1580; NSL 55263; 66I 4176. Collected in India.
- PI 643721. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2270; NSL 55266; 66I 4179. Collected in United States.
- PI 643722. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2074; NSL 55644; 66I 4564. Collected in India.
- PI 643723. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 54; NSL 55647; 66I 4567.
- PI 643724. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1008; NSL 55649; 66I 4569. Collected in India.
- PI 643725. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2003; NSL 55650; 66I 4570. Collected in Texas, United States.
- PI 643726. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2005; NSL 55651; 66I 4571. Collected in Texas, United States.
- PI 643727. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 504; NSL 55766; 66I 4695.
- PI 643728. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1034; NSL 55773; 66I 4704. Collected in India.
- PI 643729. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 915; NSL 55836; 66I 4768. Collected in Mexico.
- PI 643730. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1513; NSL 55839; 66I 4771. Collected in India.
- PI 643731. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2350; NSL 55840; 66I 4772. Collected in Indonesia. Djakarta.
- PI 643732. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 334; NSL 55851; 66I 4784. Collected in United States.

- PI 643733. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 336; NSL 55852; 66I 4785. Collected in United States.
- PI 643734. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 337; NSL 55853; 66I 4786. Collected in United States.
- PI 643735. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 338; NSL 55854; 66I 4787. Collected in United States.
- PI 643736. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 339; NSL 55855; 66I 4788. Collected in United States.
- PI 643737. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 348; MN 83; SA 292; NSL 55856; 66I 4789.
- PI 643738. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 371; NSL 55859; 66I 4792. Collected in United States.
- PI 643739. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 373; AS 3884; NSL 55860; 66I 4793. Collected in United States.
- PI 643740. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 375; AS 5132; NSL 55861; 66I 4794. Collected in United States.
- PI 643741. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 378; SA 2216; NSL 55862; 66I 4795. Collected in United States.
- PI 643742. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 379; NSL 55863; 66I 4796.
- PI 643743. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 381; NSL 55865; 66I 4798.
- PI 643744. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 382; NSL 55866; 66I 4799. Collected in United States.
- PI 643745. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 386; NSL 55869; 66I 4802. Collected in United States.
- PI 643746. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 387; NSL 55870; 66I 4803. Collected in United States.
- PI 643747. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 388; NSL 55871; 66I 4804. Collected in United States.
- PI 643748. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 389; NSL 55872; 66I 4805.
- PI 643749. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 506; NSL 55873; 66I 4806.
- PI 643750. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 802; NSL 55886; 66I 4823. Collected in United States.
- PI 643751. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 335; NSL 55894; 66I 4835. Collected in United States.

- PI 643752. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2241; NSL 55953; 66I 4903. Collected in Mexico.
- PI 643753. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 636; NSL 55966; 66I 4919.
- PI 643754. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2371; NSL 55968; 66I 4921.
- PI 643755. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2887; NSL 67923; 66I 4825. Collected in Italy.
- PI 643756. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 13; NSL 84147; ISABELA NO 9881.
- PI 643757. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 15; NSL 84148; ISABELA NO 9882.
- PI 643758. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 23; NSL 84149; ISABELA NO 9885.
- PI 643759. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 28; NSL 84150; ISABELA NO 9887.
- PI 643760. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 30; NSL 84151; ISABELA NO 9888.
- PI 643761. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 31; NSL 84152; ISABELA NO 9889.
- PI 643762. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 130; NSL 84155; ISABELA NO 9908.
- PI 643763. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 143; NSL 84156; ISABELA NO 9912.
- PI 643764. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 144; NSL 84157; ISABELA NO 9913.
- PI 643765. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 148; NSL 84158; ISABELA NO 9915.
- PI 643766. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 149; NSL 84159; ISABELA NO 9916.
- PI 643767. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 150; NSL 84160; ISABELA NO 9917.
- PI 643768. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 151; NSL 84161; ISABELA NO 9918.
- PI 643769. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 152; NSL 84162; ISABELA NO 9919.
- PI 643770. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 153; NSL 84163; ISABELA NO 9920.

- PI 643771. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 159; NSL 84165; ISABELA NO 9924.
- PI 643772. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 160; NSL 84166; ISABELA NO 9925.
- PI 643773. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 166; NSL 84167; ISABELA NO 9930.
- PI 643774. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 221; NSL 84168; ISABELA NO 9948. Collected in United States.
- PI 643775. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 223; NSL 84169; ISABELA NO 9950. Collected in United States.
- PI 643776. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 224; NSL 84170; ISABELA NO 9951. Collected in United States.
- PI 643777. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 259; NSL 84172; ISABELA NO 9953. Collected in China.
- PI 643778. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 399; NSL 84173; ISABELA NO 9971. Collected in United States.
- PI 643779. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 407; NSL 84174; ISABELA NO 9973.
- PI 643780. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 409; NSL 84175; ISABELA NO 9975. Collected in United States.
- PI 643781. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 410; NSL 84176; ISABELA NO 9976. Collected in United States.
- PI 643782. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 417; NSL 84177; ISABELA NO 9980. Developed in United States.
- PI 643783. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 418; NSL 84178; ISABELA NO 9981. Developed in United States.
- PI 643784. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 454; NSL 84179; ISABELA NO 9982. Collected in United States.
- PI 643785. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 456; NSL 84180; ISABELA NO 9983. Collected in United States.
- PI 643786. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 459; NSL 84181; ISABELA NO 9984. Collected in United States.
- PI 643787. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 460; NSL 84182; ISABELA NO 9985. Collected in United States.
- PI 643788. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 469; NSL 84183; ISABELA NO 9987.
- PI 643789. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 472; NSL 84184; ISABELA NO 9988.

- PI 643790. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 635; NSL 84187; ISABELA NO 10012.
- PI 643791. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 638; NSL 84188; ISABELA NO 10013.
- PI 643792. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 692; NSL 84189; ISABELA NO 10029.
- PI 643793. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 723; NSL 84191; ISABELA NO 10040. Collected in United States.
- PI 643794. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 803; NSL 84192; ISABELA NO 10042. Collected in United States.
- PI 643795. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 804; NSL 84193; ISABELA NO 10043. Collected in United States.
- PI 643796. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 811; NSL 84194; ISABELA NO 10047. Collected in United States.
- PI 643797. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 817; NSL 84195; ISABELA NO 10050. Collected in United States.
- PI 643798. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 818; NSL 84196; ISABELA NO 10051. Collected in United States.
- PI 643799. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 828; NSL 84197; ISABELA NO 10052. Collected in United States.
- PI 643800. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 885; NSL 84198; ISABELA NO 10077. Collected in United States.
- PI 643801. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 886; NSL 84199; ISABELA NO 10078. Collected in United States.
- PI 643802. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 887; NSL 84200; ISABELA NO 10079. Collected in United States.
- PI 643803. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 888; NSL 84201; ISABELA NO 10080. Collected in United States.
- PI 643804. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 889; NSL 84202; ISABELA NO 10081. Collected in United States.
- PI 643805. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 890; NSL 84203; ISABELA NO 10082. Collected in United States.
- PI 643806. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 965; EC 6856; NSL 84215; ISABELA NO 10113. Collected in Tanzania.
- PI 643807. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 966; NSL 84216; ISABELA NO 10114. Collected in United States.
- PI 643808. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1109; NSL 84223; ISABELA NO 10151. Collected in India.

- PI 643809. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1196; NSL 84227; ISABELA NO 10171. Collected in Malawi.
- PI 643810. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1225; NSL 84228; ISABELA NO 10174. Collected in United States.
- PI 643811. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1226; NSL 84229; ISABELA NO 10175.
- PI 643812. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1252; NSL 84230; ISABELA NO 10183. Collected in South Africa.
- PI 643813. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1253; NSL 84231; ISABELA NO 10184. Collected in India.
- PI 643814. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1273; NSL 84233; ISABELA NO 10187. Collected in Zambia.
- PI 643815. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1285; NSL 84234; ISABELA NO 10188. Collected in Zaire.
- PI 643816. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1286; NSL 84235; ISABELA NO 10189. Collected in Texas, United States.
- PI 643817. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1291; NSL 84236; ISABELA NO 10190. Collected in Tanzania.
- PI 643818. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1294; NSL 84237; ISABELA NO 10192. Collected in South Africa.
- PI 643819. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1296; NSL 84238; ISABELA NO 10193.
- PI 643820. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1298; NSL 84239; ISABELA NO 10194. Collected in United States.
- PI 643821. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1301; NSL 84240; ISABELA NO 10195. Collected in Australia.
- PI 643822. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1332; NSL 84243; ISABELA NO 10199. Collected in Nigeria.
- PI 643823. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1347; NSL 84244; ISABELA NO 10200. Collected in Egypt.
- PI 643824. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1351; NSL 84245; ISABELA NO 10201. Collected in Mexico.
- PI 643825. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1357; NSL 84246; ISABELA NO 10202. Collected in India.
- PI 643826. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1408; NSL 84250; ISABELA NO 10209. Collected in India.
- PI 643827. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1415; NSL 84252; ISABELA NO 10212. Collected in India.

- PI 643828. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1422; NSL 84253; ISABELA NO 10213. Collected in India.
- PI 643829. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1465; NSL 84255; ISABELA NO 10218. Collected in India.
- PI 643830. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1466; NSL 84256; ISABELA NO 10219. Collected in India.
- PI 643831. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1467; NSL 84257; ISABELA NO 10220. Collected in India.
- PI 643832. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1473; NSL 84258; ISABELA NO 10222. Collected in India.
- PI 643833. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1479; NSL 84260; ISABELA NO 10224. Collected in India.
- PI 643834. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1486; NSL 84261; ISABELA NO 10225. Collected in India.
- PI 643835. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1512; NSL 84266; ISABELA NO 10230. Collected in India.
- PI 643836. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1522; NSL 84269; ISABELA NO 10235. Collected in India.
- PI 643837. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1532; NSL 84271; ISABELA NO 10238. Collected in India.
- PI 643838. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1544; NSL 84272; ISABELA NO 10239. Collected in India.
- PI 643839. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1547; NSL 84274; ISABELA NO 10241. Collected in India.
- PI 643840. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1548; NSL 84275; ISABELA NO 10242. Collected in India.
- PI 643841. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1549; NSL 84276; ISABELA NO 10243. Collected in India.
- PI 643842. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1563; NSL 84278; ISABELA NO 10247. Collected in India.
- PI 643843. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1565; NSL 84279; ISABELA NO 10248. Collected in India.
- PI 643844. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1845; NSL 84282; ISABELA NO 10257. Collected in Arizona, United States.
- PI 643845. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1849; NSL 84283; ISABELA NO 10259. Collected in Arizona, United States.

- PI 643846. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1882; 5909; NSL 84284; ISABELA NO 10262.
- PI 643847. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2044; NSL 84286; ISABELA NO 10269. Collected in Texas, United States.
- PI 643848. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2075; NSL 84288; ISABELA NO 10272. Collected in India.
- PI 643849. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2210; NSL 84300; ISABELA NO 10332. Collected in Nebraska, United States.
- PI 643850. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2220; NSL 84301; ISABELA NO 10334. Collected in Nebraska, United States.
- PI 643851. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2258; NSL 84302; ISABELA NO 10345. Collected in United States.
- PI 643852. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2372; NSL 84327; ISABELA NO 10389.
- PI 643853. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2892; NSL 84395; ISABELA NO 10506. Collected in Italy.
- PI 643854. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2937; SA 8026-2-5-1; NSL 86751; 74I 10523. Collected in United States.
- PI 643855. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2938; SA 8026-1-21-2; NSL 86752; 74I 10524. Collected in United States.
- PI 643856. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2941; SA 8026-1-15-5; NSL 86753; 74I 10525. Collected in United States.
- PI 643857. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2943; SA 8026-1-2-1-4; NSL 86754; 74I 10526. Collected in United States.
- PI 643858. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2944; SA 8026-1-19-1-2; NSL 86755; 74I 10527. Collected in United States.
- PI 643859. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2945; SA 2526-4-11-3-14-3-1; NSL 86756; 74I 10528. Collected in United States.
- PI 643860. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2946; SA 7530-1-2-2-7-3-3-1; NSL 86757; 74I 10529. Collected in United States.
- PI 643861. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2947; SA 7530-1-2-2-7-1-6; NSL 86758; 74I 10530. Collected in United States.

- PI 643862. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2948; SA 7526-4-11-3-9-4-1; NSL 86759; 74I 10531. Collected in
United States.
- PI 643863. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2951; SA 7530-1-2-2-7-3-3-2; NSL 86761; 74I 10533. Collected in
United States.
- PI 643864. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 2954; SA 7530-1-2-2-7-1-1; NSL 86762; 74I 10534. Collected in United
States.

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

- PI 643865. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 12; NSL 103074; PR 09880.
- PI 643866. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 21; NSL 103075; PR 09884.
- PI 643867. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 24; NSL 103076; PR 09886.
- PI 643868. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 32; NSL 103077; PR 09890.
- PI 643869. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 117; NSL 103078; PR 09905.
- PI 643870. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 416; NSL 103079; PR 09979. Developed in United States.
- PI 643871. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 814; NSL 103081; PR 10049. Collected in United States.
- PI 643872. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 892; 6080; NSL 103082; PR 10083. Collected in United States.
- PI 643873. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 995; NSL 103086; PR 10115. Collected in United States.
- PI 643874. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1293; NSL 103092; PR 10191. Collected in South Africa.
- PI 643875. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1361; NSL 103094; PR 10204. Collected in India.
- PI 643876. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1436; NSL 103095; PR 10216. Collected in India.
- PI 643877. *Sorghum bicolor* (L.) Moench **subsp. bicolor**
IS 1468; NSL 103096; PR 10221. Collected in India.

PI 643878. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
IS 1520; NSL 103099; PR 10234. Collected in India.

PI 643879. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
IS 2004; NSL 103101; PR 10263. Collected in Texas, United States.

PI 643880. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
IS 2194; NSL 103105; PR 10327. Collected in India.

PI 643881. *Sorghum bicolor* (L.) Moench subsp. *bicolor*
IS 2917; SA 7706-1-2; Double Dwarf White Hegari; NSL 103129; PR 10516.
Collected in United States.

The following were donated by R.F. Arrudaveiga, Instituto Agronomico, Av. Barao De Itapura, 1481, Caixa Postal 28, Campinas, Sao Paulo 13001, Brazil. Received 02/02/1990.

PI 643882. *Hibiscus sabdariffa* L.
Grif 1539.

The following were collected by Rick J. Lewandowski, Morris Arboretum, The University of Pennsylvania, 9414 Meadowbrook Road, Philadelphia, Pennsylvania 19118, United States; Kevin Conrad, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Tiecheng Cui, Xian Botanic Garden, Cuihua South Rd., Xian City, Shaanxi 710061, China; Kunso Kim, Norfolk Botanical Garden, Azalea Garden Road, Norfolk, Virginia 23518, United States; James R. Ault, Chicago Botanic Garden, 1000 Lake Cook Road, P.O. Box 400, Glencoe, Illinois 60022, United States. Donated by Shawn Belt, USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Glenn Dale, Maryland 20769-9157, United States. Received 03/03/1997.

PI 643883. *Tricyrtis latifolia* Maxim.
Wild. QLG-006; Grif 13915; NA 67630; You Dian Chau (oil point grass). Collected 09/07/1996 in Shaanxi, China. Latitude 33° 38' 56" N. Longitude 107° 48' 44" E. Elevation 1740 m. Foping District, Foping Nature Preserve, San Gua Miao, Wa Fang Gou (Tile House Gully). Growing in deep shade in mixed deciduous and evergreen forest in moist conditions. Growing with bamboo *Cornus kousa* var. *chinensis*, sphagnum moss, *Viburnum Rhododendron* sp., *Acer* sp. and numerous herbaceous species.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; William Thomas, Longwood Gardens, P.O. Box 501, Kennett Square, Pennsylvania 19348, United States; Kevin Conrad, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States; Peter del Tredici, The Arnold Arboretum, Harvard University, 125 Arbor Way, Jamaica Plain, Massachusetts 02130-3159, United States. Donated by Shawn Belt, USDA, ARS, U.S. National Arboretum, National Germplasm Repository, Glenn Dale, Maryland 20769-9157, United States. Received 03/03/1997.

PI 643884. *Tricyrtis macropoda* Miq.

Wild. WD 044; Grif 13918; NA 64811. Collected 09/18/1994 in China. Latitude 32° 24' 27" N. Longitude 110° 59' 54" E. Elevation 1200 m. Wudang Shan, Hubei. In moist woodland valley with *Lindera glauca*, *Actinidia chinensis*, *Acer henryi*, *Cornus controversa* and *Pueraria lobata*, *Quercus serrata*. Seeds collected from many plants.

The following were donated by Cindy Wildeus, University of Virgin Islands, Kingshill, St. Croix 008850, Virgin Islands (U.S.). Received 08/22/1989.

PI 643885. *Alysicarpus vaginalis* (L.) DC.

VI 38; Grif 5533. Collected 08/11/1988 in St. Croix, Virgin Islands (U.S.). Scenic Road West, St. Croix, V.I. Roadside.

PI 643886. *Centrosema pubescens* Benth.

VI 53; Grif 5540. Collected 02/1987 in St. Croix, Virgin Islands (U.S.). Junction of highways 58 and 765, St. Croix, V.I. Roadside.

PI 643887. *Centrosema pubescens* Benth.

VI 87; Grif 5544. Collected 02/20/1989 in St. Croix, Virgin Islands (U.S.). Upper Love, St. Croix, V.I. *Panicum maximum*-sorghum sp. pastures.

The following were collected by Fooks; Arthur O. Tucker, Delaware State University, Department of Agriculture & Natural Resources, 1200 North Dupont Highway, Dover, Delaware 19901-2277, United States. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643888. *Chamaecrista fasciculata* (Michx.) Greene

9021262; MS 4842; Grif 7782. Collected 10/01/1980 in Arkansas, United States. MLRA 132, Prairie County, Arkansas.

The following were collected by T. Gentry. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643889. *Chamaecrista fasciculata* (Michx.) Greene

9021661; MS 4839; Grif 7785. Collected 09/01/1980 in Arkansas, United States. MLRA 131, Drew County, Arkansas.

The following were collected by W. Weege. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643890. *Chamaecrista fasciculata* (Michx.) Greene

9021655; MS 4813; Grif 7786. Collected 09/01/1980 in Arkansas, United States. MLRA 117, Crawford County, Arkansas.

The following were collected by John L. Reid, USDA, NRCS, 771 Corporate Drive, Suite 110, Lexington, Kentucky 40503-5479, United States. Donated by

James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643891. *Chamaecrista fasciculata* (Michx.) Greene
9021666; MS 4868; Grif 7788. Collected 10/01/1980 in Arkansas, United States. MLRA 131, Crittenden County, Arkansas.

The following were collected by H. Huffstatler; Wolfe. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643892. *Chamaecrista fasciculata* (Michx.) Greene
9028912; MS 4906; Grif 7808. Collected 10/01/1982 in Mississippi, United States. MLRA 135. Composite from Blackland Prarie, Mississippi.

The following were collected by J. Caudle; R. Swift. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643893. *Chamaecrista fasciculata* (Michx.) Greene
9028913; MS 4916; Grif 7809. Collected 08/01/1980 in Arkansas, United States. MLRA 131, Monroe County, Arkansas.

The following were collected by H. Huffstatler; Summers. Donated by James Wolfe, USDA, SCS, Suite 1321, Federal Building, 100 West Capitol Street, Jackson, Mississippi 39269, United States. Received 01/18/1991.

PI 643894. *Chamaecrista fasciculata* (Michx.) Greene
9028914; MS 4925; Grif 7810. Collected 11/01/1980 in Mississippi, United States. MLRA 133, Union County, Mississippi.

The following were donated by Cindy Wildeus, University of Virgin Islands, Kingshill, St. Croix 008850, Virgin Islands (U.S.). Received 08/22/1989.

PI 643895. *Desmanthus virgatus* (L.) Willd.
VI 1; Grif 5550. Collected 08/05/1987 in St. Croix, Virgin Islands (U.S.). Udall Pt., St. Croix V.I. Roadside.

PI 643896. *Desmanthus virgatus* (L.) Willd.
VI 2; Grif 5551. Collected 1987 in Portuguesa, Venezuela. Soil pH 5-6, 1600-2000 mm rainfall.

The following were developed by Primac Seed Company, Australia. Donated by Tim L. Springer, USDA, ARS, South Central Family Farms Research, 6883 South State Highway 23, Booneville, Arkansas 72927-9214, United States. Received 06/28/1991.

PI 643897. *Desmodium intortum* (Mill.) Urb.
Grif 1649. Collected in Australia.

PI 643898. *Desmodium uncinatum* (Jacq.) DC.
Grif 1650. Collected in Australia.

The following were collected by D.P. Sheehy, Eastern Oregon Agricultural Research Center, Post Office Box E, Union, Oregon 97833, United States; Douglas A. Johnson, USDA, ARS, Forage and Range Research Laboratory, Utah State University, Logan, Utah 84322-6300, United States. Received 10/10/1996.

- PI 643899. *Lespedeza daurica* (Laxm.) Schindl. var. *daurica***
Uncertain. E94247; Grif 14497. Collected 09/17/1994 in Mongolia.
Latitude 47° 17' 52" N. Longitude 109° 3' 8" E. Elevation 1181 m. Site No: E94-46. Hentii Mountains northeast of the Tariat Research Station. Along two streams draining the area. Both have microsites inhabited by numerous species. Mountain steppe. Soils are dark chestnut soils with high apparent fertility but with numerous cobbles present. Aspect is southeast and slope is 5%.
- PI 643900. *Lespedeza daurica* (Laxm.) Schindl. var. *daurica***
Uncertain. E94165; Grif 14499. Collected 09/11/1994 in Mongolia.
Latitude 47° 59' 49" N. Longitude 118° 6' 26" E. Elevation 466 m. Site No: E94-32. Research station, in extreme NE corner of Mongolia approximately 30 km from border with Inner Mongolia, established to test shrub and tree species adaptation to steppe environment. Grass steppe. Sprinkler irrigation has been used.
- PI 643901. *Lespedeza daurica* (Laxm.) Schindl. var. *daurica***
Uncertain. E94006; Grif 14502. Collected 09/02/1994 in Mongolia.
Latitude 47° 12' N. Longitude 108° 40' 39" E. Elevation 1448 m. Site No: E94-01. On and surrounding Tariat Research Station located near the Herlen River in Hentii Aimag. Grass steppe uplands above the river floodplain. Previously large areas have been plowed in an attempt to grow cereals. Most of plowed land has been abandoned to weeds. Soils are shallow and gravelly and of obvious low fertility.
- PI 643902. *Lespedeza daurica* (Laxm.) Schindl. var. *daurica***
Uncertain. W94017; Grif 14503. Collected 09/04/1994 in Mongolia.
Latitude 49° 57' 52" N. Longitude 106° 18' 3" E. Elevation 939 m. Just North of Dulaahhaan near the top of grade. Mountain steppe. Slope is 10%.
- PI 643903. *Lespedeza juncea* (L. f.) Pers.**
Uncertain. W94018; Grif 14504. Collected 09/04/1994 in Mongolia.
Latitude 49° 57' 52" N. Longitude 106° 18' 3" E. Elevation 939 m. Just north of Dulaahhaan near the top of grade. Mountain steppe. Slope is 10%.
- PI 643904. *Lespedeza juncea* (L. f.) Pers.**
Uncertain. W94023; Grif 14505. Collected 09/05/1994 in Mongolia.
Latitude 50° 7' 11" N. Longitude 106° 13' 6" E. Elevation 832 m. About 5 km north of Shaamar and 8 km south of Suhbaatar along west side of highway in meadow. Mountain steppe.

The following were donated by Md. Jalaluddin, Agricultural Research Institute, General Post Office Box 2235, Joydebpur, Gazipur, Bangladesh. Received 10/15/1993.

PI 643905. *Pueraria* sp.

Grif 5619.

The following were donated by Cindy Wildeus, University of Virgin Islands, Kingshill, St. Croix 008850, Virgin Islands (U.S.). Received 08/22/1989.

PI 643906. *Teramnus labialis* (L. f.) Spreng.

VI 45; Grif 5581. Collected 02/1989 in St. Croix, Virgin Islands (U.S.). Udall Point, St. Croix, V.I.; roadside.

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

PI 643907. *Trifolium squarrosus* L.

Wild. T008.CPG94; W6 15982. Collected 06/21/1994 in Tunisia. Latitude 36° 49' 29" N. Longitude 10° 58' 47" E. Elevation 18 m. Near Skalba, 5 k west of Menzer Temine on C45. Grazed, roadside irrigation run-off. Slope 0-5%, aspect NE. Area open. Soil clay, vertisol, pH 8.5+. Rainfall 425 mm. Moist, floodplain. Vegetation closed, seasonal tall grass. Surrounding veg. agriculture, orchard. Population abundance frequent, distribution patchy. Growth habit spreading.

PI 643908. *Trifolium squarrosus* L.

Wild. T041.CPG94; W6 16015. Collected 06/23/1994 in Tunisia. Latitude 36° 45' 59" N. Longitude 9° 11' 46" E. Elevation 170 m. Near Beja, 4.5 k north of Beja on MC52. Grazed. Slope 0-5%, aspect S. Open. Soil clay. Seasonally flooded, stream terrace. Vegetation closed, seasonal tall grass. Surrounding veg. dryland wheat. Dominant herb/grass sp. couch, bermuda. Assoc. sp. Medics, Lotus c., T. fragiferum, clovers. Population abundance occasional, distribution patchy. Growth habit semi-erect.

