

A REPORT OF THE
NATIONAL SMALL GRAIN VARIETY REVIEW BOARD



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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The Association of Official Seed Certifying Agencies (AOSCA), National Small Grain Variety Review Board (NSGVRB), reviewed the following varieties on February 28, 2007, in St. Paul, Minnesota. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Certifying Agency of the state in which the seed is grown.

All variety information, including descriptions, claims and research data to support any claim was supplied to the NSGVRB by the applicants. The NSGVRB makes judgment regarding recommendation of varieties for inclusion in certification based on the data supplied. Beyond that, the NSGVRB takes no position on the accuracy or truthfulness of any description or claim made by the applicants.

Further information on current procedures, application forms and detail regarding the NSGVRB can be obtained from:

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Respectfully submitted,

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Association of Official Seed Certifying Agencies
National Small Grain Variety Review Board

SMALL GRAIN VARIETIES RECOMMENDED FOR CERTIFICATION 2007

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Kuntz (98S0127-06)
Hard Red Spring Wheat

Kuntz (98S0127-06) is a hard red spring wheat bred and developed by AgriPro. It has medium maturity and very good test weight. It has semidwarf height and very strong straw strength. It is moderately resistant to the prevalent races of leaf rust. Foliar disease protection is very good. Kuntz has intermediate tolerance to scab. Protein is medium-low and overall breadmaking characteristics are satisfactory. Kuntz is broadly adapted to the spring wheat growing areas of North and South Dakota, Minnesota and Montana.

Juvenile growth habit is erect. Plant color at boot stage is dark green at boot stage. Flag leaf at boot stage is erect and twisted. Waxy bloom is present on the head, stem and flag leaf sheath. Anther color is yellow. Head shape is tapering and awned. Glumes are glabrous, medium in width and midlong in length with square shoulders and acuminate beaks. Seed shape is ovate. Brush hairs are midlong in length and occupy a large area of the seed tip. Seed crease depth is shallow and width is narrow. Seed cheeks are rounded.

Purity of Kuntz will be maintained by AgriPro in Berthoud, Colorado by the headrow method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These headrows are then individually harvested and grown as progeny plots. The selected progeny plots are then bulked to produce Breeders Seed.

Kuntz has been uniform and stable since 2004. About 0.8% of the plants were rogued from the initial Breeder's Seed increase in 2005. Approximately 90% of the variant plants were taller height wheat plants (1 to 3 cm.) and approximately 10% were bronze chaffed plants. Up to 1.0% variant plants may be encountered in subsequent generations.

AgriPro maintains Breeders seed stock and certified classes of Foundation, Registered and Certified. Certified seed stocks of Kuntz will be available in the spring of 2007. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and Kuntz may only be sold as a class of Certified seed.

Magnolia (D01*7759)

Soft Red Winter Wheat

Magnolia (D01*7759) is a soft red winter wheat bred and developed by AgriPro COKER (Syngenta Brands) for grain production. Magnolia was derived from a head that was selected in spring of 1999 from a composite F4 bulk population that included three single crosses made by AgriPro personnel in the greenhouse at Brookston, IN, in December of 1994. This variety is intended for grain production with grain yield data that indicates it is adapted to most of the midsouth and southeastern soft wheat areas.

Magnolia is resistant to moderately resistant to stripe rust field races prevalent in 2004, 2005 and 2006. Magnolia has shown moderate resistance to moderate susceptibility to leaf rust field races prevalent in the midsouth and southeastern US in 2004, 2005 and 2006. Magnolia is susceptible to powdery mildew in the southeast. Magnolia is moderately resistant to Wheat Spindle Streak Virus and susceptible to Soil Borne Mosaic Virus. Magnolia is resistant to Biotype E of Hessian Fly.

Magnolia is a medium-height wheat with medium-early season heading. Juvenile growth habit is semierect. Plant color is green at boot stage. Flag leaf at boot stage is erect and twisted. Waxy bloom is present on the head, stem and flag leaf sheath. Anther color is yellow. Head shape is strap and awned. Glumes are glabrous, medium in width and midlong in length with oblique shoulders and acuminate beaks. Seed shape is ovate. Brush hairs are midlong in length and occupy a large area of the seed tip. Seed crease depth is shallow and width is narrow. Seed cheeks are rounded.