The following were developed by Jack Brown, University of Idaho, Dept. of Plant, Soil and Entomological Sciences, Crop & Weed Science, Moscow, Idaho 83844-2339, United States. Received 11/09/2006.

PI 643909. *Brassica juncea* (L.) Czern.

Cultivar. Population. "KODIAK". Pedigree - Lethbridge 22A/J.89.144. Seed yield was high and relatively consistent over a range of environments that exist throughout the Pacific Northwest region. Averaged over 96 years-sites, seed yield was 1,515 kg ha⁻¹. Lowest seed yield was from trials in 2003 (962 kg ha⁻¹), with highest yield (1,881 kg ha⁻¹) from trials in 2001. Seed yield was significantly higher than Cutlass (1,433 kg ha⁻¹), Lethbridge 22A (1459 kg ha⁻¹), and Common Brown (1456 kg ha⁻¹). Oil content (31.5%) was not significantly lower than Pacific Gold (34.8%). Aliphatic glucosinolate content of defatted seed meal was 209 umole g⁻¹, which was not significantly different than Cutlass. Primary glucosinolate was 2-propenyl glucosinolate (sinigrin), accounting for over 99% of total glucosinolates. Seedlings have small to medium size cotyledons and semi-upright seedling growth habit at the rosette stage.

Leaves are light to med-green in color with slight glaucosity. Leaves are pointed and leaf margins have strong serration. Fully developed leaves have no lobing and leaf-attachment to the main stem shows no clasping. Flower buds appear at the tip of the apical meristem. Flowers open on average 61 d after planting. Petals are bright yellow, and anther dotting is absent. Bilateral single pods (siliques) are semi-erect to erect. Pod length and width is short to medium (35.6 mm long and 4.0 mm wide) with long pedicel length (12.9 mm) and short pod beak (6.2 mm). Pods contain a low number to medium number (18.6 seeds pod⁻¹) of dark brown seeds. Seed size (12.20 g 1000 seeds⁻¹) is not significantly different from Pacific Gold, (12.01 g 1000 seeds⁻¹), and seed weight was significantly higher than Lethbridge 22A (11.05 g 1000 seeds⁻¹) or Common Brown (10.75 g 1000 seeds⁻¹).

The following were developed by Kevin B. Jensen, USDA, ARS, Utah State University, Forage & Range Research Laboratory, Logan, Utah 84322-6300, United States; A.J. Palazzo, U.S. Army Cold Regions Res. and Engineering Lab., 72 Lyme Road, Hanover, New Hampshire 03755-1290, United States; Blair Waldron, USDA, ARS, Utah State University, Forage and Range Research Laboratory, Logan, Utah 84322-6300, United States; B. Shaun Bushman, USDA, ARS, FRRL, Utah State University, Forage and Range Research Laboratory, Logan, Utah 84322-6300, United States. Received 11/06/2006.

PI 643910. *Elymus trachycaulus* (Link) Gould ex Shinners

Cultivar. Pureline. "FIRSTSTRIKE". CV-29; REST 643910. Pedigree - The 20 source plants of FirstStrike originated from four germplasm collections: Ruth 21 _ Fort Carson Training Center, CO [53_54 (N/S), 15_16 (E/W)]; Ruth 26 _ Fort Carson Training Center, CO [71_72 (N/S), 14_15 (E/W)]; Ruth 31 _ 10 mi. north of Rawlins, WY on HWY 287; and Ruth 37 _ Gillette, WY near Roadway Inn between Wyoming Highway numbers 14/16 & Railroad. A source nursery was established in 1995 at Fort Carson Training Center near Pueblo, CO. Collections of Ruth 21, 26, 31, and 37 were replanted in a space planted nursery with 10 plants per plot and eight replications (320 plants). Based on persistence and overall vigor in 1997 selections were made from Ruth 21 (7 plants), Ruth 26 (9 plants), and Ruth 31 (4 plants). Vegetative sprigs (clones) from the 20 plants selected were established at a nursery near Snowville, ID (Curlew Grasslands) in 1998. This nursery was comprised of two plants per plot with five replications. In 2000, seed from each line was equally bulked by weight to form the breeder seed. A foundation seed field was established in North Logan, UT in 2001 and foundation seed was harvested 2002, 2003, and 2004. Rapid seedling establishment is the key to a successful revegetation planting in the western United States. In seeded trials at Yakama Training Center (YTC), Yakima, WA (est. fall 2002), Camp Guernsey, Guernsey, WY (est. spring 2004 and 2005), Fillmore, UT (est. fall 2003 and 2004), and Malta, ID (est. fall 2004) when planted at a rate of 1 seed per cm pure live seed (PLS), FirstStrike had significantly ($P < 0.05$) more seedlings per unit area (m²) than Pryor in the establishment year. At Filre, UT and Malta, ID, initial stand and persistence of FirstStrike were similar to the cultivar San Luis. FirstStrike was similar to or better than Pryor and San Luis for persistence. At Guernsey, WY, dry matter yield was 27% greater ($P < 0.07$) in FirstStrike than Pryor. FirstStrike germinated five days earlier than Pryor on three different soil types (sandy loam, loam, and sandy). FirstStrike can be distinguished from the other cultivars by the presence or absence of several AFLP markers.

The following were developed by J. Allen Wrather, University of Missouri, Agricultural Research and Extension, Delta Center, P.O. Box 160, Portageville, Missouri 63873, United States; Sam C. Anand, University of Missouri, Department of Agronomy, 210 Waters Hall, Columbia, Missouri 65211, United States; David A. Sleper, University of Missouri, Department of Agronomy, 271-F Life Sciences Center, Columbia, Missouri 65211, United States; J. Grover Shannon, University of Missouri-Columbia, Missouri Ag Experiment Station, Delta Research Center, Portageville, Missouri 63873, United States; Henry Nguyen, University of Missouri-Columbia, Department of Agronomy, Plant Sciences Unit, 1-87 Agriculture Building, Columbia, Missouri 65211, United States. Received 11/13/2006.

PI 643911. Glycine max (L.) Merr.

Cultivar. Pureline. "STODDARD". CV-487; REST 643911. Pedigree - K1393 x Anand. Stoddard was developed by the Missouri Agricultural Experiment Station at the University of Missouri-Delta Center, Portageville, MO. Yields of Stoddard have averaged 200 to 400 kg ha⁻¹ more than Manokin on sand, loam and clay soil types in 25 Southeast Missouri tests. In comparison to 5002T in the Uniform Tests-Southern States across three years and 43 locations, Stoddard averaged 1% less in seed yield (5002T yielded 3480 kg ha⁻¹); the same maturity (5002T matured 10/02); more lodging with a score of 2.3 versus 1.8 for 5002T based on a scale of 1 to 5 with 1.0 being erect and 5.0 lodged flat); 3 cm taller (5002T was 71 cm) and 1.5g 100 seeds⁻¹ smaller seed (5002T was 14.6 g 100 seed⁻¹). Plants of Stoddard have a determinate growth habit with white flowers, tawny pubescence and tan pods at maturity. Seeds are shiny yellow with black hila. Seed protein and oil content on a dry weight basis have averaged 39.6 g kg⁻¹ and 19.8 g kg⁻¹, respectively compared to 40.6 g kg⁻¹ and 20.5 g kg⁻¹ for 5002T. It has shown a similar reaction to SCN HG types (races) as compared to Anand. Stoddard has shown moderate resistance to SCN HG type 2.5.7 (Race 1), HG type 1.2- (Race 2), HG type 0 (Race 3) and HG type 2- (Race 5) and HG type 1.3- (Race 14) in greenhouse tests at Portageville, MO and Columbia, MO, in 2003 and 2005. Average SCN female indexes on Stoddard for each HG type above were 23, 1, 15, 1, and 1, respectively based on a SCN female index of 100 for the susceptible check. In the same tests female indexes for Anand for each HG type averaged 19, 3, 13, 1 and 3, respectively. Stoddard has shown moderate resistance to root knot nematode in four years of testing (2002-2005) in plantings after potatoes near Bertrand, MO. It is moderately resistant to SDS and stem canker caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc, var. *meridionales* F. A. Fernandez] It is susceptible to phytophthora root rot [caused by *Phytophthora sojae* M. J. Kaufmann & J. W. Gerdemann].

The following were developed by J. Allen Wrather, University of Missouri, Agricultural Research and Extension, Delta Center, P.O. Box 160, Portageville, Missouri 63873, United States; R.T. Robbins, University of Arkansas, Nematology Lab, Fayetteville, Arkansas 72701, United States; Sam C. Anand, University of Missouri, Department of Agronomy, 210 Waters Hall, Columbia, Missouri 65211, United States; David A. Sleper, University of Missouri, Department of Agronomy, 271-F Life Sciences Center, Columbia, Missouri 65211, United States; J. Grover Shannon, University of Missouri-Columbia, Missouri Ag Experiment Station, Delta Research Center, Portageville, Missouri 63873, United States; Henry Nguyen, University of

Missouri-Columbia, Department of Agronomy, Plant Sciences Unit, 1-87
Agriculture Building, Columbia, Missouri 65211, United States. Received
11/13/2006.

PI 643912. *Glycine max* (L.) Merr.

Cultivar. Pureline. "JAKE". CV-486; REST 643912. Pedigree - S94-1867 x Anand. Jake, mid-group V (RM 5.5), was developed by the Missouri Agricultural Experiment Station at the University of Missouri-Delta Center, Portageville, MO. In comparison to 5601T in the Uniform Tests-Southern States across three years and 44 locations, Jake averaged 1% more in seed yield, 1d earlier (5601T matured 10/07); the same lodging score (5601T was 1.8 based on a score of 1 to 5 with 1 being erect and 5.0 lodged flat); 3 cm shorter (5601T was 82 cm) and 0.8g 100 seeds-1 larger seed (5601T was 13.4 g 100 seed-1). Jake has a determinate growth habit with purple flowers, tawny pubescence and tan pods at maturity. Seed are shiny yellow with black hila. Seed protein and oil content on a dry weight basis have averaged 408 and 194 g kg-1 seed, respectively. It has shown a similar reaction to SCN HG types (races) as compared to Anand. Jake has shown moderate resistance to SCN HG type 2.5.7 (Race 1), HG type 1.2- (Race 2), HG type 0- (Race 3) and HG type 2- (Race 5) and HG type 1.3- (Race 14). Average SCN female indexes on Jake for each HG type above were 21, 2, 26, 1, and 2, respectively based on a SCN female index of 100 for the susceptible check. In the same tests female indexes for Anand for each HG type averaged 19, 3, 13, 1 and 3, respectively. Jake has shown moderate resistance to root knot nematode in four years of testing (2002-2005) in plantings after potatoes near Bertrand, MO and has shown resistance to reniform nematode in tests at the University of Arkansas. It is moderately resistant to stem canker [caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionales* F. A. Fernandez] and sudden death syndrome [caused by *Fusarium solani* (Mort.) Sacc. f. sp. *glycines* Roy]. It is susceptible to phytophthora root rot [caused by *Phytophthora sojae* M. J. Kaufmann & J. W. Gerdemann].

The following were developed by J. Allen Wrather, University of Missouri, Agricultural Research and Extension, Delta Center, P.O. Box 160, Portageville, Missouri 63873, United States; Sam C. Anand, University of Missouri, Department of Agronomy, 210 Waters Hall, Columbia, Missouri 65211, United States; David A. Slepser, University of Missouri, Department of Agronomy, 271-F Life Sciences Center, Columbia, Missouri 65211, United States; J. Grover Shannon, University of Missouri-Columbia, Missouri Ag Experiment Station, Delta Research Center, Portageville, Missouri 63873, United States; Jeong-Dong Lee, University of Missouri-Delta Center, P.O. Box 160 147 State Highway T, Portageville, Missouri 63873, United States. Received 11/13/2006.

PI 643913. *Glycine max* (L.) Merr.

Breeding. Pureline. S00-9980-22. GP-330. Pedigree - TN94-216 x S94-1867. TN94-213 is from S85-1009 x Hutcheson. S85-1009 is from Bedford x Essex. S94-1867 is from P9592 x S91-1693. P9592 is derived from P9561 x (A5618 x P9561). P9561 is from Forrest x Mack. A5618 is from Williams x York. S91-1693 is from Hartwig x Coker 485. S00-9980-22 was developed by the University of Missouri Agricultural Experiment Station, Division of Plant Sciences - Delta Center, Portageville, MO. It has value as a parent in soybean improvement programs because of its high yield potential, high seed protein content and resistance to root knot nematode [*Meloidogyne incognita* (Kofoid & White) Chitwood]. S00-9980-22

is late-group V maturity (relative maturity 5.9). Plants of S00-9980-22 have a determinate growth habit, purple flowers, tawny pubescence, tan pods and shiny yellow seed with brown hila. In comparison to 5601T in the Maturity Group V regional quality traits test over three years and 24 locations, S00-9980-22 averaged 3% more seed yield (5601T averaged 3454 kg ha⁻¹), three d later (5601T matured 10/12), five cm shorter (5601T was 87 cm tall), and had a similar lodging score (5601T had a score of 1.8 where 1.0 is all plants erect and 5.0 is all plants lodged flat). Seeds of S00-9980-22 averaged 0.5 grams/100 seed⁻¹ larger, 11 g kg⁻¹ higher protein and with similar oil content on a 13% moisture basis than seeds of USG 5601T which averaged 13.4 grams/100 seed⁻¹, 377 g kg⁻¹ protein and 180 g kg⁻¹ oil. S00-9980-22 has shown resistance to common root knot nematode in Missouri screening trials after potatoes from 2002-2005 near Bertrand, Missouri. It is also resistant to bacterial pustule [caused by *Xanthomonas axonopodis* pv. *glycines* (Nakano) Vauterin et al.]. It is susceptible to soybean cyst nematode *Heterodera glycines* Ichinohe, phytophthora root rot caused by *Phytophthora sojae* M. J. Kaufmann & J. W. Gerdemann and stem canker [caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionalis* F.A. Fernandez].

The following were developed by J. Allen Wrather, University of Missouri, Agricultural Research and Extension, Delta Center, P.O. Box 160, Portageville, Missouri 63873, United States; David A. Sleper, University of Missouri, Department of Agronomy, 271-F Life Sciences Center, Columbia, Missouri 65211, United States; J. Grover Shannon, University of Missouri-Columbia, Missouri Ag Experiment Station, Delta Research Center, Portageville, Missouri 63873, United States; Jeong-Dong Lee, University of Missouri-Delta Center, P.O. Box 160 147 State Highway T, Portageville, Missouri 63873, United States. Received 11/13/2006.

PI 643914. *Glycine max* (L.) Merr.

Breeding. Pureline. S02-2259. GP-331. Pedigree - DP3519S x LG92-4208. DP3519S is an HG type 0 and 1.3- (formerly race 3 and 14) soybean cyst nematode resistant (SCN *Heterodera glycines* Ichinohe) cultivar released by Delta and Pine Land Co, PO Box 357, Scott, MS 38772. LG92-4208 is a germplasm line with 50% of its parentage derived from PIs. S02-2259, maturity group V (relative maturity 5.7) was developed by the University of Missouri Agricultural Experiment Station, Division of Plant Sciences - Delta Center, Portageville, MO. It will be useful as a parent because it combines high yield potential and disease resistance with 25% of its pedigree derived from plant introductions (PIs) that are not known to be present in the current gene pool for cultivar development in the southern USA. In the Uniform Preliminary V test, S02-2259 was 2% less than 5601T the highest yielding entry in the test at 3647 kg ha⁻¹. In comparison to 5601T for other traits, S02-2259 matured 2 days later (5601T matured 11 October); was 5 cm shorter (5601T averaged 81 cm tall); lodged more with a lodging score of 2.3 versus 1.9 for 5601T where 1.0 is all plants erect and 5.0 is all plants lodged flat; and had 0.5 g /100 seed⁻¹ larger seed (5601T averaged 13.2 g /100 seed⁻¹). S02-2259 was 16 g kg⁻¹ lower in protein content and 11 g kg⁻¹ higher in oil content than 5601T which averaged 415 g kg⁻¹ in seed protein 203 g/kg⁻¹ in seed oil. S02-2259 has white flowers, gray pubescence, and tan pods at maturity. Seed are dull yellow with buff hila. It has shown moderate resistance to SCN HG type 0 (formerly race 3) with a female index of 9 and HG type 1.3- (formerly race 14) with a female index of 25 compared to an index of 100 for the susceptible check based on

greenhouse tests at Portageville and Columbia, MO. S02-2259 is resistant to stem canker [caused by *Diaporthe phaseolorum* (Cooke and Ellis) Sacc. var. *meridionalis* F.A. Fernandez] and bacterial pustule [caused by *Xanthomonas axonopodis* pv. *glycines* (Nakano) Vauterin et al]. It is susceptible to southern root knot nematode [*Meloidogyne incognita* (Kofoid & White) Chitwood] and phytophthora root rot caused by *Phytophthora sojae* M. J. Kaufmann & J. W. Gerdemann.

The following were developed by Dick L. Auld, Texas Tech University, Department of Plant and Soil Sciences, P.O. Box 42122, Lubbock, Texas 79409-2122, United States; Wayne Smith, Texas A&M University, Department of Soil & Crop Science, College Station, Texas 77843, United States; E. Bechere, Texas Tech University, Dept. of Plant and Soil Science, Lubbock, Texas 79409-2122, United States; E. Hequet, Texas Tech University, International Textile Center, Lubbock, Texas 79409-5888, United States; Roy Cantrell, Cotton Incorporated, 6399 Weston Parkway, Cary, North Carolina 27513, United States; Mourad Krifa, Texas Tech University, International Textile Center, Lubbock, Texas 79409-5888, United States; Sukant Misra, Texas Tech University, Dept. of Agricultural and Applied Economics, Lubbock, Texas 79409-2132, United States. Received 11/06/2006.

PI 643915. *Gossypium hirsutum* L.

Breeding. Pureline. TTU 0774-3-3. GP-878. Pedigree - TTU 202-1107B x Acala 1517-95. Midseason maturing germplasm line. Has normal shaped leaves and glanded and nectaried. Produces flowers with cream colored petals, anthers, and pollen. Bolls have four to five locks and resist shattering but are not storm proof and are suitable for picker harvesting. Averaged 115 cm in height. HVI and AFIS fiber quality data analysis showed the superiority of this line over the FiberMax check cultivars. Has higher HVI upper half mean length, stronger fiber, good micronaire, higher length uniformity index, lower short fiber content, higher maturity ratio, and fewer neps than the check cultivars FiberMax 958 and FiberMax 989. Yarn results showed excellent tenacity level. Lint yield slightly lower than both FiberMax check cultivars.

PI 643916. *Gossypium hirsutum* L.

Breeding. Pureline. TTU 0808-1-6-1. GP-879. Pedigree - TTU 1722 x NM24052 (DESHAF16/Del Cero). Midseason maturing germplasm line with normal shaped leaves, glanded and nectaried. Produces flowers with cream colored petals, anthers, and pollen. Bolls have four to five locks and resist shattering but are not storm proof so are suitable for picker harvesting. Averaged 123 cm in height. HVI and AFIS fiber quality data analysis showed the superiority of this line over the FiberMax check cultivars. Has higher HVI upper half mean length, stronger fiber, good micronaire, higher length uniformity index, lower short fiber content, higher maturity ratio, and fewer neps than the check cultivars FiberMax 958 and FiberMax 989. Yarn results showed excellent tenacity level. Lint yield slightly lower than both FiberMax check cultivars.

The following were developed by Gerald O. Myers, Louisiana State University, Dept. of Agronomy, 104 Madison B. Sturgis Hall, Baton Rouge, Louisiana 70803-2110, United States; J.I. Dickson, Louisiana State University, Baton Rouge, Louisiana 70803, United States; Jimmy Zumba, Louisiana State University, 104 M. B. Sturgis Hall, Department of Agronomy, Baton Rouge, Louisiana 70803, United States; W.D. Caldwell, Louisiana State University

AgCenter, Dept. of Agronomy and Environmental Management, 104 MB Sturgis Hall, Baton Rouge, Louisiana 70803, United States. Received 11/09/2006.

PI 643917. *Gossypium hirsutum* L.

Breeding. Pureline. LA1110004. GP-877. Pedigree - Paymaster 1560/FiberMax 832. The comparable yield of LA1110004 combined with its exceptional fiber strength and length as well as its favorable micronaire, elongation and fiber length uniformity values makes it valuable to cotton breeding programs looking to improve fiber quality. Phenotypically, LA1110004 possess the okra leaf shape and has smooth leaves and pubescent stems. LA1110004 is of medium to full maturity. Results from the performance trials with commercial cultivars averaged over 2003-2005 showed that the lint yield of LA1110004 was not significantly different. The lint percentage for LA1110004 averaged 40%. Upper Half Mean (UHM) length of LA1110004 averaged 1.16 inches across the ten trials. The HVI fiber bundle strength of LA1110004 was 35.7 g/tex. Micronaire averaged 4.8. Elongation values averaged 8.3. The uniformity index value for LA1110004 was greater than any of the commercial cultivars.

PI 643918. *Gossypium hirsutum* L.

Breeding. Pureline. LA1110017. GP-876. Pedigree - Paymaster 1560/FiberMax 832. The superior fiber strength and length of this line as well as its favorable micronaire, elongation and fiber length uniformity values makes it valuable to cotton breeding programs looking to improve fiber quality and maintain high yield potential. LA1110017 has a normal leaf shape, hairy leaves and pubescent stems. It is of medium to full maturity. Results from common performance trials with popular cultivars averaged over 2003-2005 showed that the lint yields of LA1110017 were comparable. The Upper Half Mean (UHM) length averages 1.19 inches. The HVI fiber bundle strength of LA1110017 has an average of 35.0 g/tex. The average micronaire value of LA1110017 is 4.6 and the elongation value for LA1110017 is 8.07. Uniformity index value for LA1110017 is 84.14. The lint percentage of LA1110017 averages 40%.

The following were developed by Lynn M. Gourley, Mississippi State University, 211 Hiwassee Drive, Starkville, Mississippi 39759, United States. Received 11/06/2006.

PI 643919. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 515. Pedigree - (MP 55 X S-81)-19-1-2. MP 515 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0° 30' S and Longitude 36° E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24° C and a mean minimum temperature range of 8 - 14° C.

PI 643920. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 516. Pedigree - (MP 55 X S-81)-19-1-5. MP 516 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643921. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 517. Pedigree - (MP 28 X S-92)-4-1-1. MP 517 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643922. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 518. Pedigree - (MP 28 X S-92)-4-1-3. MP 518 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643923. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 519. Pedigree - (MP 28 X S-92)-4-1-4. MP 519 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive

brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643924. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 520. Pedigree - (MP 28 X S-92)-10-1-1. MP 520 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643925. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 521. Pedigree - MP 28 X S-92)-49-1-3. MP 521 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has purple plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643926. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 522. Pedigree - (MP 41 X N-17)-5-1-1. MP 522 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has red plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research

Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643927. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 523. Pedigree - (MP 41 X N-17)-5-1-2. MP 523 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has red plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643928. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 524. Pedigree - (MP 41 X N-17)-5-1-3. MP 524 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has purple plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643929. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 525. Pedigree - (MP 41 X N-17)-5-1-4. MP 525 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has purple plant color, and white seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643930. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 526. Pedigree - (MP 41 X N-17)-28-1-1. MP 526 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has purple plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643931. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 527. Pedigree - (MP 41 X N-17)-28-1-2. MP 527 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has purple plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643932. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 528. Pedigree - (MP 41 X N-17)-28-1-4. MP 528 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has purple plant color, and red seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643933. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 529. Pedigree - (MP 41 X N-17)-28-1-5. MP 529 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the

recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

PI 643934. *Sorghum bicolor* (L.) Moench subsp. *bicolor*

Breeding. Pureline. MP 530. Pedigree - (MP 41 X N-17)-36-1-1. MP 530 is a dual-purpose, cold tolerant, and brown-midrib sorghum line. It is photo period insensitive, of two-dwarf plant height, has tan plant color, and brown seed. Seed was increased at the Mississippi Agricultural and Forestry Experiment Station. This line possesses the recessive brown-midrib (bmr12) gene from a cross between a MSU brown-midrib forage line and dominant gene(s) for cold tolerance at the anthesis stage of plant growth from a Rwanda cold tolerant, food-grain line. The F3 generation of this line was found to be superior to other selections for percent seed set and seed weight per panicle when evaluated for two years during the cool season at the Kenya Agricultural Research Institute at Lanet, Kenya. The Lanet National Beef Research Center (Latitude 0 degrees 30' S and Longitude 36 degrees E) is 1920 m above sea level, with a mean maximum temperature range of 14 - 24 degrees C and a mean minimum temperature range of 8 - 14 degrees C.

The following were developed by Robert A. Graybosch, USDA-ARS, University of Nebraska, 314 Biochem Hall, Lincoln, Nebraska 68583, United States; Carl A. Griffey, Virginia Polytechnic Institute, & State University, Dept. of Crop & Soil Env. Sciences, Blacksburg, Virginia 24061-0404, United States; Sue Cambron, USDA-ARS, 901 W. State St., Purdue University, West Lafayette, Indiana 47907, United States; Harold E. Bockelman, USDA, ARS, National Small Grains Collection, 1691 S 2700 W, Aberdeen, Idaho 83210, United States; R.J. Kratochvil, University of Maryland, Maryland Agric. Exp. Station, College Park, Maryland 20742, United States; Arvydas Grybauskas, University of Maryland, Dept Natural Resource Sciences, 2102 Plant Science Bldg., College Park, Maryland 20742-4452, United States; Jose Costa, University of Maryland, PSLA Department, Plant Sciences Bldg. Room 2102, College Park, Maryland 20742-4452, United States; David S. Marshall, USDA, ARS, North Carolina State University, Plant Science Research Unit, Raleigh, North Carolina 27695-7616, United States; A. Cooper, University of Maryland, Dept. of Natural Resource Sciences and Landscape, Architecture, College Park, Maryland 20742-4452, United States; Yue Jin, USDA, ARS, University of Minnesota, Cereal Disease Lab, St. Paul, Minnesota 55108, United States; C. Gaines, USDA-ARS, Soft Wheat Quality Lab, Wooster, Ohio 44691, United States. Received 11/09/2006.

PI 643935. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "CHESAPEAKE". CV-1011. Pedigree - VA91-54-222 (Roane'S')/FFR555W / VA93-52-55 (Massey/Balkan/Saluda). Released 2005. Early-season, high-yielding, medium-statured, awnless, soft red winter wheat with good straw strength and resistant to powdery mildew. Coleoptiles are white. Juvenile plants exhibit a semierect growth habit. Plant color at booting is blue-green and a waxy bloom is present on the stem and flag leaf sheath. Anther color is yellow. Spikes are tapering,

mid-dense, and awnless. Kernels are large, red, soft and ovate with a crease of medium width and depth, rounded cheeks, and a medium non-collared brush. Head emergence in Maryland is 1 d later than 'USG3109' and 1d earlier than 'Roane'. Average plant height (34 inches) in Maryland is similar to USG3209 and shorter than Roane. Average straw strength is similar to Roane and better than USG3209. Average grain yields (69.2 bu/ac) were 0.9 bu/ac higher than USG3209 and 4.2 bu/ac higher than Roane, respectively over 5 locations in Maryland over 3 years. Average test weight is high, similar to Roane and Coker 9184. Milling quality is good and superior to Roane and lower than Sisson. Grain produces more flour than Roane. Baking quality is good and superior to Roane.

The following were collected by Rick J. Lewandowski, Morris Arboretum, The University of Pennsylvania, 9414 Meadowbrook Road, Philadelphia, Pennsylvania 19118, United States; Edward J. Garvey, USDA, ARS, Natl. Germplasm Resources Laboratory, Room 409, Building 003, BARC-West, Beltsville, Maryland 20705-2350, United States; Weilin Li, Jiangsu Institute of Botany, Nanjing Botanical Garden, P.O. Box 1435, Nanjing, Jiangsu 210014, China. Received 10/26/1998.

PI 643936. *Rubus lambertianus* Ser.

Wild. TS98-010; NGRL 242. Collected 10/07/1998 in Anhui, China. Latitude 30° 6' 8" N. Longitude 118° 50' 48" E. Elevation 970 m. Shexian County, Qingliang Peak Reserve: Houershi. Valley called the Da Xi which supposedly means Elephant-Lion Valley. Sloping site in woodlands along stream; 20-30 degree slope. Growing with *Lindera glauca*, *Acer*, *Hydrangea*, *Quercus*, *Actinidia*, *Camellia*, *Liquidambar*. Pedigree - Collected from the wild in Anhui, China. Shrub, 3 m, tall arching canes, 3-4 canes/plant. Leaves simple, cordate shaped, serrate margins, very pubescent. Fruit translucent, orange-red, shiny, 1 cm. diameter.

The following were collected by Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States; Judith Young, Unknown; Gong Deshen, Guizhou Botanical Garden, Liuchongguan, Guiyang, Guizhou 550001, China; Shi Shengde, Guizhou Botanical Garden, Liuchongguan, Guiyang, Guizhou 550001, China; De Sheng Wei, Guizhou Botanical Garden, Liuchongguan, Guiyang, Guizhou 550001, China; Cheng Xiang Wang, Guizhou Botanical Garden, Guizhou Academy of Science, Liuchongguan, Guiyang, Guizhou 550001, China. Donated by Maxine Thompson, National Clonal Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333, United States. Received 07/21/1992.

PI 643937. *Rubus parvifolius* L.

Wild. 92141; *R. parvifolius*; CRUB 1656. Collected 06/05/1992 in Guizhou, China. Latitude 25° 38' N. Longitude 108° 58' E. Elevation 555 m. near Bei Meng village. Pedigree - Collected from the wild in China. Additional information is forthcoming.

The following were donated by Nanjing Botanical Garden, Mem. Sun Yat-Sen, Nanjing, Jiangsu, China. Received 11/02/1992.

PI 643938. *Rubus irenaeus* Focke

Wild. CRUB 1697. Collected 09/15/1992 in Guizhou, China. Elevation 1440

m. Xishui County. Pedigree - Collected from the wild in China. Fruit red.

PI 643939. *Rubus parvifolius* L.

Wild. CRUB 1707. Collected 09/26/1992 in Guizhou, China. Elevation 2100 m. Weining County. Pedigree - Collected from the wild in China. Fruit red.

The following were collected by Pilar Banados, Pontificia Universidad Catolica de Chile, Facultad de Agronomia, Departamento de Fruticulturas y Enologia, Santiago, Santiago, Chile. Received 09/22/1998.

PI 643940. *Rubus geoides* Sm.

Clone. CRUB 1981. Collected 04/01/1998 in Los Lagos, Chile. Latitude 41° 50' S. Longitude 73° 32' W. Elevation 0 m. Chacao, Island of Chiloe. Pedigree - Collected from the wild in Chile.

The following were collected by University of Oulu, Botanical Garden, Linnanmaa, Oulu, Oulu SF-90570, Finland. Donated by Kari Laine, University of Oulu, Botanical Gardens, Linnanmaa PO Box 400, Oulu, Oulu SF-90570, Finland. Received 1994.

PI 643941. *Rubus chamaemorus* L.

Wild. *R. chamaemorus*; 496; CRUB 1989. Collected 09/15/1993 in Lappi, Finland. Latitude 69° 12' N. Longitude 21° 6' E. Elevation 0 m. Enontekiön Lappi, Enontekiö, Jehkats. Pedigree - Collected from the wild in Finland.

The following were donated by Scottish Crop Research Institute, Invergowrie, Dundee, Scotland DD25DA, United Kingdom. Received 04/22/1999.

PI 643942. *Rubus hybrid*

Cultivar. CRUB 2004. Orig.- as a chance seedling in a wood in Dorsetshire, England. Parentage probably the native *Rubus idaeus*; introd. J.J. Kettle, Corfe Castle, Dorset; introd. into North America in 1923. Fruit: medium size, soft, dark, excellent flavor. Plant: moderately productive and vigorous. Resistant to the common strain of the North American aphid vector of the rasp-berry mosaic virus complex. Has been used extensively in North American breeding programs as a source of aphid resistance, conferred by gene Agi, and in both North American and European programs as a source of fruit quality, particularly flavor.

Unknown source. Received 05/24/1999.

PI 643943. *Rubus ikenoensis* H. Lev. & Vaniot

Cultivated. *R. ikenoensis*; ruja062; CRUB 2052. From mountains in Japan; arching, lightly prickled stems produce strawberry-like leaves; white flowers; red fruit; sun.

The following were donated by James Glen Melcher, 3633 Rigolette, Pineville, Louisiana 71360, United States. Received 11/12/1999.

PI 643944. *Rubus riograndis* L. H. Bailey

Cultivated. "Rio Grande"; *R. riograndis*; CRUB 2053. Vinelike, long-running, and presumably rooting at tips, making mats or mounds 2 ft. or more deep.

The following were collected by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 03/14/2001.

PI 643945. *Rubus hybrid*

Cultivar. Marion Variegated; CRUB 2139. Collected 05/18/2000 in Oregon, United States. Latitude 45° 16' N. Longitude 122° 41' W. Elevation 0 m. Established berry field near Canby, Oregon. Chlorophyll mutation. Sectoral chimera? Expressed as yellow streaks and bands in the foliage and stems.

The following were collected by David Johnson, 1009 Iris Street, Milton, Washington 98354, United States. Received 04/01/2001.

PI 643946. *Rubus hybrid*

Cultivated. Himalaya x Evergreen; CRUB 2140. Collected 1986 in Washington, United States. Latitude 47° 19' N. Longitude 122° 11' W. Elevation 0 m. Green River Community College, Auburn, Washington. *Rubus* found at Green River Community College, Auburn, Washington in 1986. Clusters larger than Himalaya, fruit firmer and sweeter. Botytis resistant.

The following were collected by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States; Walter J. Kaiser, U.S. Peace Corps, Cuerpo de Paz, Casilla #749, Sucre, Chuquisaca, Bolivia; Isabella Arevshatyan, Yerevan, Armenia; Mariam Emyan, USDA, Marketing Assistance Program, Armenia; Eleonora Gabrielian, Department of Plant Systemics, Geography National Academie of Sciences, Institute of Botany, Yerevan, Armenia; Samvel M. Gasparian, Scientific Research Center of Viticulture, Fruit Growing and Wine Making, Merdzavan, Armenia; Vrez Manakyan, Armenia Academie of Science, Institute of Botany, Yerevan, Armenia; Ashot A. Charchoghlian, National Academie of Sciences, Institute of Botany, Yerevan, Armenia. Donated by Richard M. Hannan, USDA, ARS, Washington State University, Regional Plant Introduction Station, Pullman, Washington 99164-6402, United States. Received 06/27/2002.

PI 643947. *Rubus caesius* L.

Wild. ARM-01-041; *R. idaeus* ARM-01-041; CRUB 2168. Collected 08/09/2001 in Armenia. Latitude 40° 5' 39" N. Longitude 44° 46' 24" E. Elevation 0 m. at the bottom of a steep canyon in Khosrov Reserve. Pedigree - Collected from the wild in Armenia.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Gagik Movsisyan, Armenia; Alan Whittemore, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, NE, Washington, District of Columbia 20002-1958, United

States; Ashot A. Charchoglian, National Academie of Sciences, Institute of Botany, Yerevan, Armenia; Pavel Humbaryan, Armenia Institute of Botany, Yerevan, Armenia; Yura Paityan, Armenia Institute of Botany, Yerevan, Armenia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/11/2002.

PI 643948. *Rubus idaeus* L.

Wild. CRUB 2170. Collected 09/06/2002 in Armenia. Latitude 40° 36' 22" N. Longitude 44° 32' 36" E. Elevation 2201 m. Khosrov Preserve, Ararat Marz provence. Roadside on edge of forest with *Betula litwinovii*. Pedigree - Collected from the wild in Armenia.

PI 643949. *Rubus idaeus* L.

Wild. CRUB 2171. Collected 09/07/2002 in Armenia. Latitude 40° 39' 43" N. Longitude 45° 0' 21" E. Elevation 1650 m. Dilijan National Park, Tavush Marz provence. Moist forest with *Quercus macranthera*. Pedigree - Collected from the wild in Armenia.

PI 643950. *Rubus idaeus* L.

Wild. CRUB 2172. Collected 09/07/2002 in Armenia. Latitude 40° 40' 45" N. Longitude 44° 52' 51" E. Elevation 1940 m. North of Sevan Pass in the province of Tavush Marz. At edge of *Pinus sylvestris* grove, in wet ravine below. Pedigree - Collected from the wild in Armenia.

PI 643951. *Rubus idaeus* L.

Wild. CRUB 2174. Collected 09/12/2002 in Armenia. Latitude 40° 45' 7" N. Longitude 44° 28' 16" E. Elevation 1794 m. Vanadzor Valley, Lori Marz province. On forest edge along a moist seep with *Quercus macranthera* and *Carpinus betulus*. Pedigree - Collected from the wild in Armenia.

PI 643952. *Rubus idaeus* L.

Wild. CRUB 2175. Collected 09/13/2002 in Armenia. Latitude 40° 54' 19" N. Longitude 44° 25' 49" E. Elevation 1922 m. Along Pushkin Mountain Road in Lori Marz province. Growing in Scattered clusters in rocky terrain. Pedigree - Collected from the wild in Armenia.

PI 643953. *Rubus caesius* L.

Wild. CRUB 2176. Collected 09/14/2002 in Armenia. Latitude 40° 59' 53" N. Longitude 44° 39' 8" E. Elevation 834 m. Near Alaverdi in Lori Marz province. Disturbed, rocky slope between road and Debed River with *Acer campestre* and *Carpinus orientalis*. Pedigree - Collected from the wild in Armenia.

The following were collected by James Glen Melcher, 3633 Rigolette, Pineville, Louisiana 71360, United States. Received 09/2002.

PI 643954. *Rubus* sp.

Wild. CRUB 2204. Collected 09/2002 in Louisiana, United States. Latitude 31° 26' 50" N. Longitude 92° 34' 14" W. Elevation 34 m. One hundred feet off U.S. 71 on Tyson Road at Rock Hill, Grant Parish. Pedigree - Collected from the wild in Louisiana.

The following were collected by Wes Messinger, Oregon State University, Dept. Horticulture, Corvallis, Oregon 97331, United States; James R. Ballington, North Carolina State University, Department of Horticultural Sciences, Box 7609, Raleigh, North Carolina 27695-7609, United States; David E. Williams, USDA/FAS/ICD/RSED, 1400 Independence Ave. SW, South Building - Room 3223, Washington, District of Columbia 20250-1084, United States. Donated by Wes Messinger, Oregon State University, Dept. Horticulture, Corvallis, Oregon 97331, United States. Received 12/03/2003.

PI 643955. *Rubus bullatus* Rusby

Wild. CRUB 2226. Collected 03/09/1995 in La Paz, Bolivia. Latitude 16° 10' 18" S. Longitude 67° 8' 2" W. Elevation 3445 m. Valle de Zongo, 15.3 km North of dam at Laguna Zongo (34.3 km from junction of road to Chacaltaya.). Many moss-covered granitic boulders, found with *Vaccinium floribundum*, *Ribes bolivianum*, *Desmosthenesia* sp. and *Siphonandra* sp. Pedigree - Collected from the wild in Bolivia.

The following were collected by Thomas Davis, University of New Hampshire, College of Life Science and Agriculture, Plant Biology/Genetics, Durham, New Hampshire 03824-3597, United States; Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Hiroyuki Imanishi, Akita Prefectural College of Agriculture, Experimental Farm, 6 Ogata, Ogata, Akita 010-0451, Japan; Hiroyuki Iketani, National Res. Inst. of Vegetables, Ornamentals and Tea, 360 Kusawa, Ano Mie, Japan. Donated by Kim Hummer, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 08/03/2004.

PI 643956. *Rubus sachalinensis* H. Lev.

Wild. *R. idaeus* var. *aculeatissimus* J69; HD-2004-69; CRUB 2276. . Collected 07/18/2004 in Hokkaido, Japan. Latitude 43° 59' 27" N. Longitude 144° 12' 13" E. Elevation 28 m. Lake Abashiri, edge of trail and lake. Associated species: white clover, *Equisetum*, under *Juglans mandscurica*, *Alnus* and *Corylus sieboldi*. Pedigree - Collected in the wild from Hokkaido, Japan. This accession was collected under the auspices of a bilateral agreement between the National Institute of Agrobiological Sciences, Ministry of Agriculture Fisheries and Foods, Japan, and the U. S. Department of Agriculture, Agricultural Research Service, USA, prepared in May 2004.

The following were collected by Paul Meyer, The University of Pennsylvania, Morris Arboretum, 9414 Meadowlark Avenue, Philadelphia, Pennsylvania 19118, United States; Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Giorgi Arabuli, State Museum of Georgia, Tbilisi, Georgia. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 10/26/2004.

PI 643957. *Rubus idaeus* L.

Wild. GE-2004-044; CRUB 2302. Collected 09/26/2004 in Georgia. Pedigree - Collected from the wild in the Republic of Georgia.

The following were collected by C. Miyoshi, Toyama University, 3190 Gofuku, Toyama, Toyama 930-8555, Japan; T. Tsukada, Toyama University, 3190 Gofuku, Toyama, Toyama 930-8555, Japan. Donated by Naohiro Naruhashi, Toyama University, Department of Biology, Faculty of Science, Toyama, Toyama 930, Japan. Received 10/31/2005.

PI 643958. *Rubus mesogaeus* Focke
Wild. CRUB 2321. Collected 08/11/2003 in Gifu, Japan. Pedigree -
Collected in the wild from Gifu, Japan.

The following were donated by Nourse Farms, Inc., 41 River Road, South Deerfield, Massachusetts 01373, United States. Received 03/06/2006.

PI 643959. *Rubus idaeus* L.
Cultivar. CRUB 2329.

The following were donated by Forest Farm Nursery, 990 Tetherow Road, Williams, Oregon 97544-9599, United States. Received 08/2006.

PI 643960. *Rubus lambertianus* var. *glaber* Hemsl.
Cultivated. CRUB 2332.

PI 643961. *Rubus spectabilis* Pursh
Cultivated. CRUB 2333.

Unknown source. Received 05/30/2006.

PI 643962. *Rubus trivialis* Michx.
Wild. CRUB 2335. Collected 05/22/2006 in Florida, United States.

Unknown source. Received 05/30/2006.

PI 643963. *Rubus trivialis* Michx.
Wild. CRUB 2336. Collected 05/22/2006 in Florida, United States.

Unknown source. Received 05/30/2006.

PI 643964. *Rubus trivialis* Michx.
Wild. CRUB 2338. Collected 05/24/2006 in Florida, United States.

Unknown source. Received 07/21/2006.

PI 643965. *Rubus spectabilis* Pursh
Wild. CRUB 2339. Collected 07/15/2006 in Alaska, United States.

Unknown source. Received 07/21/2006.

PI 643966. *Rubus spectabilis* Pursh
Wild. CRUB 2340. Collected 07/16/2006 in Alaska, United States.

The following were donated by Agricultural Research Centre, Propagation Unit for Healthy Plants, Finland. Received 03/05/1986.

PI 643967. Rubus hybrid

Cultivar. "HEISA"; Q 25977. Pedigree - Rubus arcticus X ideaus.

The following were donated by Sylvester March, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States. Received 11/03/1987.

PI 643968. Rubus inermis Pourr.

Wild. UK 014; Q 27003. Collected in England, United Kingdom. Pedigree - selection of Rubus inermis from England.

The following were donated by Pasquale Rosati, Universita degli Studi di Ancona, Dipartimento di Biotechnologie Agrarie, Via Brecce Bianche-Segreteria, Ancona, Marches 60131, Italy. Received 06/21/1993.

PI 643969. Rubus nubigenus Kunth

BE-4777; Q 30911.

The following were donated by Institut za Vovcarstov, Cacak, Serbia. Received 09/08/2000.

PI 643970. Rubus sp.

Cultivar. "Cacanska Bestrna"; Q 42806.

The following were donated by Duncan Farquar, Tasmania, Australia. Received 12/07/2000.

PI 643971. Rubus hybrid

Cultivar. "Mammoth"; Q 43046.

The following were developed by Mehboob Ur Rahman, National Institute for Biotechnology & Genetic Engineering &, PGMB Labs, PO Box 577, Faisalabad, Pakistan; Y. Zafar, National Institute for Biotechnology and Genetic Eng., P.O. Box 577, Jhang Road, Faisalabad, Pakistan. Received 11/20/2006.

PI 643972. Gossypium hirsutum L.

Breeding. Pureline. NIBGE-115. GP-880. Pedigree - Developed by pedigree selection from a cross of the unreleased genotype LRA-5166 (primary source of resistance to the old strain of CLCuD) and 'S-12' (highly susceptible to the old strain of Cotton Leaf Curl Disease). The resistant F2 plants and succeeding generations were developed through single plant-row progenies. The procedure was repeated to F7. In the normal cotton growing season of 2002-03, the recombinant inbred lines resistant to the old strain of CLCuD were grown in the Burewala region (Cotton Research Station Vehari, Pakistan) to provide maximum inoculum of the Burewala strain of CLCuD. Out of these, NIBGE-115 was found virus free. In 2003-04, NIBGE-115 along with cultivars/genotypes were raised in the Burewala region and screened for resistance to Burewala strain,

both visually and with a PCR-based diagnostic test. A standard randomized complete block design with four replications was followed. The screening was continued for two successive normal cotton-growing seasons (2004-06). Out of the 20 cotton cultivars/genotypes, NIBGE-115 showed field resistance against the Burewala strain of CLCuD. Is nectaried, possesses normal shaped leaves and bracts, with pubescent stems/leaves, and glanded, exhibiting a spreading type plant habit with 0-4 monopodial branches. Flowering initiates 40-47 d after planting with the pollen being cream-colored. Average lint yields were 7.48% more than CIM-496 (standard) at all locations conducted from 2004-06. Fiber properties of the line (measured with high volume instrument) were fairly acceptable (3% shorter, 5% stronger, and 5% higher micronaire value than CIM-496. Germplasm will be useful for breeding cultivars against the Burewala virus strain of the cotton leaf curl disease.

The following were developed by Phillip Miklas, USDA, ARS, Irrigated Agric. Research & Extension Ctr., 24106 North Bunn Road, Prosser, Washington 99350-9687, United States; Shree P. Singh, University of Idaho, Kimberly Research & Extension Ctr., 3793 North 3600 East, Kimberly, Idaho 83341-5076, United States; Howard F. Schwartz, Colorado State University, Department of Plant Pathology, C 205 Plant Science Building-BSPM, Fort Collins, Colorado 80523-1177, United States; H. Teran, University of Idaho, Kimberly Research & Extension Center, 3793 North 3600 East, Kimberly, Idaho 83341, United States; M. Lema, University of Idaho, Kimberly Research & Extension Center, 3793 North 3600 East, Kimberly, Idaho 83341, United States. Received 11/21/2006.

PI 643973. *Phaseolus vulgaris* L.

Breeding. Pureline. A 195. GP-245. Pedigree - Developed from the single cross GX 120 = Red Kloud/ICA 10009. Red Kloud has I gene resistance to Bean common mosaic virus (BCMV). Breeding line ICA 10009 also has I gene resistance to BCMV. Mass selection was practiced in F2. A single plant was selected in the F3 bulk population at ICA-Pitalito, Huila, Colombia. The F4 plant-to-progeny row was planted at CIAT-Palmira, where a single plant was selected. The F5 plant-to-progeny row was again planted at the same site. Because the F5 was uniform for growth habit, flower color, maturity, and seed characteristics, eight of the most vigorous plants were harvested in bulk to form the first seed stock of A 195. White mold [caused by *Sclerotinia sclerotiorum*] dry bean breeding line A 195 has Type I growth habit, large ovate trifoliolate leaves and white flowers with small ovate bracteoles. Took over 100 d to reach maturity at Parma, Idaho in 2006. Has large (52-54 g 100 seed weight-1) opaque, beige colored seed with a distinctive yellow hilar ring. In replicated trials in the greenhouse at Kimberly, Idaho in 2005 and 2006, had a mean white mold score of 3.7 on a 1 to 9 scale, where 1 = symptomless or healthy and 9 = severely diseased and eventual plant death. Had an average white mold score of 2.0 in a replicated field trial at Parma, Idaho in 2006. The respective mean white mold scores in the greenhouse and field were 4.4 and 5.3 for MO 162 and 5.8 and 6.5 for G 122.

The following were developed by Donald F. Salmon, Alberta Agriculture, Field Crop Research Centre, 5030-50 Street, Lacombe, Alberta T4L 1W8, Canada; James H. Helm, Alberta Agriculture, Food and Rural Development, Field Crop Development Centre, Lacombe, Alberta T4L 1W8, Canada; Patricia E. Juskiw, Alberta Agriculture, Field Crop Development Centre, 5030-50 St., Lacombe, Alberta T4L 1W8, Canada; Susan Albers, Alberta Agriculture, Field Crop

Development Ctr., 5030-50 St., Lacombe, Alberta T5B 4K3, Canada; Joseph M. Nyachiro, Alberta Agriculture, Food & Rural Development, Field Crop Development Centre, Lacombe, Alberta T4L 1W8, Canada; M. Oro, Alberta Agriculture, Food and Rural Developmentt. Centre, Field Crop Development Center, Lacombe, Alberta T4L 1W8, Canada; Colin Bergen, Alberta Agriculture and Food, Field Crop Development Centre, 5030 50th Street, Lacombe, Alberta T4L 1W8, Canada. Received 11/17/2006.

PI 643974. X Triticosecale sp.

Cultivar. Pureline. "BUNKER". CV-29; REST 643974. Pedigree - Pika-5/Yogui-1//85L012006. Released 2006. Standard height spring triticale line intended for use as a feed grain and conserved forage on the Canadian prairies. Has a large/plump seed and is similar in maturity and seed yield to the spring triticale varieties Pronghorn and AC Ultima, but is superior in forage yield to both varieties. Is rated as resistant to leaf rust, stem rust, and is moderately resistant to FHB.

The following were developed by Donald F. Salmon, Alberta Agriculture, Field Crop Research Centre, 5030-50 Street, Lacombe, Alberta T4L 1W8, Canada; James H. Helm, Alberta Agriculture, Food and Rural Development, Field Crop Development Centre, Lacombe, Alberta T4L 1W8, Canada; Patricia E. Juskiw, Alberta Agriculture, Field Crop Development Centre, 5030-50 St., Lacombe, Alberta T4L 1W8, Canada; Susan Albers, Alberta Agriculture, Field Crop Development Ctr., 5030-50 St., Lacombe, Alberta T5B 4K3, Canada; Joseph M. Nyachiro, Alberta Agriculture, Food & Rural Development, Field Crop Development Centre, Lacombe, Alberta T4L 1W8, Canada; M. Oro, Alberta Agriculture, Food and Rural Developmentt. Centre, Field Crop Development Center, Lacombe, Alberta T4L 1W8, Canada; Colin Bergen, Alberta Agriculture and Food, Field Crop Development Centre, 5030 50th Street, Lacombe, Alberta T4L 1W8, Canada; Bill Chapman, Alberta Agriculture and Food, FieldCrop Development Centre, 5030 50th Street, Lacombe, Alberta T4L 1W8, Canada. Received 11/17/2006.