Purity of Magnolia will be maintained by AgriPro in Berthoud, Colorado by the headrow method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These headrows are then individually harvested and grown as progeny plots. The selected progeny plots are then bulked to produce Breeders Seed.

Magnolia has been uniform and stable since 2005. Less than 0.8% of the plants were rogued from the Breeder's Seed increase in 2006. Approximately 90% of the rogued variant plants were taller (1-3") awned wheat plants and 10% were awnless wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

AgriPro maintains Breeders seed stock and certified classes of Foundation, Registered and Certified. Certified seed stocks of Magnolia will be available in the Fall of 2007. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and Magnolia may only be sold as a class of Certified seed.

**AP604 CL (01II27-20-1)
Hard Red Spring Wheat**

AP604 CL (01II27-20-1) is a hard red spring wheat bred and developed by AgriPro. It was derived from a cross between imazamox tolerant lines, AP601 CL and AP602 CL. AP601 CL was derived from the cross "Ivan//Butte 86*4/FS4/3/Russ". It has early maturity and very good test weight. Height is an intermediate type with good straw strength. It is moderately susceptible to the prevalent races of leaf rust and to fusarium head blight. Foliar disease protection is very good. Protein is medium-high and overall breadmaking characteristics are satisfactory. AP604 CL is broadly adapted to the spring wheat growing areas of North and South Dakota, Minnesota and Montana and is intended for grain production. AP604 CL contains patented traits and will be managed under a Stewardship Agreement.

AP604 CL is an intermediate-height wheat with early season heading. Juvenile growth habit is erect. Plant color is green at boot stage. Flag leaf at boot stage is erect and twisted. Waxy bloom is present on the head, stem and flag leaf sheath. Anther color is yellow. Head shape is strap and awned. Glumes are glabrous, narrow in width and short in length with square shoulders and acuminate beaks. Seed shape is ovate. Brush hairs are midlong in length and occupy a medium area of the seed tip. Seed crease depth is middeep and width is midwide. Seed cheeks are angular.

AP604 CL has been uniform and stable since 2006. Less than 0.8% of the plants were rogued from the Arizona Breeder's seed increase in 2006. Approximately 90% of the rogued variant plants were taller (1-3") awned wheat plants and 10% were awnless. Up to 1.0% variant plants may be encountered in subsequent generations.

Purity of AP604 CL will be maintained by AgriPro in Berthoud, Colorado by the headrow method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These headrows are then individually harvested and grown as progeny plots. The selected progeny plots are then bulked to produce Breeders Seed.

AgriPro maintains Breeders seed stock and certified classes of Foundation, Registered and Certified. Certified seed stocks of AP604 CL will be available in the spring of 2007. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and AP604 CL may only be sold as a class of Certified seed.

Palomino (W96-359W)

Hard White Winter Wheat

Palomino is a hard white winter wheat bred and developed by AgriPro intended for grain production. Palomino was an F3 derived, single plant selection from the cross: WI90-008 (Mesa / Abilene) / W91-040 [Roazon / Wrangler // Vona / W76-1141 (Nadadores 63 / CO652643 // Centurk). Palomino was tested under the experimental designation of W96-359W. Palomino is a medium-short semidwarf variety and has white chaff at maturity. It has medium-early maturity and excellent straw strength. Palomino is best adapted to the higher rainfall regions of western Idaho and eastern Washington and irrigated production in the southern Snake River region of Idaho and the Basin of Washington. Palomino is susceptible to stripe rust, leaf rust, and powdery mildew. Palomino is moderately susceptible to snow mold. Palomino is susceptible to Hessian fly.

Juvenile growth habit is semierect. Plant color at boot stage is green. Auricle anthocyanin and auricle hairs are present. Flag leaf at boot stage is erect and twisted. Waxy bloom is present on the head, stem and flag leaf sheath. Anther color is yellow. Head shape is tapering and awned. Glumes are glabrous, narrow in width and long in length with wanting shoulders and acuminate beaks. Seed shape is ovate. Brush hairs are long in size and occupy a large area of the seed tip. Seed crease depth is shallow and width is narrow. Seed cheeks are rounded.

Purity of Palomino will be maintained by AgriPro in Berthoud, Colorado by the headrow method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These headrows are then individually harvested and grown as progeny plots. The selected progeny plots are then bulked to produce Breeders Seed.

Palomino has been uniform and stable since 2003. Less than 0.8% of the plants were rogued from the Breeder seed increase in 2003. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm), 5% of the rogued plants were bronze chaffed and 5% of the rogued plants were awnless. Up to 1% variant plants may be encountered in subsequent generations. A red seeded variant of approximately 0.5% has also been identified in the Breeders seed production plots. Up to 0.7% red seeds may be encountered in subsequent generations.

AgriPro maintains seed stock and certified classes of Foundation, Registered and Certified. Registered and Certified seed stocks of Palomino will be available in the fall of 2007. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated in 2007 and Palomino may only be sold as a class of Certified seed.

Primo (B99AL-616)
Spring Barley

“Primo” (B99AL-616) was derived from a cross made by Arizona Plant Breeders Inc. (APB) in 1997 between P-647 (a line from New Farm Crops, England) and “Baronesse”. Primo is the sole property of Arizona Plant Breeders, Inc.

Primo was developed by the pedigree breeding method using a two generation per year program of winter production in Arizona and summer production in the Pacific Northwest.

The F6 through F10 generations were obtained by bulking the previous generations when grown in Arizona from 2001 to 2005. During that period B99AL-616 was yield tested by APB and public institutions in Washington and Idaho.

A total of 310 head rows from the F10 generations were grown in Montana in the summer of 2005. The off-type head rows were removed and the remaining rows were harvested in bulk as pre-Breeders seed.

This bulk was planted to produce Breeders seed in 2005-2006. This Breeders seed was grown in 2006 in Idaho to produce Foundation seed.

Primo is adapted to the spring feed barley areas of the Pacific Northwest including Idaho and Washington. Primo will be used as a feed barley.

Primo is a two row barley with a nodding clavated shaped spike, long awns with a rough surface, it has short rachilla hairs and colorless aluerone. The variety will not be described with variants.

Primo has not been evaluated for disease and insect resistance, but has yielded well in the area of intended release in University trials.

The four certification classes for Primo will be Breeders, Foundation, Registered and Certified. No applications will be made for Plant Variety Protection. Seedstock maintenance will be done by head rows.

The seed production acreages can be published. Certified seed will be offered for sale in Idaho in the spring of 2007.

Westmore (257-11) Spring Durum

The variety "WESTMORE" was evaluated in public trials in Arizona and California as 257-11. Westmore is a spring durum developed by Arizona Plant Breeders Inc. (APB)

Westmore is a variety that was selected from a cross between an APB breeding line D95-257 and a durum line containing the grain protein content gene from wheat. The cross was made by Dr. Jorge Dubcovsky at the University of California at Davis. The selection and evaluation was made by APB. After the first backcross to D95-257 was made a pedigree selection program was used.

Westmore is adapted to the irrigated durum growing area of the U.S.A. The primary use will be to provide high quality grain to the domestic and export markets. Westmore does not have enough leaf disease resistance to be grown in the durum growing areas of North Dakota.

Westmore has long narrow kernels with shallow creases. The heads of Westmore are more lax than other durum varieties and are oblong compared to the general tapered heads of most durums. No variants have been noted in Westmore at this time.

Westmore's stripe rust resistance is better than Kronos but not as good as Desert King.

Westmore will have four classes of seed certification being; Breeders, Foundation, Registered, and Certified. Seed stocks will be reconstituted by head rows.

Certified seed will be offered for sale in 2007. An application for protection under the Plant Variety Protection Act will be made and the certification option will be selected. AOSCA and State Certifying Agencies may publish the seed production acreage of "Westmore".

XW05G (Experimental Designation) Soft Red Winter Wheat

XW05G is a soft red winter wheat that was developed by Pioneer Hi-Bred International, Inc. using a modified pedigree selection breeding method. XW05G is primarily intended for grain production and it has shown good adaptation to the northern soft wheat regions based on tests conducted in Arkansas, Kentucky, Missouri, Illinois, Indiana, Ohio, Michigan, Maryland and Ontario, Canada.

The coleoptile color of XW05G is red and the juvenile growth habit is semi-erect. Leaf color at booting is green and the flag leaf is erect, twisted and has a waxy bloom. Auricle color is white. Anther color is yellow. Spikes of XW05G are awned, mid-dense, tapering in shape and nodding at maturity. XW05G has shown no variants other than what would normally be expected due to environment.