PI 643975. X Triticosecale sp.

Cultivar. Pureline. "TYNDAL". CV-30; REST 643975. Pedigree - Nimir-1/Hare-265//Erizo-9/88L012. Released 2006. Standard height spring triticale line (shorter than Bunker) intended for use as a feed grain and conserved forage in the higher rainfall or irrigated portions of the Canadian prairies. Similar in maturity to the earliest checks and has a high-test weight. Is rated as resistant to leaf and stem rust but is moderately susceptible to FHB.

The following were developed by Saga Prefectural Regional Industry Support Center, Japan. Received 10/03/2006.

PI 643976 PVPO. Glycine max (L.) Merr.

Cultivar. "OLERICH150". PVP 200600261.

The following were developed by National Agriculture and Food Research Organization, Japan. Received 10/03/2006.

PI 643977 PVPO. Glycine max (L.) Merr.

Cultivar. "SUZUSAYAKA". PVP 200600262.

The following were developed by Greg D. Kushnak, Montana State University, Western Triangle Agric. Research Center, P.O. Box 1474, Conrad, Montana 59425, United States; Phil L. Bruckner, Montana State University, Dept. of Plant Sciences & Plant Pathology, 407 Leon Johnson Hall, Bozeman, Montana 59717, United States; N.R. Riveland, Williston Research Extension Center, North Dakota Agric. Exp. Sta., 14120 Highway 2, Williston, North Dakota 58801, United States; G.R. Carlson, Montana State University, Northern Agric. Research Center, Star Rt. 36, Havre, Montana 59501, United States; Joyce L. Eckhoff, Montana State University, Eastern Agric. Research Center, 1501 N. Central Avenue, Sidney, Montana 59270, United States; D.W. Wichman, Montana State University, Central Agric. Research Center, Moccasin, Montana 59462, United States; Robert N. Stougaard, Montana State University, Northwestern Agric. Research Center, 4570 MT Hwy 35, Kalispell, Montana 59901, United States; J.E. Berg, Montana State University, Dept. of Plant, Soil & Environmental Sciences, Bozeman, Montana 59717, United States; Ken Kephart, Montana State University, MSU Southern Ag. Research Center, 748 Railroad Highway, Huntley, Montana 59037, United States; W.E. Grey, Montana State University, Bozeman, Montana 59717, United States; Montana Agricultural Experiment Station, Bozeman, Montana, United States; D. Nash, Montana State University, Dept. of Plant Sciences and Plant Pathology, Bozeman, Montana 59717, United States; E.S. Davis, Montana State University, Dept. of Land Resources & Environmental Sciences, Bozeman, Montana 59717, United States. Received 10/03/2006.

PI 643978. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. "HYALITE"; MTCL0306. PVP 200600291; REST 643978; CV-1014. Pedigree - Selected from a composite of three related populations: MTW9727/FS2//NuWest, MTW9722/3/NuWest//TX12588-120*4/FS2 and NuSky//TAM110*4/FS2/3/3/N95S004. FS2 was developed by BASF by mutagenesis of Fidel and contains a single gene at the *als1* locus for a cetolactate synthesis which conveys tolerance to imidazolinone herbicides. Released 2005. Medium maturity, conventional-height CLEARFIELD(R) hard white winter wheat with an average heading date of 159.6 d from 1 Jan., n=26 and an average height of 94 cm, n=28. Winter hardiness is moderate in trials exhibiting differential survival. Under natural infection in Montana, Hyalite is resistant to stem rust (caused by *Puccinia graminis*) and very susceptible to stripe rust (caused by *Puccinia striiformis*). Based on seven Montana crop tolerance trials, tolerance to imazamox is equivalent to that of Above and MT1159CL. In 31 trials in Montana in 2004 and 2005, average grain yield of Hyalite (5026 kg ha⁻¹) was higher than Clearfield check cultivars, and average grain volume weight (776 g m⁻³, n=32) and average grain protein of Hyalite (132 g kg⁻¹, n=32) were similar to check cultivars, MT1159CL and Above. Like parental lines NuWest and NuSky, Hyalite has a moderately low level of polyphenol oxidase (PPO) and has good milling and bread baking qualities and good Chinese noodle brightness and noodle color stability.

The following were developed by The Scotts Company, United States. Received 10/03/2006.

PI 643979 PVPO. *Festuca rubra* L. subsp. *rubra*

Cultivar. "WENDY JEAN". PVP 200600292.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 10/03/2006.

PI 643980 PVPO. *Lactuca sativa* L.
Cultivar. "WILDCAT". PVP 200600296.

The following were developed by The Regents of the University of California, San Francisco, California, United States. Received 10/03/2006.

PI 643981 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "PATWIN"; UC 1419. PVP 200600297. Pedigree - Madsen/2*Express.

The following were developed by Syngenta Seeds, Inc., Junction City, Kansas, United States. Received 10/03/2006.

PI 643982 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "PLATTE 2". PVP 200600298. Pedigree - Platte/W92-456W.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 10/03/2006.

PI 643983 PVPO. *Lactuca sativa* L.
Cultivar. "MIDWAY". PVP 200600299.

The following were developed by Progeny Advanced Genetics, Inc., Salinas, California, United States. Received 10/03/2006.

PI 643984 PVPO. *Lactuca sativa* L.
Cultivar. "TALLADEGA". PVP 200600300.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 10/03/2006.

PI 643985 PVPO. *Lactuca sativa* L.
Cultivar. "DESTINY". PVP 200600301.

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States. Received 10/03/2006.

PI 643986 PVPO. *Lolium perenne* L.
Cultivar. "SR4600". PVP 200600302.

The following were developed by Resource Seeds, Inc., United States. Received 10/03/2006.

PI 643987 PVPO. X *Triticosecale* sp.
Cultivar. "98". PVP 200600303. Pedigree -
SS193-5/TCL2601(Arancaria)/4/MZ4/XT419/3/Pika'S'/Yogui'S'/LT978.82/Asad'
S'//Tarasca 87/3/PND6/CMH77A.1165.

PI 643988 PVPO. X Triticosecale sp.

Cultivar. "116". PVP 200600304. Pedigree -
Ardilla/Snoopy6//11TSN79-3/C-2/3/Pika'S'//LT978.82/Asad'S'//Tarasca
87/4/Triticale 105.

The following were developed by J. Mitchell McGrath, USDA, ARS, Department of Crop and Soil Science, Michigan State University, East Lansing, Michigan 48824-1325, United States; Daniele Trebbi, USDA, ARS, Michigan State University, A498 Plant & Soli Science Building, East Lansing, Michigan 48824, United States. Received 11/28/2006.

PI 643989. Beta vulgaris L.

Cultivar. "TBEL1"; W6 29776. Pedigree - TBEL1 is a seed mixture of inbred lines derived by single seed decent for 4 generations from a single hybrid plant derived from a cross between C6869 sugar beet and W357B red table beet, selected in 2005 for higher sucrose content (>10% fresh weight and cylindrical shape (length greater than twice the diameter). TBEL1 is self-fertile (Sf), has dark red roots conditioned by the accumulation of betalin pigments, and segregates for monogerm seed type. Its parents could have contributed characters including genic-male-sterility (A:aa), red hypocotyl (R:rr), and resistance to rhizomania conferred by the Rz1 allele, moderate resistance to the curly top virus, powdery mildew, Erwinia, and bolting, and O-type (xx, zz) that confers cytoplasmic male sterility in an S-type sterile cytoplasm, although these have not been specifically tested. The table beet parent W357B is a red table beet germplasm developed in the table beet breeding program at the University of Wisconsin by Dr. Buck Gabelman. The kind generosity of Dr. Gabelman and Dr. Irwin Goldman in allowing this germplasm to contribute to the development of TBEL-1 is gratefully acknowledged. The sugar beet parent C6869 was used as a female in the initial cross, and this germplasm was subsequently enhanced and released as C869 (PI 628754).

The following were donated by Al Jones, USDA/ARS, U.S. Vegetable Laboratory, 2700 Savannah Highway, Charleston, South Carolina 29414, United States. Received 1997.

PI 643990. Ipomoea indica (Burm.) Merr.

Uncertain. G6205.

PI 643991. Ipomoea lacunosa L.

Uncertain. 62.98.

The following were collected by Alfonso Del Rio, University of Wisconsin, Department of Horticulture, 1575 Linden Drive, Madison, Wisconsin 53706, United States; John Bamberg, USDA, ARS, Potato Introduction Station, Peninsula Experiment Station, Sturgeon Bay, Wisconsin 54235, United States; Charles Fernandez, University of Wisconsin, Potato Introduction Station, Peninsula Experiment Station, Sturgeon Bay, Wisconsin 54235, United States. Received 09/30/2006.

PI 643992. Solanum stoloniferum Schltdl. & Bouche

Wild. BFDr 146. Collected 09/27/2006 in Arizona, United States. Latitude 32° 12' 11" N. Longitude 110° 33' 16" W. Elevation 2364 m. Pima

County. Rincon mts. Near Manning camp on trail to Devil's Bathtub. Where stream crosses trail. Near stream bed. Four or five very small light green plants. Collected two tiny tubers and leaves, photo. Tubers died.

- PI 643993. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 147. Collected 09/27/2006 in Arizona, United States. Latitude 32° 11' 54" N. Longitude 110° 33' 6" W. Elevation 2317 m. Pima County. Rincon mts. On Devil's Bathtub trail E of jct to Madrona station where stream crosses trail. Along stream both N and S of trail. Dozens of large and small light green plants, some with mature fruit, nested under oak scrub and among rocks. Grazed. Collected fruit and leaves, photo.
- PI 643994. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 148. Collected 09/27/2006 in Arizona, United States. Latitude 32° 11' 47" N. Longitude 110° 32' 56" W. Elevation 2297 m. Pima County. Rincon mts. On Devil's Bathtub trail E of jct to Madrona station. Along trail. A few small yellow plants with mature fruit. Collected fruit and leaves.
- PI 643995. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 149. Collected 09/27/2006 in Arizona, United States. Latitude 32° 11' 51" N. Longitude 110° 32' 42" W. Elevation 2292 m. Pima County. Rincon mts. On Devil's Bathtub trail upstream (N) from Devil's Bathtub. Along trail. A few small yellow plants with mature fruit under brush. Collected fruit and leaves.
- PI 643996. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 150. Collected 09/27/2006 in Arizona, United States. Latitude 32° 11' 51" N. Longitude 110° 32' 33" W. Elevation 2316 m. Pima County. Rincon mts. On Devil's Bathtub trail 80 ft E of bathtub where stream crosses trail. Along trail. A few small yellow plants with mature fruit. Collected fruit and leaves.
- PI 643997. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 151. Collected 09/27/2006 in Arizona, United States. Latitude 32° 12' 12" N. Longitude 110° 31' 59" W. Elevation 2272 m. Pima County. Rincon mts. On trail about 0.1 mile from Spudrock camp at Deer Spring trail jct. Open fern meadow. Many large yellow plants, rarely with fruit nested among dry ferns. Often grazed-much rabbit droppings. Collected Fruit.
- PI 643998. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 152. Collected 09/27/2006 in Arizona, United States. Latitude 32° 12' 30" N. Longitude 110° 33' 14" W. Elevation 2420 m. Pima County. Rincon mts. At Manning Camp just E of lagoon and near heliport. In open grassy area. Rare small and large yellow plants, rarely with fruit. Collected fruit and leaves.
- PI 643999. *Solanum stoloniferum* Schltdl. & Bouche**
Wild. BFdR 153. Collected 09/27/2006 in Arizona, United States. Latitude 32° 12' 43" N. Longitude 110° 32' 56" W. Elevation 2339 m. Pima County. Rincon mts. On Mica Mt trail between Meadow trail jct and S Fire Loop jct, Outcrops of boulders and cliffs off both sides of trail. Plants nestled among boulders and cliffs off trail. Collected fruit.

- PI 644000. *Solanum stoloniferum*** Schltdl. & Bouche
 Wild. BFdR 154. Collected 09/27/2006 in Arizona, United States. Latitude 32° 12' 59" N. Longitude 110° 32' 37" W. Elevation 2560 m. Pima County. Rincon mts. Near Mica Mt. Mica Mountain trail between Meadow jct and N Fire Loop trail. Along trail. Collected fruit and leaves.
- PI 644001. *Solanum stoloniferum*** Schltdl. & Bouche
 Wild. BFdR 155. Collected 09/27/2006 in Arizona, United States. Latitude 32° 13' 14" N. Longitude 110° 32' 22" W. Elevation 2621 m. Pima County. Rincon mts. Near N end of Bonita trail (i.e., jct with Fire Loop trail). About 50 ft East of trail in W facing boulder cliff. In W facing boulder cliff nestled between rocks. Several dozen green wilted plants to 20 cm with many mature fruit. Collected fruit.
- PI 644002. *Solanum stoloniferum*** Schltdl. & Bouche
 Wild. BFdR 156. Collected 09/27/2006 in Arizona, United States. Latitude 32° 12' 45" N. Longitude 110° 32' 22" W. Elevation 2545 m. Pima County. Rincon mts. On S Fire Loop trail between jct with Bonita and Meadow trails. Among boulders near trail in grassy meadow. Many small, light colored plants, rarely with fruit. Collected fruit.
- PI 644003. *Solanum stoloniferum*** Schltdl. & Bouche
 Wild. BFdR 157. Collected 09/28/2006 in Arizona, United States. Latitude 32° 13' 2" N. Longitude 110° 33' 23" W. Elevation 2504 m. Pima County. Rincon mts. Near W end of North Slope trail (i.e., jct with Manning Camp trail). NW facing slope along trail among rocks. Small yellow plants with fruit but with ovipositor scars and containing maggots. Collected tubers (for backup - later discarded) and fruit.
- PI 644004. *Solanum stoloniferum*** Schltdl. & Bouche
 Wild. BFdR 158; TEMP 22. Collected 09/29/2006 in Arizona, United States. Less than 10 wilted green plants. Collected fruit.

The following were collected by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States; Marine Mosulishvili, Plant Systematics, Institute of Botany, Georgian Academy of Sciences, Kojori road 1, Tbilisi, Georgia; Ed Stover, USDA, ARS, National Germplasm Repository, University of California, Davis, California 95616-8607, United States. Donated by Joseph Postman, USDA, ARS, National Germplasm Repository, 33447 Peoria Road, Corvallis, Oregon 97333-2521, United States. Received 11/27/2006.

- PI 644005. *Physalis alkekengi*** L.
 Wild. GE-2006-075; G 1. Collected 09/21/2006 in Georgia. Latitude 41° 37' 44" N. Longitude 45° 27' 16" E. Korugi Preserve, Sagarejo District, Kakheti Province. Riparian area adjacent to Iora River with sandy-clay loam, deciduous forest with *Populus tremula*, *Craetegus* and *Quercus longipes* dominating, recent flowing water.

The following were donated by Dessert Seed Co., Inc, P.O. Box 181, El Centro, California 92243, United States. Received 1977.

- PI 644006. *Brassica rapa* subsp. *pekinensis*** (Lour.) Hanelt
 Wong Bok.

The following were donated by Ferry-Morse Seed Company, Inc., P.O. Box 100, Mountain View, California 94042, United States. Received 1963.

PI 644007. *Brassica rapa* subsp. *pekinensis* (Lour.) Hanelt
Michihli.

The following were donated by Northrup, King & Company, 1500 Jackson N.E., Minneapolis, Minnesota 55413, United States. Received 1975.

PI 644008. *Physalis pubescens* L.
Husk Tomato/Ground Cherry.

The following were donated by Gill Bros., Oregon, United States. Received 1964.

PI 644009. *Physalis pubescens* L.
GROUND CHERRY.

The following were donated by P.R. Stace-Smith, Agriculture Canada, Research Station, 6660 NW Marine Drive, Vancouver, British Columbia V6T 1X2, Canada. Received 04/01/1976.

PI 644010. *Physalis pubescens* L.
Plant Virus.

The following were developed by C. Corley Holbrook, USDA, ARS, Georgia Coastal Plain Exp. Sta., P.O. Box 748, Tifton, Georgia 31793, United States; Albert Culbreath, The University of Georgia, Coastal Plain Experiment Station, P. O. Box 748, Tifton, Georgia 31793, United States. Received 12/06/2006.

PI 644011. *Arachis hypogaea* L.
Cultivar. Pureline. "TIFRUNNER". CV-93. Pedigree - Originated from a cross of F439-16-10-3 and PI 203396. F439-16-10-3 is a component line of the cultivar, Florunner. The original population was advanced to the F4 generation using single seed descent. Individual F4 plants were harvested and the population was subjected to selection pressure for resistance to late leaf spot and tomato spotted wilt (caused by Tomato spotted wilt virus, TSWV) for the next three generations. During this same period, the population was also subjected to selection for desirable pod shape, seed size, testa color, growth habit, maturity, high yield, and grade characteristics.. Tifrunner is a runner market-type in seed and pod size. It has a spreading runner growth habit with an erect mainstem that is prominent throughout the growing season, and at harvest. It has a high level of resistance to spotted wilt disease caused by Tomato spotted wilt virus, (TSWV), and moderate resistance to early (*Cercosporidium arachidicola* Hori) and late (*Cercosporidium personatum* Berk. & M. A. Curtis) leaf spot. It is a late maturity class peanut, with about 150 days needed for optimal maturity. Based on seed count per pound, Tifrunner is intermediate between the relatively large seeded cultivar, C-99R, and the relatively small seeded cultivar, Georgia Green. Tifrunner has a pink testa (seed

coat) with percent meat comparable to other runner cultivars. Tifrunner had significantly higher resistance to TSWV than the moderately resistance cultivar, Georgia Green in 22 out of 22 field trials. In six field studies using reduced fungicides, Tifrunner had significantly less leaf spot severity and significantly higher yield in comparison to susceptible cultivar, Georgia Green. It has O/L ration, and roasted flavor similar to the current standard runner cultivar, Georgia Green.

The following were developed by J. Neil Rutger, 1989 Witham Drive, Woodland, California 95776, United States; Rolfe J. Bryant, USDA-ARS, Dale Bumpers National Rice Research Center, 2890 Highway 130 East, Stuttgart, Arkansas 72160, United States; B.A. Beaty, USDA-ARS, P.O. Box 1090, Stuttgart, Arkansas 72160, United States. Received 12/04/2006.

PI 644012. *Oryza sativa* L.

Breeding. Pureline. Indica-10. GP-108. Pedigree - Induced early flowering mutant selected from gamma radiation of IRRI germplasm line IR65450-3-3-2-3-3-2. Released 2004. Indica-10, derived from 300 Gy treatment of IR65450-3-3-2-3-3-2, flowered in 107 days, 19 days earlier than its parent, and 8 days later than a prominent japonica check cultivar. Indica-10 yielded 83% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. This mutant is valuable as improved indica germplasm for US breeders.

PI 644013. *Oryza sativa* L.

Breeding. Pureline. Indica-11. GP-109. Pedigree - Induced early flowering mutant selected from gamma radiation of IRRI germplasm line IR53936-60-3-2-3-1. Released 2004. Indica-11, derived from 250 GY treatment of IR53936-60-3-2-3-1, flowered in 108 days, 28 days earlier than its parent, and 9 days later than a prominent japonica check cultivar. Indica-11 yielded 83% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. This mutant is valuable as improved indica germplasm for US breeders.

PI 644014. *Oryza sativa* L.

Breeding. Pureline. Indica-12. GP-110. Pedigree - Induced early flowering mutant selected from gamma radiation of IRRI germplasm line IR53936-60-3-2-3-1. Released 2004. Indica-12, derived from 250 GY treatment of IR53936-60-3-2-3-1, flowered in 108 days, 28 days earlier than its parent, and 9 days later than a prominent japonica check cultivar. Indica-12 yielded 96% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar to US long grain japonica cultivars. This mutant is valuable as improved indica germplasm for US breeders.

PI 644015. *Oryza sativa* L.

Breeding. Pureline. Indica-13. GP-111. Pedigree - Induced early flowering mutant selected from gamma radiation of IRRI germplasm line IR53936-60-3-2-3-1. Released 2004. Indica-13, derived from 300 GY treatment of IR53936-60-3-2-3-1, flowered in 106 days, 30 days earlier than its parent, and 7 days later than a prominent japonica check cultivar. Indica-13 yielded 85% of the check, had competitive whole kernel milling yields, and had grain shape and amylose contents similar

to US long grain japonica cultivars. This mutant is valuable as improved indica germplasm for US breeders.

The following were developed by Brett F. Carver, Oklahoma State University, Dept. of Plant & Soil Sciences, 368 Agriculture Hall North, Stillwater, Oklahoma 74078, United States. Received 12/11/2006.

PI 644016. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "DUSTER". PVP 200700391. Pedigree - W0405D/NE78488//W7469C/TX81V6187. Originated in the former hard red winter wheat breeding program of Pioneer Hi-Bred International, Inc. Oklahoma State University received seed of the F3 population designated VBJ0503 by Pioneer in 1990. As a descendent of that population, Duster culminated from 16 years of selection and re-selection for adaptation to a dual-purpose production system common to the southern Great Plains, foliar disease and Hessian fly resistance, and phenotypic uniformity. Exemplary of its name is the ability to rapidly emerge under marginal soil-moisture conditions. As a high-tillering cultivar, Duster also provides rapid canopy closure, lush biomass accumulation prior to fall grazing, good tiller survival and canopy regeneration during grazing, and exceptional recovery from grazing for high grain yielding ability. Contributing also to its dual-purpose adaptation is a unique level of resistance to the Great Plains biotype of Hessian fly (*Mayetiola destructor*). Duster is resistant to Wheat spindle streak mosaic virus and to Wheat soilborne mosaic virus. Though Duster appears susceptible to leaf rust (caused by *Puccinia tritici*) in the seedling stage, it exhibited a resistant adult-plant reaction in the field in Oklahoma and Texas during the three crop seasons of 2004-2006. Duster has expressed a reaction to stripe rust (caused by *Puccinia striiformis* f. sp. *tritici*) varying from intermediate to moderately susceptible in the Great Plains. Thus, reaction to stripe rust may be highly dependent on the environment and/or races of the pathogen present. Based on combined greenhouse and field observations, Duster is moderately susceptible to tan spot (*Pyrenophora tritici-repentis*) but shows an intermediate reaction to septoria leaf blotch (*Septoria tritici*) and an intermediate to moderately resistant reaction to powdery mildew (*Blumeria graminis* f. sp. *tritici*). Wheat protein content of Duster is below-average, or 12.0% across Oklahoma, but its gluten strength and mixing tolerance are.

PI 644017. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "CENTERFIELD". PVP 200700390; REST 644017. Pedigree - (TXGH12588-105*4/FS4)/2*2174. Developed by crossing 2174 with a single plant selected for imazamox tolerance (commercial rate) from a F2 population with the pedigree, TXGH12588-105*4/FS4. The resulting F1 hybrid was subsequently backcrossed to 2174. Centerfield is a BC1F2-derived line that is phenotypically uniform, except for the segregation of plants either resistant (46%) or susceptible (54%) to biotype E greenbug (*Schizaphis graminum* Rondani) in the seedling stage. Centerfield reaches the first-hollow-stem stage moderately late, yet it has an intermediate heading date that is 5 days later than the very early cultivar, AP502CL. It is a moderately tall semidwarf, with good lodging resistance and straw strength (similar to 2174). Tolerance to acidic soils with high aluminum toxicity is above-average. Based on field observations in Oklahoma, Centerfield shows good resistance to Wheat spindle streak mosaic virus and to Wheat soilborne mosaic virus. Unlike most imazamox-resistant hard winter wheat cultivars currently

available, Centerfield should exhibit insignificant losses to these viral diseases. During the severe stripe rust (caused by *Puccinia striiformis* f. sp. *tritici*) epidemic that occurred in 2005, Centerfield showed an intermediate reaction rating of 1.3 on a 0-to-4 scale of resistant to susceptible (natural field infection). Centerfield is moderately to highly resistant to leaf rust caused by races of *Puccinia triticina* present in Oklahoma and Texas during the 2004-2006 crop seasons. Greenhouse tests indicated susceptibility in the seedling stage to races of *P. triticina* collected from Oklahoma and south Texas. Based on other greenhouse observations, Centerfield is susceptible to tan spot (*Pyrenophora tritici-repentis*) and to septoria leaf blotch (*Septoria tritici*) and moderately susceptible to powdery mildew (*Blumeria graminis* f. sp. *tritici*). Milling and baking attributes of Centerfield are acceptable to above-average. Averaged across Oklahoma, wheat protein content is 13%, m.

The following were developed by Frito Lay North America Inc., Plano, Texas 75024, United States. Received 11/01/2006.

PI 644018 PVPO. *Solanum tuberosum* L.
Cultivar. "FL 1900". PVP 200000268.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 10/26/2006.

PI 644019 PVPO. *Solanum lycopersicum* L.
Cultivar. "CHI1504001". PVP 200600259.

The following were developed by University of Georgia Research Foundation, Inc., Athens, Georgia, United States. Received 09/29/2006.

PI 644020 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "951079-2E31". PVP 200600276. Pedigree - GA881130/Gore.

The following were developed by Grant H. Jr. Torrey, 2087 Road O SE, Moses Lake, Washington 98837, United States. Received 11/21/2006.

PI 644021 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "CONCEPT". PVP 200600278. Pedigree - Basin/Stephens//Cashup/Daws.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 11/13/2006.

PI 644022 PVPO. *Solanum lycopersicum* L.
Cultivar. "CHI1504005". PVP 200700021.