XW05G has shown very good winter hardiness and resistance to straw lodging. It has demonstrated excellent resistance to stripe rust in the mid-south U.S. region and also has very good resistance to powdery mildew and soil borne mosaic virus. It is moderately resistant to the complex of organisms that incite leaf blights including *Septoria tritici* blotch, *Stagnospora nodorum* leaf blotch and tan spot and is moderately susceptible to wheat spindle streak mosaic virus.

The breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Parent Wheat Seed headquarters at Mt. Vernon, IN. Foundation seed will be initially produced from breeders seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeding department. Registered seed will be grown from foundation or breeder seed, and maintained at a purity level satisfactory to Pioneer Parent Seed Operations, Supply Management, or the appropriate certifying agency. Production of certified seed will be controlled by Supply Management, Pioneer Hi-Bred Int'l., Inc. Certified seed of XW05G will potentially first be offered for sale in the fall of 2007. Application for Plant Variety Protection is anticipated and the certification option will not be chosen. Certified acreage is not to be published by AOSCA and certifying agencies.

XW05J (Experimental Designation) Soft White Winter Wheat

XW05J is a soft white winter wheat that was developed by Pioneer Hi-Bred International, Inc. using a modified pedigree selection breeding method. XW05J is primarily intended for grain production and it has shown good adaptation to the northern soft wheat regions based on tests conducted in Indiana, Ohio, Michigan, and Ontario, Canada.

The coleoptile color of XW05J is red and the juvenile growth habit is semi-erect. Leaf color at booting is green and the flag leaf is erect, twisted and has a waxy bloom. Auricle color is white. Anther color is purple. Spikes of XW05J are apically awnletted, dense, oblong in shape and nodding at maturity. XW05J has shown no variants other than what would normally be expected due to environment.

XW05J has shown very good winter hardiness in the northern corn belt of the U.S. and Ontario, Canada. It has moderate resistance to leaf rust and powdery mildew. It also has intermediate resistance to the complex of organisms that incite leaf blights including *Septoria tritici* blotch, *Stagnospora nodorum* leaf blotch and tan spot. XW05J has very good resistance to soilborne mosaic virus and wheat spindle streak mosaic virus.

The breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Parent Wheat Seed headquarters at Mt. Vernon, IN. Foundation seed will be initially produced from breeders seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeding department. Registered seed will be grown from foundation or breeder seed, and maintained at a purity level satisfactory to Pioneer Parent Seed Operations, Supply Management, or the appropriate certifying agency. Production of certified seed will be controlled by Supply Management, Pioneer Hi-Bred Int'l., Inc. Certified seed of XW05J will potentially first be offered for sale in the fall of 2007. Application for Plant Variety Protection is anticipated and the certification option will not be chosen. Certified acreage is not to be published by AOSCA and certifying agencies.

**XW05K (Experimental Designation)
Soft White Winter Wheat**

XW05K is a soft white winter wheat that was developed by Pioneer Hi-Bred International, Inc. using a modified pedigree selection breeding method. XW05K is primarily intended for grain production and it has shown good adaptation to the northern soft wheat regions based on tests conducted in Indiana, Ohio, Michigan, and Ontario, Canada.

The coleoptile color of XW05K is white and the juvenile growth habit is semi-erect. Leaf color at booting is green and the flag leaf is recurved, twisted and has a waxy bloom. Auricle color is purple. Anther color is yellow. Spikes of XW05K are apically awnletted, mid-dense, tapering in shape and nodding at maturity. XW05K has shown no variants other than what would normally be expected due to environment.

XW05K has shown very good winter hardiness in the northern corn belt of the U.S. and Ontario, Canada. It has intermediate resistance to leaf rust, powdery mildew, and to the complex of organisms that incite leaf blights including *Septoria tritici* blotch, *Stagnospora nodorum* leaf blotch and tan spot. XW05J has excellent stripe rust resistance, very good resistance to wheat spindle streak mosaic virus and moderate resistance to soilborne mosaic virus.

The breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Parent Wheat Seed headquarters at Mt. Vernon, IN. Foundation seed will be initially produced from breeders seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeding department. Registered seed will be grown from foundation or breeder seed, and maintained at a purity level satisfactory to Pioneer Parent Seed Operations, Supply Management, or the appropriate certifying agency. Production of certified seed will be controlled by Supply Management, Pioneer Hi-Bred Int'l., Inc. Certified seed of XW05K will potentially first be offered for sale in the fall of 2007. Application for Plant Variety Protection is anticipated and the certification option will not be chosen. Certified acreage is not to be published by AOSCA and certifying agencies.