The following were developed by Oregon Wholesale Seeds Company, Silverton, Oregon 97381, United States. Received 11/09/2006.

PI 644023 PVPO. *Sanguisorba minor* Scop.

Cultivar. "PERSIST". PVP 200700024.

The following were developed by Richard L. Cooper, USDA-ARS, Ohio State University, 1680 Madison, Wooster, Ohio 44691-4096, United States; Anne E. Dorrance, Ohio State University, OARDC - Department of Plant Pathology, 1680 Madison Avenue, Wooster, Ohio 44691-4096, United States; Rouf Mian, USDA-ARS, Corn and Soybean Research Unit, OARDC, 107-A Williams Hall, 1680 Madison Avenue, Wooster, Ohio 44691, United States. Received 12/14/2006.

PI 644024. *Glycine max* (L.) Merr.

Breeding. Pureline. Stout-Rpslk. GP-360. Pedigree - Stout (5) x Sprite 87; Stout: Sprite 87 x HC85-6577; Sprite 87: Sprite (6) x Williams 82. Developed by backcrossing the Rpslk gene from cultivar Sprite 87 into the high yielding maturity group III determinate semi-dwarf cultivar Stout. Developed specifically to add race specific resistance to *Phytophthora* stem and root rot in the high-yielding semi-dwarf background of cultivar Stout. Similar to Stout in relative maturity, lodging, plant height, seed size and seed quality, and protein and oil content. Has white flower, tawny pubescence, tan pods, and dull yellow seed with black hilum, like Stout. This germplasm should be useful to soybean breeders and researchers interested in developing new germplasm specifically adapted to high yielding environments and with resistance to *Phytophthora* root and stem rot caused by *Phytophthora sojae*.

PI 644025. *Glycine max* (L.) Merr.

Breeding. Pureline. Strong-Rpslk. GP-359. Pedigree - Strong (5) x Sprite 87; Strong: Sprite 87 x HC85-6577; Sprite 87: Sprite (6) x Williams 82. Developed by backcrossing the Rpslk gene from cultivar Sprite 87 into the high yielding maturity group IV determinate semi-dwarf cultivar Strong. Developed specifically to add race specific resistance to *Phytophthora* stem and root rot in the high-yielding semi-dwarf background of cultivar Strong. Similar to Strong in relative maturity, lodging, plant height, seed size and seed quality, and protein and oil content. Has white flower, tawny pubescence, tan pods, and dull yellow seed with black hilum, like Strong. This germplasm should be useful to soybean breeders and researchers interested in developing new germplasm specifically adapted to high-yielding environments and resistance to *Phytophthora* root and stem rot caused by *Phytophthora sojae*.

The following were developed by Neil W. Widstrom, USDA, ARS, Crop genetics & Breeding Research Unit, Coastal Plains Experiment Station, Tifton, Georgia 31793-0748, United States; A.E. Coy, USDA, ARS, Coastal Plain Experiment Station, Tifton, Georgia 31703-0745, United States; Baozhu Guo, USDA-ARS, Crop Protection & Management Research Unit, University of Georgia Coastal Plain Experiment Station, Tifton, Georgia 31793-0748, United States; Robert E. Lynch, USDA-ARS, Crop Protection and Management Research Lab, 2747 Davis Rd, Tifton, Georgia 31793, United States; R.D. Lee, University of Georgia, Dept. of Crop and Soil Sciences, Tifton, Georgia 31793, United States. Received 12/12/2006.

PI 644026. *Zea mays* L. subsp. *mays*

Breeding. Pureline. GT601 (AM-1); GT601; AM-1. GP-551. Pedigree - Developed by seven generations of self-pollination from a maize population GT-MAS:gk (PI561859) (McMillian et al., 1993). This maize population was derived and selected from a visibly segregating hybrid

ear that was infected by *Aspergillus flavus* (Widstrom et al., 1987) for reduced aflatoxin contamination. McMillian et al. (1993) released this maize population GT-MAS:gk as a source of resistance to aflatoxin accumulation. Field evaluation for aflatoxin contamination in 2004 and 2005, GT601 had 33 ng g⁻¹ and 52 ng g⁻¹ and 62 ng g⁻¹, while resistant control Tex6 had 69 ng g⁻¹ and 120 ng g⁻¹. In 2005 hybrid test, GT601 x Cyl and GT602 x Cyl had 113 ng g⁻¹ and 105 ng g⁻¹ aflatoxin, whereas the commercial hybrid controls had up to 266 ng g⁻¹ aflatoxin. Adapted to southeastern U.S. region. Flowers about one week earlier than GT602, with about 60 d to 70 d from planting to flowering depending on the planting date. Has colorless pericarp, white cob, and browning silk, P-wwb. Had been used in genetic QTL mapping studies for silk maysin production and *A. flavus* infection.

PI 644027. *Zea mays* L. subsp. *mays*

Breeding. Pureline. GT602 (AM-2); GT602; AM-2. GP-552. Pedigree - Developed by seven generations of self-pollination from a maize population GT-MAS:gk (PI561859) (McMillian et al., 1993). This maize population was derived and selected from a visibly segregating hybrid ear that was infected by *Aspergillus flavus* (Widstrom et al., 1987) for reduced aflatoxin contamination. McMillian et al. (1993) released this maize population GT-MAS:gk as a source of resistance to aflatoxin accumulation. In field evaluation for aflatoxin contamination in 2004 and 2005, GT602 had 32 ng g⁻¹ and 51 ng g⁻¹ respectively, while resistant control Tex6 had 69 ng g⁻¹ and 120 ng g⁻¹. In 2005 hybrid test, GT601 x Cyl and GT602 x Cyl had 113 ng g⁻¹ and 105 ng g⁻¹ aflatoxin, whereas the commercial hybrid controls had up to 266 ng g⁻¹ aflatoxin. Adapted to southeastern U.S. region. GT601 flowers about one week earlier than GT602, with about 60 d to 70 d from planting to flowering depending on the planting date. GT602 has colorless pericarp, red cob, and browning silk, P-wrb.

The following were developed by J. Neil Rutger, 1989 Witham Drive, Woodland, California 95776, United States; Y.C. Li, South China Institute of Botany, Guangzhou, China. Received 12/18/2006.

PI 644028. *Oryza sativa* L.

Genetic. TG1; GSOR 12. GS-7. Pedigree - F9 generation tetraploid line from the cross of two tetraploids, 4X PDER/4X L202. 4X PDER is a colchicine-induced tetraploid from an experimental line from China. 4X L202 is a spontaneous tetraploid found in an L202 farm field in CA in 1987. High seed set selection was practiced from the F1 generation of the cross onward. Seed set of GSOR 12 at Stuttgart, AR in 2005 was 59.4%, compared to 32.9% and 43.3% for the female and male parents. For reference, seed sets of the diploid versions of the female and male parents were 88.6 and 76.6%, respectively. Brown rice grain weights of GSOR 12 and its tetraploid parents were 30.0, 27.9, and 24.7 mg, respectively. Reference grain weights for the diploid versions of the respective parents were 23.0 and 19.8 mg. GSOR 12 has glabrous leaves and hulls, like its male parent, and plant height of 104 cm.

PI 644029. *Oryza sativa* L.

Genetic. TG2; GSOR 13. GS-8. Pedigree - F9 generation tetraploid line from the cross of two tetraploids, 4X PDER/4X Jackson. 4X PDER is a colchicine-induced tetraploid from an experimental line from China. 4X Jackson is a spontaneous tetraploid found in a Jackson farm field in AR

in 1994. High seed set selection was practiced from the F1 generation of the cross onward. Seed set of GSOR 13 at Stuttgart, AR in 2005 was 55.1%, compared to 32.9 % and 38.7% for the female and male parents. For reference, seed sets of the diploid versions of the female and male parents were 88.6 and 69.4%, respectively. Brown rice grain weights of GSOR 13 and its tetraploid parents were 31.2, 27.9, and 23.7 mg, respectively. Reference grain weights for the diploid versions of the respective parents were 23.0 and 16.8 mg. GSOR 13 has glabrous leaves and hulls, like its male parent, and plant height of 110 cm.

The following were developed by Semillas Papalotla, Mexico. Received 11/22/2006.

PI 644030 PVPO. Urochloa hybrid
Cultivar. "MULATO". PVP 200200208.

The following were developed by Busch Agricultural Resources, Inc., Fort Collins, Colorado, United States. Received 11/22/2006.

PI 644031 PVPO. Hordeum vulgare L. subsp. vulgare
Cultivar. "MERIT 16"; 2B99-2316. PVP 200600270. Pedigree - Merit*2/2B85-8129(B1215/Stein//Manley).

PI 644032 PVPO. Hordeum vulgare L. subsp. vulgare
Cultivar. "MERIT 57"; 2B99-2657. PVP 200600271. Pedigree - Merit//Merit/2B94-5744(B1215//B1215/Seebe).

The following were developed by Orsetti Seed Company, Inc., Salinas, California, United States. Received 11/22/2006.

PI 644033 PVPO. Lactuca sativa L.
Cultivar. "PACIFICA". PVP 200700001.

The following were developed by Radix Research, Inc., Aumsville, Oregon, United States. Received 11/22/2006.

PI 644034 PVPO. Bromus catharticus Vahl
Cultivar. "PERSISTER". PVP 200700002.

The following were developed by Enza Zaden Beheer B.V., Netherlands. Received 11/22/2006.

PI 644035 PVPO. Lactuca sativa L.
Cultivar. "CHISTERA". PVP 200700004.

The following were developed by Harris Moran Seed Company, Modesto, California, United States. Received 11/22/2006.

PI 644036 PVPO. Lactuca sativa L.
Cultivar. "ROME 59". PVP 200700005.

The following were developed by USDA, Bureau of Agricultural Economics, Washington, District of Columbia, United States. Received 11/22/2006.

PI 644037 PVPO. *Capsicum chinense* Jacq.
Cultivar. "TIGERPAW-NR". PVP 200700006.

The following were developed by USDA, Charleston, North Carolina, United States. Received 11/22/2006.

PI 644038 PVPO. *Vigna unguiculata* (L.) Walp. subsp. *unguiculata*
Cultivar. "GREENPACK-DG". PVP 200700007.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 11/22/2006.

PI 644039 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 147 RF". PVP 200700008.

PI 644040 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 167 RF". PVP 200700009.

PI 644041 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 164 B2RF". PVP 200700010.

The following were developed by Gina Rowan, University of Georgia, Miller Plant Science Building Rm. 3111, Athens, Georgia 30602, United States; E. Dale Wood, University of Georgia, Dept. of Crop & Soil Sciences, Athens, Georgia 30602, United States; S.L. Finnerty, University of Georgia, Dept. of Plant Pathology, Athens, Georgia 30602, United States; H. Roger Boerma, University of Georgia, Center for Applied Genetic Technologies, 111 Riverbend Road, Athens, Georgia 30602-7272, United States; David Walker, University of Georgia, 203 Center for Applied Genetic Technologies, 111 Riverbend Road, Athens, Georgia 30602-0915, United States; Vasilias A. Fasoula, University of Georgia, Dept. of Crop and Soil Sciences, Athens, Georgia 30602, United States; Jennifer Yates, University of Georgia, Dept. of Crop and Soil Sciences, Athens, Georgia 30602, United States. Donated by H. Roger Boerma, University of Georgia, Center for Applied Genetic Technologies, 111 Riverbend Road, Athens, Georgia 30602-7272, United States. Received 12/13/2006.

PI 644042. *Glycine max* (L.) Merr.
Breeding. Pureline. G95-Ben335; SY 607001. GP-332. Pedigree - G95-Ben335 was developed by growing single plants in 1995 from 1994 'Benning' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Ben335 was derived from a composite of seed from one of these plants. G95-Ben335 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Ben335 averaged 17 mg seed-1 greater seed weight (173 mg seed-1) and 6 g kg-1 more seed oil (213 g kg-1) than Benning when tested across 3 yr in a total of five environments. Its maturity, seed protein content, and seed yield were similar to Benning. G95-Ben335, like Benning, has a determinate growth

habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and brown hila. Disease and nematode resistance of G95-Ben335 is similar to Benning.

PI 644043. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Ben1818; SY 607002. GP-333. Pedigree - G95-Ben1818 was developed by growing single plants in 1995 from 1994 'Benning' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Ben1818 was derived from a composite of seed from one of these plants. G95-Ben1818 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Ben1818 averaged 137 mg seed-1 seed weight which was 19 mg seed-1 less than Benning when tested across 3 yr in a total of five environments. It was similar to Benning in maturity, seed protein content, seed oil content, and seed yield. G95-Ben1818, like Benning, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and brown hila. Disease and nematode resistance of G95-Ben1818 is similar to Benning.

PI 644044. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Ben2403; SY 607003. GP-334. Pedigree - G95-Ben2403 was developed by growing single plants in 1995 from 1994 'Benning' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Ben2403 was derived from a composite of seed from one of these plants. G95-Ben2403 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Ben2403 averaged 7 g kg-1 higher seed protein (417 g kg-1) and 7 g kg-1 lower seed oil (200 g kg-1) than Benning when tested across 3 yr in a total of five environments. It was similar to Benning in seed weight, maturity, and seed yield. G95-Ben 2403, like Benning, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and brown hila. Disease and nematode resistance of G95-Ben2403 is similar to Benning.

PI 644045. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Ben2448; SY 607004. GP-335. Pedigree - G95-Ben2448 was developed by growing single plants in 1995 from 1994 'Benning' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Ben2448 was derived from a composite of seed from one of these plants. G95-Ben2448 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Ben2448 averaged 4 days earlier in maturity than Benning when tested across 3 yr in a total of five environments. Its seed protein content, seed oil content, seed weight, and seed yield were similar to Benning. G95-Ben2448, like Benning, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and brown hila. Disease and nematode resistance of G95-Ben2448 is similar to Benning.

PI 644046. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Ben4123; SY 607005. GP-336. Pedigree - G95-Ben4123 was developed by growing single plants in 1995 from 1994 'Benning' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Ben4123 was derived from a composite of seed from one of these plants. G95-Ben4123 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Ben4123 averaged 9 g kg⁻¹ higher seed protein (419 g kg⁻¹) and 8 g kg⁻¹ lower seed oil (199 g kg⁻¹) than Benning when tested across 3 yr in a total of five environments. Its seed weighed 146 mg seed⁻¹ and averaged 10 mg seed⁻¹ less than Benning, while it was similar in maturity and seed yield. G95-Ben4123, like Benning, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and brown hila. Disease and nematode resistance of G95-Ben4123 is similar to Benning.

PI 644047. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook319; SY 607006. GP-337. Pedigree - G95-Cook319 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook319 was derived from a composite of seed from one of these plants. G95-Cook319 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook319 averaged 2 days earlier in maturity and 9 mg seed⁻¹ less seed weight (145 mg seed⁻¹) than Cook when tested across 3 yr in a total of five environments. It was similar to Cook in seed protein content, seed oil content, plant height, and seed yield. G95-Cook319, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook319 is similar to Cook.

PI 644048. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook1346; SY 607007. GP-338. Pedigree - G95-Cook1346 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook1346 was derived from a composite of seed from one of these plants. G95-Cook1346 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook1346 averaged 11 g kg⁻¹ higher seed protein (431 g kg⁻¹) than Cook when tested across 3 yr in a total of five environments. It was similar to Cook in seed oil, seed weight, maturity, plant height, and seed yield. G95-Cook1346, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook1346 is similar to Cook.

PI 644049. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook2014; SY 607008. GP-339. Pedigree - G95-Cook2014 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook2014 was derived from a composite of seed from one of these plants. G95-Cook2014 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook2014 averaged 8 cm shorter than Cook when tested across 3 yr in a total of five environments. It was similar to Cook in seed protein content, seed oil content, maturity, seed weight, and seed yield. G95-Cook2014, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook2014 is similar to Cook.

PI 644050. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook2734; SY 607009. GP-340. Pedigree - G95-Cook2734 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook2734 was derived from a composite of seed from one of these plants. G95-Cook2734 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook2734 averaged 7 cm taller than Cook when tested across 3 yr in a total of five environments. It was similar to Cook in seed protein content, seed oil content, maturity, seed weight, and seed yield. G95-Cook2734, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook2734 is similar to Cook.

PI 644051. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook3008; SY 607010. GP-341. Pedigree - G95-Cook3008 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook3008 was derived from a composite of seed from one of these plants. G95-Cook3008 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook3008 averaged 2 days later in maturity than Cook when tested across 3 yr in a total of five environments. It was similar to Cook in seed protein content, seed oil content, seed weight, plant height, and seed yield. G95-Cook3008, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook3008 is similar to Cook.

PI 644052. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook3614; SY 607011. GP-342. Pedigree - G95-Cook3614 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook3614 was derived from a composite of seed from one of these plants. G95-Cook3614 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook3614 averaged 10 g kg⁻¹ higher seed protein (430 g kg⁻¹) and 11 mg seed⁻¹ greater seed weight (165 mg seed⁻¹) than Cook when tested across 3 yr in a total of five environments. It matured 2 days later than Cook, while similar to Cook in seed oil, plant height, and seed yield. G95-Cook3614, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook3614 is similar to Cook.

PI 644053. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Cook3746; SY 607012. GP-343. Pedigree - G95-Cook3746 was developed by growing single plants in 1995 from 1994 'Cook' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Cook3746 was derived from a composite of seed from one of these plants. G95-Cook3746 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Cook3746 averaged 9 g kg⁻¹ higher seed protein (429 g kg⁻¹) and 5 g kg⁻¹ lower seed oil (192 g kg⁻¹) than Cook when tested across 3 yr in a total of five environments. It was similar to Cook in seed weight, maturity, plant height, and seed yield. G95-Cook3746, like Cook, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with dull seed coats and black hila. The intensity of the black pigment in the hilum can vary across environments and even on different seeds of the same plant. Disease and nematode resistance of G95-Cook3746 is similar to Cook.

PI 644054. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Has339; SY 607013. GP-344. Pedigree - G95-Has339 was developed by growing single plants in 1995 from 1994 'Haskell' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Has339 was derived from a composite of seed from one of these plants. G95-Has339 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Has339 averaged 20 mg seed⁻¹ greater seed weight than Haskell when tested across 3 yr in a total of five environments. It was similar to Haskell in seed protein and oil content, maturity, plant height, lodging, and seed yield. G95-Has339, like Haskell, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed

coats and black hila. Disease and nematode resistance of G95-Has339 is similar to Haskell.

PI 644055. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Has551; SY 607014. GP-345. Pedigree - G95-Has551 was developed by growing single plants in 1995 from 1994 'Haskell' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Has551 was derived from a composite of seed from one of these plants. G95-Has551 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Has551 averaged 8 g kg⁻¹ higher seed protein and 10 mg seed⁻¹ greater seed weight than Haskell when tested across 3 yr in a total of five environments. It matured 3 d later than Haskell, while it was similar to Haskell in seed oil, plant height, lodging, and seed yield. G95-Has551, like Haskell, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and black hila. Disease and nematode resistance of G95-Has551 is similar to Haskell.

PI 644056. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Has1452; SY 607015. GP-346. Pedigree - G95-Has1452 was developed by growing single plants in 1995 from 1994 'Haskell' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Has1452 was derived from a composite of seed from one of these plants. G95-Has1452 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Has1452 averaged 8 cm taller and had 14 mg seed⁻¹ greater seed weight than Haskell when tested across 3 yr in a total of five environments. It matured 5 d later than Haskell, while seed oil, seed oil, lodging, and seed yield were similar to those of Haskell. G95-Has1452, like Haskell, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and black hila. Disease and nematode resistance of G95-Has1452 is similar to Haskell.

PI 644057. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Has1536; SY 607016. GP-347. Pedigree - G95-Has1536 was developed by growing single plants in 1995 from 1994 'Haskell' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Has1536 was derived from a composite of seed from one of these plants. G95-Has1536 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Has1536 produced 30 mg seed⁻¹ larger seed weight and was 9 cm taller than Haskell when tested across 3 yr in a total of five environments. It matured 6 d later than Haskell, while it was similar to Haskell in seed oil and protein, lodging, and seed yield. G95-Has1536, like Haskell, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and black hila. Disease and nematode resistance of G95-Has1536 is similar to Haskell.

PI 644058. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Has2539; SY 607017. GP-348. Pedigree - G95-Has2539 was developed by growing single plants in 1995 from 1994 'Haskell' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Has2539 was derived from a composite of seed from one of these plants. G95-Has2539 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Has2539 was more susceptible to lodging (3.6 vs. 3.1 rating, where 1.0 is all plants erect and 5.0 is over 80% of plants lodged flat) than Haskell when tested across 3 yr in a total of five environments. It was similar to Haskell in seed protein, seed oil, seed weight, maturity, plant height, and seed yield. G95-Has2539, like Haskell, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and black hila. Disease and nematode resistance of G95-Has2539 is similar to Haskell.

PI 644059. *Glycine max* (L.) Merr.

Breeding. Pureline. G95-Has4243; SY 607018. GP-349. Pedigree - G95-Has4243 was developed by growing single plants in 1995 from 1994 'Haskell' Foundation seed. Plants were grown to maturity, harvested by hand, and threshed. Seed from each single plant was tested for chemical composition and divergent selection for low or high protein and oil content was performed. G95-Has4243 was derived from a composite of seed from one of these plants. G95-Has4243 was subsequently evaluated in replicated experiments in Georgia over 3 years in a total of five environments. Released 12/08/2006. G95-Has4243 averaged 8 g kg⁻¹ higher seed protein, 9 g kg⁻¹ lower seed oil, 38 mg seed⁻¹ greater seed weight, and 22% (601 kg ha⁻¹) than Haskell when tested across 3 yr in a total of five environments. It matured 6 d later than Haskell and had greater lodging resistance (2.2 vs. 3.1 rating, where 1.0 is all plants erect and 5.0 is over 80% of plants lodged flat) than Haskell. Plant height was similar to Haskell. G95-Has4243, like Haskell, has a determinate growth habit, purple flowers, tawny pubescence, and tan pod walls. Its seeds are yellow with shiny seed coats and black hila. Disease and nematode resistance of G95-Has4243 is similar to Haskell.

The following were developed by Larry Darrah, USDA-ARS, University of Missouri, Curtis Hall, Rm. 110, Columbia, Missouri 65211, United States; Bruce E. Hibbard, USDA, ARS, University of Missouri, 205 Curtis Hall, Columbia, Missouri 65211-7020, United States; David Willmot, USDA, ARS, University of Missouri, 301 Curtis Hall, Columbia, Missouri 65211, United States; Sherry Flint-Garcia, USDA, ARS, University of Missouri, 301 Curtis Hall, Columbia, Missouri 65211, United States. Received 12/20/2006.

PI 644060. *Zea mays* L. subsp. *mays*

Breeding. CRW3 (S1) C6. GP-553.

The following were developed by Delta and Pine Land Company, Scott, Mississippi, United States. Received 11/22/2006.

PI 644061 PVPO. *Gossypium hirsutum* L.

Cultivar. "DP 143 B2RF". PVP 200700011.

PI 644062 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 117 B2RF". PVP 200700012.

PI 644063 PVPO. *Gossypium hirsutum* L.
Cultivar. "DP 110 RF". PVP 200700013.

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 11/22/2006.

PI 644064 PVPO. *Lactuca sativa* L.
Cultivar. "MAINMAN". PVP 200700014.

The following were developed by WestBred LLC, Yuma, Arizona, United States. Received 11/22/2006.

PI 644065 PVPO. *Triticum turgidum* subsp. *durum* (Desf.) Husn.
Cultivar. "HAVASU". PVP 200700015. Pedigree -
Kofa/3/Mohawk//Express/Karl.

PI 644066 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "JOAQUIN". PVP 200700016. Pedigree - Eldon/PH994-199.

PI 644067 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "SOLANO". PVP 200700017. Pedigree - DA993-191/Express.

PI 644068 PVPO. *Triticum aestivum* L. subsp. *aestivum*
Cultivar. "DASH 12". PVP 200700018.

The following were developed by WestBred LLC, Bozeman, Montana, United States. Received 11/22/2006.

PI 644069 PVPO. *Hordeum vulgare* L. subsp. *vulgare*
Cultivar. "CHICO". PVP 200700019. Pedigree - selection from male sterile
facilitated recurrent selection population that had its basis in CCXXXII.

PI 644070 PVPO. *Hordeum vulgare* L. subsp. *vulgare*
Cultivar. "COCHISE". PVP 200700020. Pedigree -
Max/DA586-14(CCXXXII/WestBred Barcott).

The following were developed by Rutgers, The State University of New Jersey, New Jersey, United States; TurfOne, Albany, Oregon, United States. Received 11/22/2006.

PI 644071 PVPO. *Poa pratensis* L.
Cultivar. "AGROS". PVP 200700025.

The following were developed by Virginia Tech, Blacksburg, Virginia, United States. Received 11/22/2006.

PI 644072 PVPO. *Triticum aestivum* L. subsp. *aestivum*

Cultivar. Pureline. "USG 3342"; VAN98W-342. PVP 200700026. Pedigree - Coker 983//GA-Andy/VA90-21-20(79IWWRN67//Coker 65-20/ATR).

The following were developed by GeneFresh, Inc., Salinas, California, United States. Received 11/22/2006.

PI 644073 PVPO. *Lactuca sativa* L.

Cultivar. "JEOPARDY". PVP 200700031.