Hat Trick (05M SP5) Hard Red Spring Wheat

'Hat Trick', experimental designation 05M SP5, is a hard red spring wheat developed and owned by Trigen Seed LLC.

'Hat Trick' is derived from a cross we made at Northfield, Minnesota in the summer of 2000 between the Brazilian variety Rubi and the Argentine variety PROINTA Real. We grew the F₁ population from this cross near Christchurch, New Zealand in the season of 2000-01.

We subsequently used a modified bulk breeding method from the F₂ to F₆ generations, which we alternated between Minnesota and Arizona. In 2003, we made head selections in the F₆ bulk population at Foxhome, Minnesota. We then grew F₇ head-rows near Christchurch, New Zealand. We harvested the uniform appearing rows individually and planted the resulting F₈ seed in a performance trial at Foxhome, Minnesota in 2004. We selected the best entry from the cross for promotion to advanced trial status and to an initial increase, which we designated 05M SP5.

We then grew about a ½ hectare increase of 05M SP5 in southern Buenos Aires Province, Argentina in the fall of 2005. We rogued and harvested this plot in February, 2006. This seed we designated as pre-breeder seed, from which we produced Breeder seed of 'Hat Trick' in the spring of 2006 at Foxhome, Minnesota.

The probable area of adaptation will be the Northern Plains of the U.S. The primary purpose will be grain for use in bread and breadstuffs.

'Hat Trick' is a semi-dwarf hard red spring wheat with hollow stems and white/amber, mid length awns at maturity. It has an erect juvenile growth habit and green leaf color (RHS 136B), an erect flag leaf that is not twisted with no waxy bloom. The stem color is white and the anther color is yellow. The mid-dense spike is tapering and erect at maturity. We have observed taller off-types of about 1 per 25,000 plants in Foundation seed production.

'Hat Trick' is susceptible to stripe rust (*Puccinia striiformis*); susceptible to race TNJR but resistant to races MCDS, MHDS, TGBG, SBDG THBJ, TCTD, and MBBJ of leaf rust (*P. recondita*); resistant to moderately resistant to stem rust (*P. graminis* f.sp. *tritici*); and moderately resistant to Fusarium head blight.

Classes to be recognized are Breeder's, Foundation, Registered, and Certified. Breeder's class will be developed by a head-row purification method and by removing off-types. Foundation seed will be derived from Breeder's, Registered from Foundation, and Certified from Registered. Maintenance of Breeder seed stocks will be done by a head-row purification method. Maintenance of Foundation seed will be done either from Breeder seed or from Foundation seed.

We anticipate the production of Foundation class seed of 'Hat Trick' in Minnesota and North Dakota in 2007. The variety will first be offered for sale in 2008.

Application will be made for protection under the Plant Variety Protection Act with the "Certification Option" selected.

The acreage is to be published by AOSCA and the certifying agencies.

NE01643

Hard Red Winter Wheat

NE01643 is a hard red winter wheat (*Triticum aestivum* L.) cultivar developed cooperatively by the Nebraska Agricultural Experiment Station and the USDA-ARS and released as NE01643 in 2007 by the developing institutions and the South Dakota Agricultural Experiment Station. NE01643 was released primarily for its superior adaptation to rainfed wheat production systems in Nebraska, South Dakota, and adjacent areas in the northern Great Plains. NE01643 will be certified under the name NE01643, but will be marketed under the name Husker Genetics Brand Overland in honor of the pioneers who crossed and stayed in the northern prairies.

NE01643 was selected from the cross Millennium sib//Seward/Archer. The F₁ generation was grown in the greenhouse and the F₂ to F₃ generations were advanced using the bulk breeding method. In 1999, a single F₃-derived F₄ rows were planted for the selection. There was no further selection thereafter. NE01643 is pending release with an expected release in early 2007. The first sale of unreleased foundation seed was September, 2006 to certified seed producers. The first commercial sale of certified seed is expected to be September, 2007.

NE01643 is a semi-dwarf wheat cultivar and is moderately late in maturity with good winterhardiness. It is moderately susceptible to stem rust in field nursery tests inoculated with a composite of stem rust races (RCRS, QFCS, QTHJ, RKQQ, and TPMK) but resistant to the most prevalent race QFCS. It is moderately resistant to leaf rust, stripe rust, and Hessian fly. NE01643 also is more tolerant to Fusarium head blight than many widely grown lines. It is susceptible to wheat soilborne mosaic virus, barley yellow dwarf virus, and wheat streak mosaic virus.

NE01643 is an awned, white-glumed cultivar. Its field appearance is most similar to Millennium. After heading, the canopy is open and erect to inclined. The flag leaf is erect and twisted (light to moderately) at the boot stage. The foliage is green to dark green with a light waxy bloom on the leaf sheath, but not on the leaves or spike at anthesis. The leaves are very lightly pubescent with very short hairs. The spike is tapering to oblong in shape, narrow, mid-long, and middense. The glume is long and narrow, and the glume shoulder is narrow to midwide and rounded to square. The beak is medium in length with an acuminate to acute tip. The spike is predominantly inclined at maturity with some spikes nodding. Kernels are red colored, hard textured, and mainly elliptical in shape. The kernel has no collar, a large brush of medium length, angular cheeks, large germ, and a mid-wide and mid-deep crease.

NE01643 has been uniform and stable since 2004. Less than 0.5 % of the plants were rogued from the Breeder's seed increase in 2004. The rogued variant plants were taller in height (10 - 15 cm) or were awnless and/or with red chaff. Up to 1% (10:1000) variant plants may be encountered in subsequent generations. The seed classes will be Breeder, Foundation, Registered, and Certified. Foundation seed will be maintained by careful roguing of a small block of Foundation Seed. The Registered seed class will be a nonsalable seed class. NE01643 will be submitted for plant variety protection under P.L. 10577 with the certification option. The acreage may be published by ASOSCA and certifying agencies.

Espresso (DA984-034SRR) Hard Red Spring Wheat

'Espresso' (DA984-034SRR) is a hard red wheat that originated from a backcross breeding scheme to move YR15 and YR17 into an 'Express' background. The crossing and marker assisted selection were performed in the greenhouse by Dr. Jorge Dubcovsky of the University of California, Davis. WestBred, LLC is the owner of 'Espresso' because it is essentially derived from the variety 'Express'. WestBred, LLC is the owner of 'Express'. 'Espresso' is adapted to the same areas as 'Express'. These areas include the irrigated areas of the Sacramento Valley, Idaho and Washington. 'Espresso' has good milling and bread baking properties and is equal in quality to 'Express'. The end use primary purpose of 'Espresso' is to make raised pan loaf bread.

'Espresso' is daylength insensitive hard red spring wheat. "Espresso" is a semidwarf variety with good straw strength and medium maturity. The stems are hollow and white. 'Espresso' has white colored chaff. The spikes are long, lax, awned and oblong. The glumes are long, wide with oblique shoulders. The glume beaks are medium in length and acuminate. Plant color at booting is blue green and the flag leaf is erect and twisted. Hairs are present on both the last rachis internode and the auricles. 'Espresso' has a tall variant that is 12-30 cm taller that occurs at a frequency of up to .5%. A white seed variant occurs at a frequency of up to .5%. An awnless variant occurs at a frequency of up to .5%.

'Espresso' is resistant to current field races of stripe rust in California where 'Express' is moderately susceptible and Summit is highly susceptible. No other differential disease reactions have been noted between 'Express' and 'Espresso'. 'Espresso' is susceptible to Hessian Fly.

WestBred, LLC will maintain breeder seed by reproducing the original breeder seed as needed. The certified seed classes will be Foundation, Registered and Certified. Certified seed will be offered for sale in the fall of 2007. Certified acreage is not to be published by AOSCA and certifying agencies. Application for Plant Variety Protection will be made in 2007 and the "Certification Option" will not be selected.

Blade (CA905-750)
Hard Red Spring Wheat

Blade (CA905-750) is a hard red spring wheat that developed by WestBred LLC, that is derived from a single F₅ plant selection from the cross of Knudson x Alsen. It was advanced and evaluated as a bulk from the F₆ to F₉ generations with an initial F₈ Breeder Seed increase in the winter of 2005-2006. Blade has shown good adaptation to the North Central Great Plains based on tests conducted in ND, MN, and SD. Blade was developed for the wheat bread flour market.