The following were developed by Roy G. Creech, USDA, ARS, P.O. Box 5367, R. W. Harned Building, Mississippi State, Mississippi 39762, United States; Johnnie Jenkins, USDA, ARS, Crop Sci. Res. Lab., P.O. Box 5367, Mississippi State, Mississippi 39760, United States; John Creech, Mississippi State University, Delta Research and Extension Center, 384 Stoneville Road, Stoneville, Mississippi 38776, United States; Jack McCarty, Mississippi State University, Dept. of Crop Science, P.O. Box 5367, Mississippi State, Mississippi 39762, United States; Roy Cantrell, Cotton Incorporated, 6399 Weston Parkway, Cary, North Carolina 27513, United States; Russell W. Hayes, USDA, ARS, P.O. Box 5367, Mississippi State, Mississippi 39762, United States; Dan Haire, Mississippi State University, Plant and Soil Sciences Dept., Mississippi State, Mississippi, United States. Received 12/19/2006.

PI 644074. *Gossypium hirsutum* L.

Breeding. MS-01RKN. GP-882. Pedigree - Developed by crossing M240 a root-knot nematode resistant line (GP166) with SureGrow501 and crossing the F1 with SureGrow 404 followed by several cycles of selection for resistance to root-knot nematode and agronomic and fiber traits. MS-01RKN was evaluated for resistance to root-knot nematode, [*Melodogyne incognita* (Kofoid and White) Chitwood] in two greenhouse evaluations and in the Regional root-knot nematode/*Fusarium* Wilt Nursery at Tallassee, AL. It was evaluated for yield and fiber properties for two years at Mississippi State, MS. Root-knot nematode greenhouse evaluation gall score was 2.5 and 14,328 eggs per plant were produced compared with a gall score of 1.8. and 5,612 eggs per plant for M315 the nematode resistant check line and a gall score of 4.0 and 90,625 eggs per plant on M8 the susceptible check line. In the Regional nursery it had 8 % wilted plants compared with 48% wilted plants on Rowden the susceptible check. Agronomic properties were Lint yield 893 Kg/ha, Boll weight 5.03, Lint % 40.6, Fiber Length 28.3mm, Fiber Strength 289kNm/kg, Mic 5.0.

PI 644075. *Gossypium hirsutum* L.

Breeding. MS-24RKN. GP-883. Pedigree - Developed by crossing M240 a root-knot nematode resistant line (GP166) with SureGrow125 and crossing the F1 with SureGrow 125 followed by several cycles of selection for resistance to root-knot nematode and agronomic and fiber traits. MS-24RKN was evaluated for resistance to root-knot nematode, [*Melodogyne incognita* (Kofoid and White) Chitwood] in two greenhouse evaluations and in the Regional root-knot nematode/*Fusarium* Wilt Nursery at Tallassee, AL. It was evaluated for yield and fiber properties for two years at Mississippi State, MS. Root-knot nematode greenhouse evaluation gall score was 2.6 and 7,529 eggs per plant were produced compared with a gall score of 1.8. and 5,612 eggs per plant for M315 the nematode resistant check line and a gall score of 4.0 and 90,625 eggs per plant on M8 the susceptible check line. In the Regional nursery it had 5 %

wilted plants compared with 48% wilted plants on Rowden the susceptible check. Agronomic properties were Lint yield 906 Kg/ha, Boll weight 5.18, Lint % 41.8, Fiber Length 28.8mm, Fiber Strength 289kNm/kg, Mic 5.1.

PI 644076. *Gossypium hirsutum* L.

Breeding. MS-30RKN. GP-884. Pedigree - Developed by crossing M240 a root-knot nematode resistant line (GP166) with SureGrow125 and crossing the F1 with DES211-39 followed by several cycles of selection for resistance to root-knot nematode and agronomic and fiber traits. MS-30RKN was evaluated for resistance to root-knot nematode, [*Melodogyne incognita* (Kofoid and White) Chitwood] in two greenhouse evaluations and in the Regional root-knot nematode/*Fusarium* Wilt Nursery at Tallassee, AL. It was evaluated for yield and fiber properties for two years at Mississippi State, MS. Root-knot nematode greenhouse evaluation gall score was 2.4 and 18,305 eggs per plant were produced compared with a gall score of 1.8. and 5,612 eggs per plant for M315 the nematode resistant check line and a gall score of 4.0 and 90,625 eggs per plant on M8 the susceptible check line. In the Regional nursery it had 5 % wilted plants compared with 63% wilted plants on Rowden the susceptible check. Agronomic properties were Lint yield 1016 Kg/ha, Boll weight 5.17, Lint % 42.1, Fiber Length 28.8mm, Fiber Strength 279kNm/kg, Mic 5.1.

PI 644077. *Gossypium hirsutum* L.

Breeding. MS-33RKN. GP-885. Pedigree - Developed by crossing M240 a root-knot nematode resistant line (GP166) with SureGrow125 and crossing the F1 with SureGrow 501 followed by several cycles of selection for resistance to root-knot nematode and agronomic and fiber traits. MS-33RKN was evaluated for resistance to root-knot nematode, [*Melodogyne incognita* (Kofoid and White) Chitwood] in two greenhouse evaluations and in the Regional root-knot nematode/*Fusarium* Wilt Nursery at Tallassee, AL. It was evaluated for yield and fiber properties for two years at Mississippi State, MS. Root-knot nematode greenhouse evaluation gall score was 2.7 and 15,277 eggs per plant were produced compared with a gall score of 1.8. and 5,612 eggs per plant for M315 the nematode resistant check line and a gall score of 4.0 and 90,625 eggs per plant on M8 the susceptible check line. In the Regional nursery it had 12 % wilted plants compared with 48% wilted plants on Rowden the susceptible check. Agronomic properties were Lint yield 991 Kg/ha, Boll weight 5.03, Lint % 41.5, Fiber Length 29.0mm, Fiber Strength 292kNm/kg, Mic 5.1.

PI 644078. *Gossypium hirsutum* L.

Breeding. MS-35RKN. GP-886. Pedigree - Developed by crossing DES 119 with M240 a root-knot nematode resistant line (GP166) and crossing the F1 with DES 119 followed by several cycles of selection for resistance to root-knot nematode and agronomic and fiber traits. MS-35RKN was evaluated for resistance to root-knot nematode, [*Melodogyne incognita* (Kofoid and White) Chitwood] in two greenhouse evaluations and in the Regional root-knot nematode/*Fusarium* Wilt Nursery at Tallassee, AL. It was evaluated for yield and fiber properties for two years at Mississippi State, MS. Root-knot nematode greenhouse evaluation gall score was 2.0 and 11,783 eggs per plant were produced compared with a gall score of 1.8. and 5,612 eggs per plant for M315 the nematode resistant check line and a gall score of 4.0 and 90,625 eggs per plant on M8 the susceptible check line. In the Regional nursery it had 5 % wilted plants compared with 48% wilted plants on Rowden the susceptible

check. Agronomic properties were Lint yield 915 Kg/ha, Boll weight 5.08, Lint % 40.6, Fiber Length 28.5mm, Fiber Strength 303kNm/kg, Mic 4.9.

PI 644079. *Gossypium hirsutum* L.

Breeding. MS-37RKN. GP-887. Pedigree - Developed by crossing DES 119 with M240 a root-knot nematode resistant line (GP166) and crossing the F1 with DES 119 followed by several cycles of selection for resistance to root-knot nematode and agronomic and fiber traits. MS-37RKN was evaluated for resistance to root-knot nematode, [*Melodogyne incognita* (Kofoid and White) Chitwood] in two greenhouse evaluations and in the Regional root-knot nematode/*Fusarium* Wilt Nursery at Tallassee, AL. It was evaluated for yield and fiber properties for two years at Mississippi State, MS. Root-knot nematode greenhouse evaluation gall score was 2.4 and 5,387 eggs per plant were produced compared with a gall score of 1.8. and 5,612 eggs per plant for M315 the nematode resistant check line and a gall score of 4.0 and 90,625 eggs per plant on M8 the susceptible check line. In the Regional nursery it had 2 % wilted plants compared with 48% wilted plants on Rowden the susceptible check. Agronomic properties were Lint yield 827 Kg/ha, Boll weight 4.96, Lint % 40.11, Fiber Length 28.9mm, Fiber Strength 283kNm/kg, Mic 5.0.

The following were developed by Craig F. Morris, USDA-ARS, Western Wheat Quality Lab., E-202 FSHN Facility East, Pullman, Washington 99164-6394, United States; Garrison King, USDA-ARS Western Wheat Quality Lab, E 202 Food Quality Bldg., P.O. Box 646394, Pullman, Washington 99164-6394, United States. Received 12/21/2006.

PI 644080. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL9Pina-D1b; Pina-D1b/Pinb-D1a; NSGC 17970. GS-157. Pedigree - Alpowa (PI566596)/IDO377s (PI591045)//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1b/Pinb-D1a.

PI 644081. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL10Pinb-D1b; Pina-D1a/Pinb-D1b; NSGC 17971. GS-158. Pedigree - Alpowa (PI566596)/ND2603//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1a/Pinb-D1b.

PI 644082. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL11Pinb-D1c; Pina-D1a/Pinb-D1c; NSGC 17972. GS-159. Pedigree - Alpowa (PI566596)/Red Bobs (CI6255)//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1a/Pinb-D1c.

PI 644083. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL12Pinb-D1d; Pina-D1a/Pinb-D1d; NSGC 17973. GS-160. Pedigree - Alpowa (PI566596)/Mjølner (NGB14115)//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1a/Pinb-D1d.

PI 644084. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL13Pinb-D1e; Pina-D1a/Pinb-D1e; NSGC 17974. GS-161. Pedigree - Alpowa (PI566596)/Canadian Red (CI6282)//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1a/Pinb-D1e.

PI 644085. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL14Pinb-D1f; Pina-D1a/Pinb-D1f; NSGC 17975. GS-162. Pedigree - Alpowa (PI566596)/Sevier (CI6247)//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1a/Pinb-D1f.

PI 644086. *Triticum aestivum* L. subsp. *aestivum*

Genetic. Pureline. WQL15Pinb-D1g; Pina-D1a/Pinb-D1g; NSGC 17976. GS-163. Pedigree - Alpowa (PI566596)/Andrews (PI512282)//7*Alpowa. Released 2007. Hard kernel puroindoline allele near-isogenic line. Puroindoline haplotype: Pina-D1a/Pinb-D1g.

The following were developed by Gerald Evers, Texas A&M Univ. Ag. Res. & Ext. Ctr., PO Box 200, Overton, Texas 75684-0290, United States; Lloyd R. Nelson, Texas A&M University, Agricultural Research & Extension Center, P.O. Box 200, Overton, Texas 75684, United States; J. Crowder, Texas A&M Univ. Agric. REC, P.O. Box 200, Overton, Texas 75684, United States; F.T. Turner, Texas A&M University, Agric. REC, P.O. Box 200, Overton, Texas 75684, United States; F.M., Jr. Rouquette, Texas A&M University, Agricultural Research and Extension Center, P.O. Box 200, Overton, Texas 75684, United States. Received 12/26/2006.

PI 644087. *Lolium multiflorum* Lam.

Cultivar. Population. "TAMTBO"; TXR2005-TBO; TBO. REST 644087; CV-249. Pedigree - In 2001-02 a 3-way cross was made between TXR2000-T2, TXR2002-T17 and Jumbo Jumbo is a tetraploid released by the Florida Agri. Exp. Stn. and the two experimental tetraploids are derived from TAM 90 In 2002-03, this seed was planted and grown in a space planting at Beaumont, Texas, where 34 plants were selected and allowed to cross-pollinate and produce seed. In 2003-04, this seed was grown and increased near Corvallis, Oregon and was designated TXR2005-TBO. TXR2005-TBO is a tetraploid forage-type annual ryegrass ($4n = 4x = 28$ chromosomes). This contrasts with Gulf and TAM 90 which are diploid cultivars. TXR2005-TBO is the first tetraploid cultivar released by the Texas Agricultural Experiment Station. The Oregon State Seed Laboratory tested TBO for ploidy level and reported it as 100% tetraploid. Plant stature of TBO was 116 cm and is larger and taller than Gulf, but similar to TAM 90. TBO averaged about 10 cm less in plant height compared to Jumbo and Prine in space plantings in Texas. Flag leaf length of TBO was 15.3 cm and was slightly longer than other cultivars which were 13.2, 11.7, and 13.8 for Gulf, TAM 90 and Jumbo, respectively. Leaf width was 10.6 mm for TBO and not different than Jumbo and Prine, but was 1 mm wider than TAM 90. TBO produced an average of 46 tillers per plant compared to 57, 61, 49, and 40 for TAM 90, Gulf, Jumbo and Prine, respectively. Freeze damage was not observed over the past two years at Overton, Texas when a low temperature of 17 F (-8 C) occurred. The fluorescence level of TBO according to the Oregon State Seed Testing Laboratory was 100 %. TBO has good crown rust resistance and is similar to TAM 90 for resistance to this disease. Total season forage yields of TBO at Overton, Texas have been very high during the 2004-05 and 2005-06 growing seasons. In each of these years, TBO has produced higher total season forage yields than any other commercial cultivars. TBO has also produced above average forage yields in Mississippi, Alabama and Georgia during the past two

years. TXR2005-TBO is not infected with the fungal endophyte *Neotyphodium occutans* C.D. Moon, B. Scott, & M.J. Christensen, sp. Nov.

The following were developed by Matthew Blair, Centro Internacional de Agricultura Tropical, A.A. 6713, Cali, Colombia; A. Hoyos, International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia; C. Cajiao, International Center for Tropical Agriculture, Apartado Aereo 6713, Cali, Colombia; J. Kornegay, North Carolina State University, Dept. of Plant Sciences, Raleigh, North Carolina, United States. Received 12/26/2006.

PI 644088. *Phaseolus vulgaris* L.

Breeding. Pureline. MAC56. GP-271; REST 644088. Pedigree - Dore de Kirundo/LAS399. Common bean germplasm line with climbing growth habit and yellow seed type, developed by the International Center for Tropical Agriculture (CIAT) for adaptation to tropical mid-altitude growing conditions (1200 to 1800 masl). Type IVA growth habit and tolerant of higher temperatures (up to 24C seasonal average) compared to traditional, type IVb growth habit, climbing beans. Belongs to the "Canario" commercial seed class. Advanced generation F8 derived breeding lines. Mean seed yield from 2002 to 2006 averaged 2000.2 kg/ha at a mid-altitude site (Darién, Colombia), 1206.9 kg/ha at a low elevation site (Palmira, Colombia) and 1657.6 at a high elevation site (Popayan, Colombia). Tolerant to angular leaf spot [caused by the pathogen *Phaeoisariopsis griseola*] in Darién and anthracnose in Popayan. Susceptible to Bean Common Mosaic Virus and Bean Common Mosaic Necrosis Virus (BCMV and BCMNV) in all three sites. Flowered at 38d after planting (DAP) in Palmira, at 42 DAP in Darién; and 50 DAP in Popayan. Maturity was reached at 80 DAP in Palmira, while in Darién the genotype matured at 98 DAP and in Popayan at 109 DAP. Produce yellow grain, is medium yellow and has brilliant (waxy) seed type. Has the large seed size characteristic of many Andean gene pool commercial climbing bean varieties with MAC56 producing 100 seed weights of 50.7 g in Darién, 50.5 g in Palmira, 54.0 g in Popayan (average of 51.7g).

PI 644089. *Phaseolus vulgaris* L.

Breeding. Pureline. MAC57. GP-272; REST 644089. Pedigree - Dore de Kirundo/LAS399. Common bean germplasm line with climbing growth habit and yellow seed type, developed by the International Center for Tropical Agriculture (CIAT) for adaptation to tropical mid-altitude growing conditions (1200 to 1800 masl). Type IVA growth habit and tolerant of higher temperatures (up to 24 C seasonal average) compared to traditional, type IVb growth habit, climbing beans. Belong to the "Canario" commercial seed class. Advanced generation F8 derived breeding lines. Mean seed yield from 2002 to 2006 averaged 2000.2 kg/ha at a mid-altitude site (Darién, Colombia), 1206.9 kg/ha at a low elevation site (Palmira, Colombia) and 1657.6 at a high elevation site (Popayan, Colombia). Tolerant to angular leaf spot [caused by the pathogen *Phaeoisariopsis griseola*] in Darién and anthracnose in Popayan. Susceptible to Bean Common Mosaic Virus and Bean Common Mosaic Necrosis Virus (BCMV and BCMNV) in all three sites. Flowered 40 d after planting (DAP) in Palmira; at 43 DAP in Darién; and at 52 DAP in Popayan. Maturity was reached at 84 DAP in Palmira, while in Darién the genotype matured at 100 DAP and in Popayan at 112 DAP. Produces yellow grain, has light yellow grain and non-brilliant (non-waxy) seed type. Has the large seed size characteristic of many Andean gene pool commercial climbing bean varieties; produces slightly smaller grain (average 45.5 g).

The following were developed by Pure Seed Testing, Inc., Hubbard, Oregon, United States. Received 12/15/2006.

PI 644090 PVPO. *Poa pratensis* L.
Cultivar. "MOONLIGHT SLT". PVP 200700043.

The following were developed by North Dakota State University Research Foundation, North Dakota, United States. Received 12/15/2006.

PI 644091 PVPO. *Avena sativa* L.
Cultivar. "BEACH". PVP 200700044.

The following were developed by Brotherton Seed Company, Inc., Moses Lake, Washington, United States. Received 12/15/2006.

PI 644092 PVPO. *Pisum sativum* L.
Cultivar. "BOOGIE". PVP 200700051.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 12/19/2006.

PI 644093 PVPO. *Capsicum annuum* L.
Cultivar. "SBR 99-1205". PVP 200700032.

PI 644094 PVPO. *Capsicum annuum* L.
Cultivar. "SBR 99-1209". PVP 200700033.

PI 644095 PVPO. *Capsicum annuum* L.
Cultivar. "SBR 99-1225". PVP 200700034.

PI 644096 PVPO. *Capsicum annuum* L.
Cultivar. "SBR 99-1239". PVP 200700035.

The following were developed by Syngenta Seeds, Inc. - Vegetable, Boise, Idaho, United States. Received 12/26/2006.

PI 644097 PVPO. *Cucurbita pepo* L.
Cultivar. "90-3588". PVP 200700053.

The following were developed by Seminis Vegetable Seeds, Inc., Woodland, California, United States. Received 12/26/2006.

PI 644098 PVPO. *Lactuca sativa* L.
Cultivar. "CONSTANZA". PVP 200700030.

The following were developed by Florida Foundation Seed Producers, Inc., 3913 Highway 71, P.O. Box 309, Greenwood, Florida 32443, United States; Emil A. Wolf, University of Florida, Agricultural Research and Education Center, Belle Glade, Florida 33430, United States. Donated by Florida Foundation Seed

Producers, Inc., 3913 Highway 71, P.O. Box 309, Greenwood, Florida 32443, United States. Received 01/1977.

PI 644099. *Zea mays* L. subsp. *mays*

Cultivar. Inbred. "Florida 56"; NSL 92629. PVP 7500094. Pedigree - Florida 56 was developed by crossing University of Illinois B3(S2)P39A(sh2) line with Iowa 2256, backcrossing to Iowa 2256 seven times, and then inbreeding and selecting for six generations. Sweet corn inbred with seed containing the sh2 gene in the starchy (sul) background and is more shrunken and lighter in weight than normal sweet corn (sul) seed. It also contains much less starch and has a higher sugar content in the endosperm. Best adapted to most regions in the United States. Maturity is 80 days from emergence to 50% of plants in silk; 21 days from 50% silk to optimum edible quality; 70 days from 50% silk to harvest at 25% kernel moisture. Plants 137 cm in height (to tassel tip), 53 cm ear height (to base of top ear), 10 cm long top ear internode, 2 tillers about the same height as the main plant, strong two-ear tendency, normal cytoplasm. Leaf medium green, light sheath pubescence, no marginal wave, longitudinal creases absent. The width of the ear node leaf averages 7 cm at widest point and has a length of 61 cm. A mature plant averages 11 leaves. Tassels are yellow and silks are green, pollen production is excellent. Ears are about seven inches long, have 14 to 16 rows of yellow kernels, and one to two inch unfilled tips. Ear shanks have five nodes and are about one to two inches long. Husk extension is long. This inbred most closely resembles Iowa 2256, except the Florida 56 ears are longer, husk extensions are slightly shorter, and husk ear diameters are slightly larger. The primary difference between the inbreds is that Florida 56 has the homozygous recessive sh2 gene, whereas, Iowa 2256 has the homozygous recessive sul gene. Plants are about six inches shorter than Florida 32 plants in the Idaho seed production area averaging five to 5.5 feet tall, while having slightly less than one tiller about two feet tall per plant. Field germination and vigor of the seed has generally been very good. Plants have a rather "droopy" appearance as the tassels start to emerge. This curvature makes detasseling slightly more difficult than usual.

The following were developed by Florida Foundation Seed Producers, Inc., 3913 Highway 71, P.O. Box 309, Greenwood, Florida 32443, United States. Received 01/1977.

PI 644100. *Zea mays* L. subsp. *mays*

Cultivar. Inbred. "Florida 32"; NSL 92630. PVP 7500095. Pedigree - Developed by crossing University of Illinois B3S2P39A sh2 line with Iowa 2132 (sul), backcrossing to the 2132 four times and then inbreeding and selecting for seven generations. Sweet corn inbred with seed containing the sh2 gene in the starchy (sul) background and is more shrunken and lighter in weight than normal sweet corn (sul) seed. It also contains much less starch and has a higher sugar content in the endosperm. Best adapted to most regions in the United States. Maturity is 76 days from emergence to 50% of plants in silk; 21 days from 50% silk to optimum edible quality; 70 days from 50% silk to harvest at 25% kernel moisture. Plants 140 cm in height (to tassel tip), 28 cm ear height (to base of top ear), 10 cm long top ear internode, one or two tillers about the same height as the main stalk, slight two-ear tendency, normal cytoplasm. Leaves are dark green, light sheath pubescence, no marginal wave, longitudinal creases absent. The ear node leaf has an average

width of 5 cm and length of 58 cm. There are 8 leaves per mature plant. Tassels have 10 lateral branches, 30-40 degrees of branch angle from central spike, peduncle length of 7 cm from top leaf to basal branches, medium pollen shed, yellow anther and glume. Ears are 20 cm in length, 40 mm mid-point diameter, 106 grams in weight, 16 distinct slightly curved kernel rows, well filled to the tips, green silk (exposed at silking stage), dark green husk color (fresh), buff husk color (dry), long husk extension (harvest stage), husk leaf medium length, 13 cm long shank with six internodes, upright position at dry husk stage, average taper, slow drying time (unhusked ear). Kernel (dried, from ear mid-point) 9 mm long, 6 mm wide, 4 mm thick, shape grade less than 20% rounds, pericarp colorless, aleurone homozygous yellow, endosperm yellow, extra sweet (sh2) type endosperm, 9 gm weight/100 seeds. Cob 23 mm diameter at mid-point, weak, white. Susceptible to northern leaf blight, bacterial leaf blight, and earworm. This inbred most closely resembles Iowa 2132 (sul) for maturity, plant type, ear type, and kernel type, and Illinois 453 (sh2) for edible quality. Ear length and.

The following were developed by Holden's Foundation Seeds, Inc., R.R. 2, Box 839, Williamsburg, Iowa 52361, United States. Received 08/1977.

PI 644101. *Zea mays* L. subsp. *mays*

Cultivar. Inbred. "LH1"; id=71026; NSL 95215. PVP 7600047. Pedigree - (B37 x 644) B37. The line was produced by crossing B37 X 644 then backcrossing to B37 followed by seven generations of selfing and selection for plant type and yield. Released 1975. Yellow dent corn inbred. Best adapted to the north central United States. Maturity is 69 days from emergence to 50% of plants in silk (1625 heat units); 102 days from 50% silk to harvest at 25% kernel moisture. Plants 178 cm in height (to tassel tip), 56 cm ear height (to base of top ear), 11 cm long top ear internode, no tillers, single ear per stalk, normal cytoplasm. The stalk is of average strength and the roots are fair. Leaves are dark green, 30-60 degrees angle from stalk (upper half), light sheath pubescence, few marginal waves, longitudinal creases absent. Ear node leaf average width of 10 cm at widest point and length of 72 cm. There are 14 leaves per mature plant, separated by relatively short internodes. Anthers are red and extrude from a green glume with red points of dehiscent. Ear is medium in length and has average taper, it is attached to a strong shank of medium length, and has a short husk extension. Kernels are arranged in 16 slightly curved rows. Kernel is thick, dark yellow with a bright yellow cap. Most closely resembles B37, except LH1 is an average of 20% shorter, has a lower ear height by an average of 30%, and it restores C cytoplasm nearly 100% while B37 does not. Silking date is approximately the same but there is some indication that LH1 will dry slightly faster, at least to the 25% moisture level.

The following were developed by Asgrow Seed Company, Kalamazoo, Michigan, United States. Received 04/1980.

PI 644102. *Zea mays* L. subsp. *mays*

Cultivar. Inbred. "P737M20"; NSL 109380. PVP 7900036. Pedigree - 737 (Synonymous with Ia 2132) X Hooker's "Source A" germplasm resistant to northern corn leaf blight backcrossed an unstated number of times to

inbred 737. Progeny were tested for (Ht) gene presence after each backcross. Released 01/05/1979. Sweet corn inbred. Best adapted to the southeast United States. Maturity is 63 days from emergence to 50% of plants in silk (1167 heat units); 18 days from 50% silk to optimum edible quality (406 heat units); 1488 heat units from 50% silk to harvest at 25% kernel moisture. Plants 183 cm in height (to tassel tip), 71 cm ear height (to base of top ear), 13 cm long top ear internode, no tillers, strong two-ear tendency, normal cytoplasm. Leaves are medium green, 30-60 degrees angle from stalk (upper half), medium sheath pubescence, few marginal waves, longitudinal creases absent. The average ear node leaf width is 9 cm at its widest point with a length of 66 cm. Tassels have 18 lateral branches, 30-40 degrees of branch angle from central spike, peduncle length of 36 cm from top leaf to basal branches, heavy pollen shed, yellow anther and glume. Ears 12 cm in length, 45 mm mid-point diameter, 54 grams in weight, 14 distinct straight kernel rows, green silk (exposed at silking stage), light green husk color (fresh), buff husk color (dry), very long husk extension (harvest stage), husk leaf length greater than 15 cm, 12 cm long shank with five internodes, upright position at dry husk stage, slight taper, average drying time (unhusked ear). Kernel (dried, from ear mid-point) 12 mm long, 9 mm wide, 6 mm thick, pericarp whitish/partly transparent, aleurone homozygous transparent, endosperm yellow-orange, sweet (sul) type endosperm, 23 gm weight/100 seeds. Cob 30 mm diameter at mid-point, weak, white. Susceptible to stalk rot (diplodia, fusarium, and gibberella), cornborer, northern, southern, and western rootworm, earworm, sapbeetle, and aphid. Resistant to northern and southern leaf blight, southern rust, bacterial leaf blight, corn smut, maize dwarf mosaic, smut, and bacterial wilt. Most closely resembles Iowa 2132 for maturity, plant type, ear type, kernel type, edible quality, and usage. P737M20 differs from Iowa 2132 in that P737M20 possesses the Ht gene fo.

The following were donated by L.A. De Almeida, EMBRAPA, Empresa Brasileira de Pesquisa, Agropecuaria, Londrina, Parana, Brazil. Received 01/08/2007.

PI 644103. *Glycine max* (L.) Merr.

Cultivated. Pureline. "BSR Tiana"; CGS 8243; SY 702001.

The following were developed by Phil Bregitzer, USDA-ARS, National Small Grains Germplasm Research Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States; Darrell M. Wesenberg, USDA, ARS, National Small Grains Germplasm, Research Facility, Aberdeen, Idaho 83210, United States; Don Obert, USDA-ARS, 1691 S. 2700 W., Aberdeen, Idaho 83210, United States. Received 01/09/2007.

PI 644104. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. 95SR316A; NSGC 18013. GP-180. Pedigree - Bancroft/Crystal. Released 2007. Two-rowed spring barley germplasm line that is agronomically-attractive with excellent values for most malt quality characteristics, and is resistant to most races of barley stripe rust (*Puccinia striiformis* f.sp. *hordei*).

The following were developed by Phil Bregitzer, USDA-ARS, National Small Grains Germplasm Research Facility, 1691 S. 2700 W., Aberdeen, Idaho 83210,

United States; Victor Raboy, USDA, ARS, 1691 South 2700 West, Aberdeen, Idaho 83210, United States. Received 01/09/2007.

PI 644105. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP1; NSGC 18014. GP-181. Pedigree - Harrington/lpal-1//4*Harrington. Released 2007. Backcross-derived low-phytate line possessing the lpal-1 mutation.

PI 644106. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP1-WT; NSGC 18015. GP-182. Pedigree - Harrington/lpal-1//4*Harrington. Released 2007. Backcross-derived, wild-type sib selection of LP1.

PI 644107. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP2; NSGC 18016. GP-183. Pedigree - Harrington/lpa2-1//3*Harrington. Released 2007. Backcross-derived low-phytate line possessing the lpa2-1 mutation.

PI 644108. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP2-WT; NSGC 18017. GP-184. Pedigree - Harrington/lpa2-1//3*Harrington. Released 2007. Backcross-derived, wild-type sib selection of LP2.

PI 644109. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP3; NSGC 18018. GP-185. Pedigree - Harrington/lpa3-1//3*Harrington. Released 2007. Backcross-derived low-phytate line possessing the lpa3-1 mutation.

PI 644110. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP3-WT; NSGC 18019. GP-186. Pedigree - Harrington/lpa3-1//3*Harrington. Released 2007. Backcross-derived, wild-type sib selection of LP3.

PI 644111. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP4; NSGC 18020. GP-187. Pedigree - Harrington/M955//2*Harrington. Released 2007. Backcross-derived low-phytate line possessing the M955 mutation.

PI 644112. *Hordeum vulgare* L. subsp. *vulgare*

Breeding. Pureline. LP4-WT; NSGC 18021. GP-188. Pedigree - Harrington/M955//2*Harrington. Released 2007. Backcross-derived, wild-type sib selection of LP4.

The following were developed by Xiuling Zhang, University of Minnesota, Dept. of Agronomy & Plant Genetics, 1991 Upper Buford Circle, St. Paul, Minnesota 55108-6026, United States. Received 01/08/2007.

PI 644113. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. CITR2492-sel-fhb; NSGC 17977. Pedigree - selection from CITr 2492. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644114. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. CITR11215-sel-fhb; NSGC 17978. Pedigree - selection from CITr 11215. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

- PI 644115. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. CITR12021-sel-fhb; NSGC 17979. Pedigree - selection from CItr 12021. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644116. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. CITR12470-sel-fhb; NSGC 17980. Pedigree - selection from CItr 12470. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644117. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI57364-sel-fhb; NSGC 17981. Pedigree - selection from PI 57364. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644118. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI132856-sel-fhb; NSGC 17982. Pedigree - selection from PI 132856. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644119. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI163429-sel-fhb; NSGC 17983. Pedigree - selection from PI 163429. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644120. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI163439-sel-fhb; NSGC 17984. Pedigree - selection from PI 163439. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644121. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI168716-sel-fhb; NSGC 17985. Pedigree - selection from PI 168716. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644122. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI168727-sel-fhb; NSGC 17986. Pedigree - selection from PI 168727. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644123. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI182568-sel-fhb; NSGC 17987. Pedigree - selection from PI 182568. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644124. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI182583-sel-fhb; NSGC 17988. Pedigree - selection from PI 182583. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644125. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI182586-sel-fhb; NSGC 17989. Pedigree - selection from PI 182586. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

- PI 644126. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI182591-sel-fhb; NSGC 17990. Pedigree - selection from PI 182591. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644127. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI184512-sel-fhb; NSGC 17991. Pedigree - selection from PI 184512. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644128. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI185380-sel-fhb; NSGC 17992. Pedigree - selection from PI 185380. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644129. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI192219-sel-fhb; NSGC 17993. Pedigree - selection from PI 192219. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644130. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI192498-sel-fhb; NSGC 17994. Pedigree - selection from PI 192498. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644131. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI192660-sel-fhb; NSGC 17995. Pedigree - selection from PI 192660. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644132. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI203083-sel-fhb; NSGC 17996. Pedigree - selection from PI 203083. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644133. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI213833-sel-fhb; NSGC 17997. Pedigree - selection from PI 213833. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644134. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI256958-sel-fhb; NSGC 17998. Pedigree - selection from PI 256958. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644135. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI264927-sel-fhb; NSGC 17999. Pedigree - selection from PI 264927. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644136. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI264940-sel-fhb; NSGC 18000. Pedigree - selection from PI 264940. Resistance to Fusarium Head Blight (*Fusarium graminearum*).
- PI 644137. *Triticum aestivum* L. subsp. *aestivum***
Breeding. Pureline. PI264946-sel-fhb; NSGC 18001. Pedigree - selection

from PI 264946. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644138. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI264998-sel-fhb; NSGC 18002. Pedigree - selection from PI 264998. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644139. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI294975-sel-fhb; NSGC 18003. Pedigree - selection from PI 294975. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644140. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI349534-sel-fhb; NSGC 18004. Pedigree - selection from PI 349534. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644141. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI351221-sel-fhb; NSGC 18005. Pedigree - selection from PI 351221. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644142. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI351256-sel-fhb; NSGC 18006. Pedigree - selection from PI 351256. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644143. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI351476-sel-fhb; NSGC 18007. Pedigree - selection from PI 351476. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644144. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI351743-sel-fhb; NSGC 18008. Pedigree - selection from PI 351743. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644145. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI351748-sel-fhb; NSGC 18009. Pedigree - selection from PI 351748. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644146. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI351993-sel-fhb; NSGC 18010. Pedigree - selection from PI 351993. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644147. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI360869-sel-fhb; NSGC 18011. Pedigree - selection from PI 360869. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

PI 644148. *Triticum aestivum* L. subsp. *aestivum*

Breeding. Pureline. PI382144-sel-fhb; NSGC 18012. Pedigree - selection from PI 382144. Resistance to Fusarium Head Blight (*Fusarium graminearum*).

The following were donated by Mark McGuiness, U.S. National Arboretum, USDA, ARS, 3501 New York Avenue, N.E., Washington, District of Columbia 20002, United States. Received 12/06/2001.

PI 644149. *Malus hybrid*

NA# 29342; GMAL 4589; Dainty.

The following were donated by Gus Schmid, Swiss Federal Research Station for Fruit, Growing, Viticulture and Horticulture, Wadenswil, Zurich CH-8820, Switzerland. Received 02/12/2003.

PI 644150. *Malus domestica* Borkh.

GMAL 1640; C 08367; Q 22792; GMAL 4625; Bohnapfel. Collected in Unknown. Rhineland, Germany. Pedigree - Originated second half of 1700's. Comments:: Size medium to large 59-75:60-75 mm; shape variable, intermediate to tall, rectangular to truncate-conic, straight to convex, ribbed at eye and sometimes on body; skin greenish- yellow, orange-brown flush and stripes; flesh firm, coarse, greenish white; flavour subacid to slightly sweet; season very late; tree upright, late flowering.

The following were donated by Robert C. Lamb, New York State Agric. Exp. Station, Department of Horticulture, Geneva, New York 14456, United States. Received 12/14/1984.

PI 644151. *Malus domestica* Borkh.

Cultivar. "1-159"; C 15169; Q 25258; BE9676; GMAL 4627.

The following were donated by Lab. for Fruit Tree Genetics & Breeding, Research Inst. for Fruit Growing, Trustul Pomiculturii, Pitesti-Maracineni, Arges 0300, Romania. Received 03/13/1985.

PI 644152. *Malus domestica* Borkh.

Cultivar. "Pionier"; C 15657; Q 25398; BE9840; GMAL 4628.

PI 644153. *Malus domestica* Borkh.

Cultivar. "Generos"; C 15657; Q 25399; BE9840; GMAL 4629.

The following were donated by J. Reckin, Experimental Garden, DDR 1303 Finowfurt, Gorkistrasse 20, Finowfurt, Germany. Received 04/03/1985.

PI 644154. *Malus domestica* Borkh.

Cultivar. "Bohn"; C 15814; Q 25481; GMAL 4630.

The following were donated by L.B. Baxter, Granite Belt Horticulture Res Sta, P.O. Box 10, Applethorpe, Queensland, Australia. Received 08/13/1987.

PI 644155. *Malus domestica* Borkh.

13-86; BE-1398; Q 26936; GMAL 4631.

PI 644156. *Malus domestica* Borkh.
63-43 (Granite Belt); BE-1398; Q 26937; GMAL 4632.

PI 644157. *Malus domestica* Borkh.
BE-1398; 35-155 (Earlidel); Q 26939; GMAL 4633; Earlidel.

The following were donated by N.I. Vavilov Institute of Plant Industry, 44 Herzen Street, Leningrad, Leningrad 190000, Russian Federation. Received 04/1988.

PI 644158. *Malus domestica* Borkh.
Cultivar. "Mironchik"; C; Q 27137; GMAL 4634. Collected in Former Soviet Union.

PI 644159. *Malus domestica* Borkh.
Cultivar. "Pepin Litovskii"; D; Q 27138; GMAL 4635. Collected in Former Soviet Union.

PI 644160. *Malus domestica* Borkh.
Cultivar. "Kitaika Saninskaia"; E; Q 27139; GMAL 4636. Collected in Former Soviet Union.

PI 644161. *Malus domestica* Borkh.
Cultivar. "Papirovka"; H; Q 27142; GMAL 4637. Collected in Former Soviet Union.

The following were donated by Maxine Thompson, Oregon State University, Department of Horticulture, Cordley Hall 2042, Corvallis, Oregon 97331-2911, United States. Received 12/13/1988.

PI 644162. *Malus domestica* Borkh.
Cultivar. 880488; "Nurshah"; T&B 880488; Q 27397; GMAL 4638. Collected in Pakistan.

PI 644163. *Malus domestica* Borkh.
Cultivar. 880492; "Shinibalt I"; T&B 880492; Q 27398; GMAL 4639. Collected in Pakistan.

PI 644164. *Malus domestica* Borkh.
Cultivar. 880549; "Goharaman"; T&B 880549; Q 27403; GMAL 4640. Collected in Pakistan.

The following were collected by Fu Ren Min. Developed by Shaanxi Resh. Inst. of Pomology, Yang Ling, Shaanxi, China. Donated by Ren Min Fu, Shaanxi Res. Inst. of Pomology, Yang Ling, Shaanxi, China. Received 01/07/1989.

PI 644165. *Malus domestica* Borkh.
Cultivar. "Jin Guang"; BE-2151; Q 27585; BE2151; GMAL 4641. Collected in China.

PI 644166. *Malus domestica* Borkh.
Cultivar. "Yian Guang"; BE-2151; Q 27586; BE2151; GMAL 4642. Collected in China.

PI 644167. Malus domestica Borkh.

Cultivar. "Yian Feng"; BE-2151; Q 27587; BE2151; GMAL 4643. Collected in China.

The following were donated by A. P. Camilo, Estacao Expt. de Cacador, EMPASC, Caixa Postal D-1, CEP 89500, Cacador, Santa Catarina, Brazil. Received 05/16/1990.

PI 644168. Malus domestica Borkh.

Cultivar. "BR-2"; BE-2926; Q 28077; GMAL 4644. Pedigree - Chance seedling selection from open-pollinated Golden Delicious. Blooms one week before Golden Delicious, ripens at same time. Fruit yellowish-green. Chemical treatment needed for breaking bud dormancy in areas with 600-650 chilling hours. Released in 1980.

The following were donated by Fruit Growing Institute, 12 Ostromila, Plovdiv, Plovdiv, Bulgaria. Received 10/15/1990.

PI 644169. Malus domestica Borkh.

Cultivar. "Trakiiska Ranna"; BE-3162; Q 28356; GMAL 4645. Pedigree - Seedling selection from open pollination of Berner Rosenapfel in 1952. Growth vigorous. Flowers midearly. Fruit medium weight of 130 grams, round-conical, red. Flesh yellow, sweet-sour. Maturity end of July/early August before Prima.

The following were donated by Joe Norton, Auburn University, Department of Horticulture, Auburn, Alabama 36849, United States. Received 10/21/1991.

PI 644170. Malus domestica Borkh.

Cultivar. "Liaofu"; BE-3678; Q 28776; GMAL 4646. Collected in China.

The following were donated by William A. Gustafson, Jr., University of Nebraska, 122 Mussell Hall, Lincoln, Nebraska 68583-0714, United States. Received 12/23/1991.

PI 644171. Malus domestica Borkh.

BE-3777; Q 28826; GMAL 4647; Hua Guan. Collected in China. 'Better than Japanese 'Fuji' and American 'Red Delicious' in color, taste, storage and productivity.'

The following were donated by William R. Feldman, Boyce Thompson Southwestern Arboretum, 37615 E. Hwy 60, Superior, Arizona 85273-5100, United States; A. Saparmuraolov, Turkmen Plant Station in Gar, Gar, Turkmenistan. Received 03/01/1999.

PI 644172. Malus domestica Borkh.

Cultivar. "Dikaya from Gyuen"; 7854; Q 39701; GMAL 4648.

PI 644173. Malus domestica Borkh.

Cultivar. "Saivanskaiya(Apple-Tree From Saivan)"; 12245; Q 39705; GMAL 4649.

The following were donated by Susan K. Brown, Cornell University, New York State Agric. Exp. Sta., Department of Horticultural Sciences, Geneva, New York 14456-0462, United States. Received 10/21/2003.

PI 644174. *Malus domestica* Borkh.
Cultivated. "Honeycrisp"; GMAL 4652.

The following were donated by Jules Janick, Purdue University, Department of Horticulture, and Landscape Architecture, West Lafayette, Indiana 47907-1165, United States. Received 10/21/2003.

PI 644175. *Malus domestica* Borkh.
Cultivar. Coop 39; GMAL 4653.

The following were donated by James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States; David Bedford, University of Minnesota, Horticultural Research Center, 600 Arboretum Boulevard, Excelsior, Minnesota 55331, United States. Received 04/02/2004.

PI 644176. *Malus domestica* Borkh.
"Malinda"; GMAL 4668.

The following were donated by Lab. for Fruit Tree Genetics & Breeding, Research Inst. for Fruit Growing, Trustul Pomiculturii, Pitesti-Maracineni, Arges 0300, Romania. Received 02/20/1981.

PI 644177. *Malus domestica* Borkh.
Cultivar. "Geoagiu 21"; G21; C 06226; GMAL 1656; Q 22333; GMAL 4669.

The following were donated by William R. Feldman, Boyce Thompson Southwestern Arboretum, 37615 E. Hwy 60, Superior, Arizona 85273-5100, United States; A. Saparmuraolov, Turkmen Plant Station in Gar, Gar, Turkmenistan. Received 03/01/1999.

PI 644178. *Malus* sp.
Cultivar. "Almali95-1"; 36965; Q 39699; GMAL 4670.

PI 644179. *Malus* sp.
Cultivar. "Babarabkaturshi"; 10130; Q 39700; GMAL 4671.

The following were donated by Fruit Growing Institute, 12 Ostromila, Plovdiv, Plovdiv, Bulgaria. Received 02/16/1993.

PI 644180. *Malus* sp.
Cultivar. "ROUMYANA"; BE-4503; Q 29709; GMAL 4676.

The following were donated by N.I. Vavilov Institute of Plant Industry, 44 Herzen Street, Leningrad, Leningrad 190000, Russian Federation. Received 04/1988.

PI 644181. *Malus domestica* Borkh.

Cultivar. "Skryzhapel"; G; Q 27141; GMAL 4686. Collected in Former Soviet Union.

The following were donated by Maxine Thompson, Oregon State University, Department of Horticulture, Cordley Hall 2042, Corvallis, Oregon 97331-2911, United States. Received 12/13/1988.

PI 644182. *Malus domestica* Borkh.

Cultivar. 880522; "Shinibalt II"; T&B 880522; Q 27399; GMAL 4687. Collected in Pakistan.

The following were donated by Raivo Vihman, 430 Number 7 Road, Steuben, Maine 04680, United States. Received 02/24/2000.

PI 644183. *Malus domestica* Borkh.

Cultivar. "Koidu Renett"; Q 42565; GMAL 4691.

PI 644184. *Malus* sp.

Cultivar. "Sidrunkollane Talioun"; Q 43125; GMAL 4692.

The following were donated by Rich Stadnik, Pup's Cider Co., LLC, 193 East Rd., Greenfield, New Hampshire 03047, United States. Received 04/07/2005.

PI 644185. *Malus domestica* Borkh.

GMAL 4693; Jewett Red. Jewett Red (aka Nodhead). Originated in Hollis, New Hampshire before 1850. Large, mostly red with green background. Very light bloom. Very crisp, excellent flavor. Harvest late September.

PI 644186. *Malus domestica* Borkh.

GMAL 4694; Granite Beauty. Originated in Weare, New Hampshire (date uncertain, but historic). Medium, russeted, greenish. Unattractive, sweet. Harvest mid-September.

PI 644187. *Malus domestica* Borkh.

Pup's Tego; GMAL 4695. A medium to large, conical crab (?). Yellow, with pink blush. Quite sweet. Coloring of a Winter Banana. Harvest mid to late September. Tends to go biennial. Very little astringency. Probably an open pollinated seedling of Tolman Sweet x ?.

PI 644188. *Malus domestica* Borkh.

Pups' Fleurie; GMAL 4696. A medium size, very early bittersweet cider apple. Red over yellow with maroon stripes. Yellow flesh. Short keeper. Harvest around Labor Day. Unfermented juice has distinct floral notes which dissipate when fermented. Nice medium tannins. Generally a bit light on the sugars. Used at Pup's Cider Company to add tannins to other early juices. Reliable annual cropper.

PI 644189. *Malus domestica* Borkh.

Pup's Jeannette; GMAL 4697. A large bittersharp cider apple. Course, greenish yellow skin with pink splashes. Flesh not distinctively crisp. Bug's stay away from it, generally produces insect free fruit with no

spraying. Inedibly sharp, but useful as such in hard cider. Harvest beginning late September over a 2 to 3 week period. Fruit drops just prior to being ripe. Medium tannins. Very biennial. Tends to bloom early.

The following were donated by Carole Bassett, USDA/ARS, Appalachian Fruit Research, 2217 Wiltshire Rd., Kearneysville, West Virginia 25430, United States. Received 08/25/2005.

PI 644190. *Malus domestica* Borkh.

"Goldspur Golden Delicious"; GMAL 4698. Collected from Steve Miller's orchard, Kearneysville, WV.

The following were donated by William Howell, Washington State University, Irrigated Agr. Research & Extension Cntr, 24106 North Bunn Road, Prosser, Washington 99350, United States. Received 08/31/2005.

PI 644191. *Malus domestica* Borkh.

"Fireside"; IRA 254-1; GMAL 4699.

The following were collected by Fu Ren Min. Developed by Shaanxi Resh. Inst. of Pomology, Yang Ling, Shaanxi, China. Donated by Ren Min Fu, Shaanxi Res. Inst. of Pomology, Yang Ling, Shaanxi, China. Received 01/07/1989.

PI 644192. *Malus domestica* Borkh.

Cultivar. "Qing Guan"; BE-2151; T27588G; Q 27588; BE2151; GMAL 4701. Collected in China.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 01/07/2006.

PI 644193. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-23-28; GMAL 4708. Collected 08/29/1995 in Kazakhstan. Latitude 47° 14' 39" N. Longitude 81° 34' 14" E. Elevation 870 m. Semipalitinsk Region (Tarbagatai Mountain Range). Village of Alekseyevka. 4 km. Northeast of Alekseyevka, 20 km. North of Urdzhar. Flat area near stream. Collected in South end of West Valley. Coordinates in Urdzhar: 47-05-01, 81-37-49. Temp: max. +41, min. -40. Stoney gravely loam soil. Good drainage. 400 mm rainfall. Dominant tree sp.: Populus. Dominant shrub sp.: Crataegus, Rosa; Associated-Viburnum. Random pop. as close as 20 m. to stream. Many new small trees growing. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flavor. Fruit size is larger than 50mm. GMAL 4708 is an individual seedling selection form seed lot GMAL 3606. It was grown at the University of Minnesota. Comments from Minnesota: nice, yellow.

The following were donated by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; James Luby, University of Minnesota, Department of Horticultural

Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States.
Received 01/07/2006.

PI 644194. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-25-110; GMAL 4709. Collected 08/29/1995 in Kazakhstan. Latitude 47° 14' 39" N. Longitude 81° 34' 14" E. Elevation 870 m. Semipalitinsk Region (Tarbagatai Mountain Range). Village of Alekseyevka. 4 km. Northeast of Alekseyevka, 20 km. North of Urdzhar. Flat area near stream. Collected in South end of West Valley. Coordinates in Urdzhar: 47-05-01, 81-37-49. Temp: max. +41, min. -40. Stoney gravelly loam soil. Good drainage. 400 mm rainfall. Dominant tree sp.: Populus. Dominant shrub sp.: Crataegus, Rosa; Associated-Viburnum. Random pop. as close as 20 m. to stream. Many new small trees growing. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flavor. Fruit size is larger than 50mm. GMAL 4709 is an individual seedling selection from seed lot GMAL 3606. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.

PI 644195. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-25-110; GMAL 4710. Collected 08/29/1995 in Kazakhstan. Latitude 47° 14' 39" N. Longitude 81° 34' 14" E. Elevation 870 m. Semipalitinsk Region (Tarbagatai Mountain Range). Village of Alekseyevka. 4 km. Northeast of Alekseyevka, 20 km. North of Urdzhar. Flat area near stream. Collected in South end of West Valley. Coordinates in Urdzhar: 47-05-01, 81-37-49. Temp: max. +41, min. -40. Stoney gravelly loam soil. Good drainage. 400 mm rainfall. Dominant tree sp.: Populus. Dominant shrub sp.: Crataegus, Rosa; Associated-Viburnum. Random pop. as close as 20 m. to stream. Many new small trees growing. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flavor. Fruit size is larger than 50mm. GMAL 4710 is an individual seedling selection from seed lot GMAL 3612. It was grown at the University of Minnesota. Comments from Minnesota: attractive.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States.
Received 04/07/2006.

PI 644196. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-21-123; GMAL 4711. Collected 08/29/1995 in Kazakhstan. Latitude 47° 16' 12" N. Longitude 81° 34' 25" E. Elevation 990 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 7 km. Northeast of Alekseyevka. Landform mostly hillside. Collected in North end of West Valley, upstream 3 km. from site 05 (GMAL's 3604-3607, GMAL's 3760-3789). Silt to clay loam soil. Slope incline: 10%. Aspect: West. Dominant tree sp: *M. sieversii*; Associated-Populus, Pyrus, Acer. Dom. shrub sp: Rosa; Assoc.-Lonicera, Amygdalus, Rubus. Dominant herbaceous: Grasses; Assoc.-Potentilla, Fragaria. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Very little scab. Skin clear. Spur type tree. GMAL 4711 is an individual seedling selection from seed lot GMAL 3615. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.

PI 644197. *Malus sieversii* (Ledeb.) M. Roem.
Wild. MN 85-24-53; GMAL 4712. Collected 08/29/1995 in Kazakhstan.
Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920
m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes
in center of West Valley. Equidistant between sites 05 & 06 (GMAL's
3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: West.
Landform mostly hillside. Dominant tree sp.: *M. sieversii*. Dominant
shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*;
Assoc.-*Fragaria*. Sampled 40 fruits from 1 tree. Flesh flavor is
aromatic. Over color is 90% red. Fruit size is larger than 50mm. Spur
type tree. GMAL 4712 is an individual seedling selection from seedlot
GMAL 3622. It was grown at the University of Minnesota. Comments from
Minnesota: attractive.

PI 644198. *Malus sieversii* (Ledeb.) M. Roem.
Wild. MN 85-22-99; GMAL 4713. Collected 08/30/1995 in Kazakhstan.
Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920
m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes
in center of West Valley. Equidistant between sites 05 & 06 (GMAL's
3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: North.
Landform mostly hillside. Dominant tree sp.: *M. sieversii*. Dominant
shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*;
Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Looks like a
domesticated apple. Fruit is firm with aromatic flesh flavor, juicy.
Fruit size is larger than 50mm. Winter keeper. Very heavy cropload.
Scion also collected. GMAL 4713 is an individual seedling selection
from seedlot GMAL 3623. It was grown at the University of Minnesota.
Comments from Minnesota: scab resistant.

PI 644199. *Malus sieversii* (Ledeb.) M. Roem.
Wild. MN 85-26-21; GMAL 4714. Collected 08/30/1995 in Kazakhstan.
Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920
m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of
Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes
in center of West Valley. Equidistant between sites 05 & 06 (GMAL's
3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: North.
Landform mostly hillside. Dominant tree sp.: *M. sieversii*. Dominant
shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*;
Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Looks like a
domesticated apple. Fruit is firm with aromatic flesh flavor, juicy.
Fruit size is larger than 50mm. Winter keeper. Very heavy cropload.
Scion also collected. GMAL 4714 is an individual seedling selection from
seedlot GMAL 3623. It was grown at the University of Minnesota.
Comments from Minnesota: nice texture.

The following were donated by Philip L. Forsline, USDA, ARS, Cornell
University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United
States; James Luby, University of Minnesota, Department of Horticultural
Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States.
Received 04/07/2006.

PI 644200. *Malus sieversii* (Ledeb.) M. Roem.
Wild. MN 85-28-17; GMAL 4715. Collected 08/30/1995 in Kazakhstan.
Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920 m.

Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes in center of West Valley. Equidistant between sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: North. Landform mostly hillside. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Looks like a domesticated apple. Fruit is firm with aromatic flesh flavor, juicy. Fruit size is larger than 50mm. Winter keeper. Very heavy cropload. Scion also collected. GMAL 4715 is an individual seedling selection from seedlot GMAL 3623. It was grown at the University of Minnesota. Comments from Minnesota: late ripening.

The following were collected by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 04/07/2006.

PI 644201. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 85-28-25; GMAL 4716. Collected 08/30/1995 in Kazakhstan. Latitude 47° 15' 20" N. Longitude 81° 34' 20" E. Elevation 920 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar. 5 km. Northeast of Alekseyevka. Collected mainly on west slopes in center of West Valley. Equidistant between sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Silt to clay loam soil. Aspect: North. Landform mostly hillside. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Looks like a domesticated apple. Fruit is firm with aromatic flesh flavor, juicy. Fruit size is larger than 50mm. Winter keeper. Very heavy cropload. Scion also collected. GMAL 4716 is an individual seedling selection from seed lot GMAL 3623. It was grown at the University of Minnesota. Comments from Minnesota: late ripening.

The following were donated by Philip L. Forsline, USDA, ARS, Cornell University, Plant Genetic Resources Unit, Geneva, New York 14456-0462, United States; James Luby, University of Minnesota, Department of Horticultural Science, 342 Alderman Hall, St. Paul, Minnesota 55108, United States. Received 04/07/2006.

PI 644202. *Malus sieversii* (Ledeb.) M. Roem.

Wild. MN 88-27-40; GMAL 4717. Collected 08/31/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Slope incline 2 degrees. Aspect: East. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 70% red. Fruit size is larger than 50mm. Looks scab free. Winter type. Commercial size. GMAL 4717 is an individual seedling selection from seed lot GMAL 3626. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.

- PI 644203. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN-88-27-43; GMAL 4718. Collected 08/31/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Slope incline 2 degrees. Aspect: East. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 70% red. Fruit size is larger than 50mm. Looks scab free. Winter type. Commercial size. GMAL 4718 is an individual seedling selection from seed lot GMAL 3626. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.
- PI 644204. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 85-23-54; GMAL 4719. Collected 08/31/1995 in Kazakhstan. Latitude 47° 16' 41" N. Longitude 81° 35' 59" E. Elevation 1120 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. East-Northeast of Alekseyevka, on separate jeep trail. East Valley collection site. Collected on north end on flat by East River. Slope incline 2 degrees. Aspect: East. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Rosa*; Associated-*Lonicera*, *Rubus*. Dominant herbaceous: *Malva*; Assoc.-*Fragaria*. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 70% red. Fruit size is larger than 50mm. Looks scab free. Winter type. Commercial size. GMAL 4719 is an individual seedling selection from seed lot GMAL 3626. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.
- PI 644205. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 88-28-52; GMAL 4720. Collected 08/31/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in Middle and South Valley. Aspect: North. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 40 fruits from 1 tree. Flesh flavor is acid/aromatic mix. Fruit size is larger than 50mm. Nice clean finish. GMAL 4720 is an individual seedling selection from seed lot GMAL 3640. It was grown at the University of Minnesota. Comments from Minnesota: large, yellow fruit.
- PI 644206. *Malus sieversii* (Ledeb.) M. Roem.**
 Wild. MN 85-21-112; GMAL 4721. Collected 08/31/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected from east end of Middle Valley. Aspect: North. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-*Rosa*. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Fruit is hard with aromatic flesh flavor. Over color is 90% red. Fruit size is larger than 50mm. Very free of disease. GMAL 4721 is an individual seedling selection from seed lot GMAL 3641. It was grown at the University of Minnesota. Comments from Minnesota: large, yellow fruit.

- PI 644207. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-23-21; GMAL 4722. Collected 08/31/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected from east end of Middle Valley. Aspect: North. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-Rosa. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Fruit is hard with aromatic flesh flavor. Over color is 90% red. Fruit size is larger than 50mm. Very free of disease. GMAL 4722 is an individual seedling selection from seed lot GMAL 3641. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.
- PI 644208. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 88-29-71; GMAL 4723. Collected 08/31/1995 in Kazakhstan. Latitude 47° 15' 52" N. Longitude 81° 35' 5" E. Elevation 1000 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 3-4 km. Northeast of Alekseyevka. Collected in West and South Valley. Slope incline: 10 degrees. Aspect: South. Dominant tree sp.: *M. sieversii*. Dominant shrub sp.: *Amygdalus*; Associated-Rosa. Dominant herbaceous: *Aster*; Assoc.-*Xanthium*. Sampled 30 fruits from 1 tree. Fruit is firm with aromatic flesh flavor, juicy. No scab present. Hail damage. Fruit larger than 50mm. Very free of disease. Spur type tree. GMAL 4723 is an individual seedling selection seed lot GMAL 3649. It was grown at the University of Minnesota. Comments from Minnesota: large, yellow fruit.
- PI 644209. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-23-14; GMAL 4724. Collected 08/29/2006 in Kazakhstan. Latitude 47° 14' 39" N. Longitude 81° 34' 14" E. Elevation 870 m. Semipalitinsk Region (Tarbagatai Mountain Range). Village of Alekseyevka. 4 km. Northeast of Alekseyevka, 20 km. North of Urdzhar. Flat area near stream. Collected in South end of West Valley. Coordinated in Urdzhar: 47-05-01, 81-37-49. Temp: max. +41, min. -40. Stoney gravelly loam soil. Good drainage. 400mm rainfall. Dominant tree sp.: *Populus*. Dominant shrub sp.: *Crataegus*, *Rosa*; Associated-*Viburnum*. Random pop. as close as 20 m. to stream. Many new small trees growing. Sampled 5 fruits from 1 tree. Fruit is firm. GMAL 4724 is an individual seedling selection from seed lot GMAL 3760. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.
- PI 644210. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-23-37; GMAL 4725. Collected 08/30/1995 in Kazakhstan. Latitude 47° 16' 14" N. Longitude 81° 34' 45" E. Elevation 960 m. Semipalitinsk Region (Tarbagatai Mountain Range). 20 km. North of Urdzhar, 6 km. NE of Alekseyevka. Slopes of East-West Valley. Collected on north slope of North Valley. Between & East of sites 05 & 06 (GMAL's 3604-3615, GMAL's 3760-3789). Slope incline: 5-20 degrees. Aspect: South and North. Rainfall: 400 mm. Dominant tree sp.: *M. sieversii*; Assoc.-*Crataegus*. Dominant shrub sp.: *Rosa*; Associated-*Amygdalus*. Dominant herbaceous: *Aster*. Sampled 5 fruits from 1 tree. Fruit is firm. GMAL 4725 is an individual seedling selection from seed lot GMAL 3793. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.
- PI 644211. *Malus sieversii*** (Ledeb.) M. Roem.
Wild. MN 85-26-15; GMAL 4726. Collected 09/10/1995 in Kazakhstan.

Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Landform: slightly inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 8 fruits from 1 tree. Flesh flavor is aromatic. Mostly spur-type. Very tenacious-late season type. Drought tolerant. GMAL 4726 is an individual seedling selection from seed lot GMAL 3973. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.

PI 644212. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 85-25-29; GMAL 4727. Collected 09/10/1995 in Kazakhstan. Latitude 42° 53' 18" N. Longitude 69° 52' 52" E. Elevation 910 m. Karatau Province. Boraldy River Forest area. 5 km. North of Boraldy Forest Camp which is 80 km. North of Chimkent. Landform: slightly inclined plateau. Xerophytic. Very stony soil, dry. Slope incline: 10 degrees, N-NW. Rainfall: less than 300 mm. Dominant tree sp: Crataegus; Associated-M. Sieversii. Dominant shrub sp: Amygdalus; Assoc-Cerasus. Associated herbaceous: Rheum, Tulipa. Sampled 8 fruits from 1 tree. Fruit is firm with aromatic flesh flavor. Over color is 75% red. Mostly spur-type. Very tenacious-late season type. Drought tolerant. GMAL 4727 is an individual seedling selection from seed lot GMAL 3976. It was grown at the University of Minnesota. Comments from Minnesota: scab resistant.

PI 644213. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-14-20; GMAL 4728. Collected 08/28/1996 in Kazakhstan. Latitude 43° 20' 23" N. Longitude 79° 28' 54" E. Elevation 1640 m. Ketmen Mts. Village-Kirghiz sai. Southwest of Bol'shoye Asku Village. Heavily grazed area, no undergrowth. Heavily grazed area, no undergrowth. Soil: Gravely loam. Incline 10-20%, north, open grazed. N. ridge above stream; rainfall 600-650mm. Dominant tree sp: Apricot, Crataegus; Assoc-Populus & Betula above 1660m. Dominant shrub sp: Sorbus, Berberis; Assoc-Lonicera. Sampled 50 fruits from 1 tree. Flesh flavor is subacid. Fruit size is over 50mm. Free of insects and disease. Interesting striped. Same as 01-01P-13, GMAL 4069. GMAL 4728 is an individual seedling selection from seed lot GMAL 4010. It was grown at the University of Minnesota. Comments from Minnesota: nice fruit.

PI 644214. Malus sieversii (Ledeb.) M. Roem.

Wild. MN 80-15-27; GMAL 4729. Collected 09/08/1996 in Kazakhstan. Latitude 45° 24' 12" N. Longitude 80° 24' 22" E. Elevation 1500 m. 15km east of Topelevka-Djungarsky Range. 3 km southeast of Topelevka Forestry Camp. Collections made in radius around camp. Aspect west. Fertile. Dominant tree sp: Malus sieversii; Assoc.-Betula, Crataegus, Acer, Quercus, Tilia, Populus, Betula. Dom. Shrub Sp: Berberis, Lonicera; Assoc.-Cotoneaster, Rubus, Berberis, Ribes. Dom. herb.:Fragaria,Grasses,Humulus;Assoc.-Dianthus. Sampled 100 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is larger than 50mm. Free of of disease and insects. Scion collected also. GMAL 4729 is an individual seedling selection from seed lot GMAL 4035. It was grown at the University of Minnesota. Comments from Minnesota: nice.

- PI 644215. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 80-16-24; GMAL 4730. Collected 09/14/1996 in Kazakhstan.
 Latitude 42° 40' 9" N. Longitude 70° 15' 4" E. Elevation 830 m.
 Kok Bulak (Black Spring) Forestry Camp. 35 km southeast of Boraldy Camp
 visited in 1995. Collections made in and around camp-north, east, south
 of camp. Variable and open, stream bed and hillsides. Rainfall 275mm.
 Dominant tree sp: *Crataegus*; Assoc.-*Malus*, *Vitis*, *Morus Rhamnus*.
 Dominant shrub sp: *Amygdalus*, *Pyrus*, *Rosa*. Dominant herbaceous: Grasses.
 Sampled 80 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is
 larger than 50mm. Free of disease. Heavy codling moth. GMAL 4730 is an
 individual seedling selection from seed lot GMAL 4050. It was grown at
 the University of Minnesota. Comments from Minnesota: ripe 10/1.
- PI 644216. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 80-16-18; GMAL 4731. Collected 09/14/1996 in Kazakhstan.
 Latitude 42° 40' 9" N. Longitude 70° 15' 4" E. Elevation 840 m.
 Kok Bulak (Black Spring) Forestry Camp. 35 km southeast of Boraldy Camp
 visited in 1995. Collections made in and around camp-north, east, south
 of camp. Variable and open, stream bed and hillsides. Rainfall 275mm.
 Dominant tree sp: *Crataegus*; Assoc.-*Malus*, *Vitis*, *Morus Rhamnus*.
 Dominant shrub sp: *Amygdalus*, *Pyrus*, *Rosa*. Dominant herbaceous: Grasses.
 Sampled 70 fruits from 1 tree. Flesh flavor is aromatic. Fruit size is
 larger than 50mm. Free of disease and insects. Excellent flavor, very
 large leaf. Scion also collected. GMAL 4731 is an individual seedling
 selection from seed lot GMAL 4051. It was grown at the University of
 Minnesota. Comments from Minnesota: late ripening.
- PI 644217. *Malus sieversii*** (Ledeb.) M. Roem.
 Wild. MN 80-16-26; GMAL 4732. Collected 08/28/1996 in Kazakhstan.
 Latitude 43° 17' 30" N. Longitude 79° 30' 50" E. Elevation 1660 m.
 Ketmer Mts., Kirghiz sai. Southwest of Bol'shoje Aksa village.
 Heavily grazed area, no undergrowth. Soil: Gravely loam. Incline 10-20%,
 north, open-grazed. Rainfall 600-650mm. Dominant tree sp: Apricot,
Crataegus; Assoc-*Populus* & *Betula* above 1660m. Dominant shrub sp:
Sorbus, *Berberis*; Assoc-*Lonicera*. Elevation 1600-1660 meters. Sampled 8
 fruits from 20 trees. Flesh flavor is acid. Moderate scab. Apricots
 in area are early blooming, very good quality. Late maturing types.
 GMAL 4732 is an individual seedling selection from seed lot 4059. It
 was grown at the University of Minnesota. Comments from Minnesota:
 late ripening.

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Amaranthus dubius (642737, 642739)
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Amaranthus spinosus (642740)
Amaranthus tamaulipensis (642738)
Andropogon gerardii (642389, 642398)
Arachis hypogaea (641925-641926, 641950, 644011)
Arachis hypogaea var. fastigiata (642850)
Arachis hypogaea var. hypogaea (642025-642026, 642851)
Astragalus cornutus (642154)
Astragalus galegiformis (642155)
Astragalus tibetanus (642145)
Avena sativa (641965-641999, 642005, 642358, 642412, 643088, 644091)
Beta vulgaris (643989)
Beta vulgaris subsp. vulgaris (641927)
Brassica juncea (643909)
Brassica oleracea var. botrytis (642006, 642172)
Brassica oleracea var. capitata (642011)
Brassica rapa subsp. pekinensis (644006-644007)
Bromus catharticus (644034)
Bromus catharticus var. catharticus (642838)
Bromus coloratus (642835, 642837, 642839, 642841-642842)
Bromus hybrid (643141)
Bromus inermis subsp. inermis (642844-642846)
Bromus sp. (642833)
Cajanus cajan (642783)
Capsicum annuum (642166, 642455, 643122, 644093-644096)
Capsicum baccatum var. umbilicatum (643124)
Capsicum chinense (644037)
Capsicum sp. (642955-642957)
Catharanthus roseus (642802-642803)
Centrosema pubescens (643886-643887)
Chamaecrista fasciculata (641947, 643888-643894)
Chamaecrista nictitans var. nictitans (643081)
Chenopodium quinoa (643079)
Cicer arietinum (641935-641936, 642413, 642852-642853, 643436-643437)
Cicer hybrid (642748)
Cichorium intybus (642320)
Citrullus lanatus (642164-642165, 642369)
Citrullus lanatus var. lanatus (641956)
Clitoria ternatea (641948)

Cucumis melo (642012)
Cucurbita pepo (644097)
Cynosurus cristatus (642806-642807)
Dactylis glomerata (642370, 642808-642815, 642836)
Daucus carota (642755-642761, 643114-643120)
Deschampsia cespitosa (642843)
Deschampsia flexuosa (642834)
Desmanthus virgatus (643895-643896)
Desmodium intortum (643897)
Desmodium uncinatum (643898)
Diascia hybrid (642805)
Elymus canadensis (641962)
Elymus elymoides (641963-641964)
Elymus trachycaulus (643910)
Eragrostis variabilis (642849)
Erysimum hieraciifolium (642453-642454)
Festuca arundinacea (642933, 643140)
Festuca lemanii (642356)
Festuca rubra (642002)
Festuca rubra subsp. *commutata* (642449, 642456, 643134)
Festuca rubra subsp. *rubra* (641951, 642357, 643979)
Galium verum (642152)
Glycine max (641937-641938, 642013, 642055, 642167, 642318-642319,
642324-642348, 642421-642422, 642458-642459, 642732, 642754, 642768,
642935, 642958, 643146-643148, 643394-643395, 643911-643914,
643976-643977, 644024-644025, 644042-644059, 644103)
Gossypium hirsutum (641928-641930, 642007, 642049-642052, 642162-642163,
642414, 642769, 643086, 643438-643444, 643915-643918, 643972,
644039-644041, 644061-644063, 644074-644079)
Helianthus annuus (642056-642084, 642702, 642770-642777)
Hibiscus laevis (643083-643084)
Hibiscus ponticus (643460)
Hibiscus sabdariffa (643882)
Hordeum vulgare subsp. *vulgare* (641939-641940, 642046, 642368, 642403,
642786-642787, 642854-642855, 642887-642929, 643149-643167,
643194-643393, 643445, 644031-644032, 644069-644070, 644104-644112)
Ipomoea batatas var. *batatas* (641933-641934, 642847-642848)
Ipomoea hildebrandtii (643125)
Ipomoea indica (643990)
Ipomoea lacunosa (643991)
Krascheninnikovia ceratoides (642149)
Lactuca sativa (642004, 642008, 642010, 642169-642170, 642314, 642374, 642953,
643085, 643135, 643138, 643434, 643980, 643983-643985, 644033,
644035-644036, 644064, 644073, 644098)
Lagenaria siceraria (641946, 642039-642045)
Lens culinaris subsp. *culinaris* (643448-643453)
Lespedeza capitata (643080)
Lespedeza daurica var. *daurica* (643899-643902)
Lespedeza juncea (643903-643904)
Lesquerella argyraea (641921, 643169, 643178)
Lesquerella fendleri (641918-641920, 641922-641924, 642047-642048,
643170-643171, 643176-643177, 643179)
Lesquerella lasiocarpa (643172-643173)
Lesquerella lindheimeri (643174)
Lesquerella mexicana (643175)
Lesquerella schaffneri (643180)
Limnanthes alba subsp. *alba* (643187-643192)

Limnanthes douglasii subsp. *nivea* (643182)
Limnanthes douglasii subsp. *rosea* (643183-643186)
Limnanthes sp. (643181, 643193)
Linum usitatissimum (642375)
Lobelia erinus (642801)
Lolium multiflorum (642959, 644087)
Lolium perenne (642377, 643422, 643432, 643986)
Malus domestica (644150-644177, 644181-644183, 644185-644192)
Malus hybrid (644149)
Malus sieversii (644193-644217)
Malus sp. (644178-644180, 644184)
Marrubium vulgare (642151)
Medicago minima (642778)
Medicago rigidula (642951)
Medicago sativa (643396)
Medicago sativa subsp. *falcata* (643446-643447)
Muhlenbergia asperifolia (642401)
Nicotiana tabacum (642317)
Onobrychis alba subsp. *laconica* (642147)
Onobrychis arenaria subsp. *arenaria* (642150)
Onobrychis petraea (642146)
Oryza sativa (641931-641932, 642351-642352, 642749, 642943-642945,
642962-642964, 643121, 643127-643131, 643397-643398, 644012-644015,
644028-644029)
Panicum virgatum (642190-642313, 642395)
Phaseolus acutifolius (642116-642117)
Phaseolus acutifolius var. *tenuifolius* (642140)
Phaseolus lunatus (642132)
Phaseolus polystachios subsp. *sinuatus* (642133)
Phaseolus sp. (642093-642094)
Phaseolus vulgaris (641958-641960, 642014-642019, 642027-642028,
642085-642092, 642095-642115, 642118-642121, 642129-642131,
642134-642139, 642141-642144, 642168, 642316, 642321, 642353-642354,
642359-642360, 642402, 642423, 642447-642448, 642703, 642779, 642782,
642857, 642940, 642946-642950, 643421, 643973, 644088-644089)
Phaseolus vulgaris var. *aborigineus* (642122-642128)
Physalis alkekengi (644005)
Physalis pubescens (644008-644010)
Pisum sativum (641957, 642173-642179, 642349, 642784-642785, 644092)
Poa pratensis (642023, 642053, 642355, 642371-642372, 642457, 642934, 643431,
644071, 644090)
Pueraria sp. (643905)
Ribes petraeum var. *biebersteinii* (642399)
Ricinus communis (642000)
Rubus bullatus (643955)
Rubus caesius (643947, 643953)
Rubus chamaemorus (643941)
Rubus geoides (643940)
Rubus hybrid (643942, 643945-643946, 643967, 643971)
Rubus idaeus (643948-643952, 643957, 643959)
Rubus ikenoensis (643943)
Rubus inermis (643968)
Rubus irenaeus (643938)
Rubus lambertianus (643936)
Rubus lambertianus var. *glaber* (643960)
Rubus mesogaeus (643958)
Rubus nubigenus (643969)

Rubus parvifolius (643937, 643939)
Rubus riograndis (643944)
Rubus sachalinensis (643956)
Rubus sp. (643954, 643970)
Rubus spectabilis (643961, 643965-643966)
Rubus trivialis (643962-643964)
Saccharum sp. (642156)
Sambucus cerulea (642400)
Sanguisorba minor (644023)
Schizachyrium scoparium (642388, 642397)
Secale cereale (643433)
Senna alexandrina (642024)
Senna marilandica (642404, 643082)
Sesamum indicum (643458-643459)
Setaria italica subsp. *italica* (642744-642747)
Solanum dulcamara (643457)
Solanum jamesii (641941-641944)
Solanum lycopersicum (642001, 644019, 644022)
Solanum scabrum (643126)
Solanum stenotomum (642442)
Solanum stoloniferum (643992-644004)
Solanum tuberosum (642180-642189, 642429-642437, 642445, 644018)
Solanum tuberosum subsp. *andigenum* (642438-642441, 642443-642444, 642446)
Sorghastrum nutans (642387, 642396)
Sorghum bicolor subsp. *bicolor* (642390-642394, 642788-642793, 642870-642886,
642930-642932, 642968-643035, 643097-643113, 643461-643881,
643919-643934)
Spinacia oleracea (642322-642323)
Teramnus labialis (641949, 643906)
Thymus sp. (642148)
Tricyrtis latifolia (643883)
Tricyrtis macropoda (643884)
Trifolium ambiguum (643168)
Trifolium squarrosum (643907-643908)
Triticum aestivum subsp. *aestivum* (641952, 641961, 642171, 642315,
642361-642367, 642376, 642378-642386, 642405-642411, 642415-642417,
642780-642781, 642794, 642799-642800, 642856, 642936-642939, 642952,
642965-642967, 643087, 643089-643096, 643133, 643139, 643142-643143,
643399-643419, 643423, 643425-643430, 643935, 643978, 643981-643982,
644016-644017, 644020-644021, 644066-644068, 644072, 644080-644086,
644113-644148)
Triticum aestivum subsp. *compactum* (643435)
Triticum turgidum subsp. *durum* (642020-642022, 642373, 644065)
Urochloa hybrid (644030)
Vernonia galamensis var. *galamensis* (642418-642420)
Vicia sativa (643132)
Vigna unguiculata subsp. *unguiculata* (642157-642161, 644038)
X *Triticosecale* sp. (642003, 643454-643456, 643974-643975, 643987-643988)
Zea mays subsp. *mays* (641953-641955, 642029-642038, 642424-642428,
642704-642731, 642750-642753, 642762-642767, 642795-642798,
642858-642869, 642941-642942, 642954, 642960-642961, 643420,
644026-644027, 644060, 644099-644102)