Blade is a wheat that can achieve high yield of high test weight, medium protein grain in the hard red spring wheat growing areas of the Northern Great Plains. Blade has shown a resistant reaction to stem rust and a moderately resistant to moderately susceptible reaction to leaf rust and foliar disease (tan spot and Septoria tritici) and Fusarium head blight. Quality of Blade is good based on test weight, protein and flour SDS sedimentation values.

Blade is an awned, medium maturing, semi-dwarf variety with white coleoptiles and a semi-erect juvenile growth habit. The flag leaf is erect, twisted and waxy. The leaf color at the boot stage is green and auricles are white. Spikes are tapered, mid-dense, and inclined with awns that are mid-long and tan in color at maturity. The flowering glumes are tan in color, glabrous, short with square shoulders, and short, acute beaks. The seeds are red and ovate with a large brush. Blade may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 0.1% and an early, short, erect variant at a rate of 0.1%.

WestBred LLC will maintain breeder and Foundation seed as needed by growing head row purification increases. The certified classes of seed shall be Foundation, Registered and Certified. Foundation seed will be produced in winter of 2007 and some certified seed may be offered for sale in the spring of 2007. Application will be made for protection under the Plant Variety Protection Act and the certification option will not be selected. Acreage of Blade is not to be published by AOSCA and certifying agencies.

Breaker (CA905-749) **Hard Red Spring Wheat**

Breaker (CA905-749) is a hard red spring wheat that developed by WestBred LLC, that is derived from a single F₅ plant selection from the cross of Knudson x Alsen. It was advanced and evaluated as a bulk from the F₆ to F₉ generations with an initial F₈ Breeder Seed increase in the winter of 2005-2006. Breaker has shown good adaptation to the North Central Great Plains based on tests conducted in ND, MN, and SD. Breaker was developed for the wheat bread flour market.

Breaker is a wheat that can achieve high yield of high test weight, medium protein grain in the hard red spring wheat growing areas of the Northern Great Plains. Breaker has shown a resistant reaction to Stem Rust and a moderately resistant to moderately susceptible reaction to leaf rust and foliar disease (tan spot and Septoria tritici) and Fusarium head blight. Quality of Breaker is good based on the test weight, protein and flour SDS sedimentation values.

Breaker is an awned, medium maturing, semi-dwarf variety with white coleoptiles and a semi-erect juvenile growth habit. The flag leaf is erect, twisted and waxy. The leaf color at the boot stage is green and auricles are white. Spikes are oblong shaped, mid-dense, and nodding with awns that are mid-long and tan in color at maturity. The flowering glumes are tan in color, glabrous, short with square shoulders, and short, acute beaks. The seeds are red and ovate with a large brush. Breaker may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 0.1%.

WestBred LLC will maintain breeder and Foundation seed as needed by growing head row purification increases. The certified classes of seed shall be Foundation, Registered and Certified. Foundation seed will be produced in summer of 2007 and some certified seed may be offered for sale in the spring of 2008. Application will be made for protection under the Plant Variety Protection Act and the certification option will not be selected. Acreage of Breaker is not to be published by AOSCA and certifying agencies.

CA505-756 (Experimental Designation) Spring Barley

CA505-756 is a hulless, 2 row spring barley variety derived from the cross Pronghorn x Conlon made in the fall of 2003. This cross was advanced in growth chambers through the F₃ plant generation with selection for waxy starch, hulless seed, and short awns along with general appearance similar to Conlon. Selected F₃ heads were planted and reevaluated in Yuma, AZ in the winter of 2004-2005. CA505-756 was derived from a single F₄ plant selection in Yuma and evaluated and advanced as a 5' x 20' plot at Casselton, ND in the summer of 2005. This seed was advanced in Yuma, AZ during the winter of 2005-2006 on 1/5 acre and found to be stable and uniform. The harvested seed was evaluated and advanced as a second breeder seed increase on 17 acres in Belfield, ND in the summer of 2006 with an initial Foundation Seed increase planned for the summer of 2007.

CA505-756 is a high beta-glucan, waxy endosperm, hulless, short awn (WHSB) barley variety developed by WestBred LLC for the human food market. It is a relatively large seeded, free threshing, 2-row spring barley variety adapted to western North Dakota and adjacent western states. CA505-756 has a moderately susceptible reaction to spot blotch.

CA505-756 is a medium height, medium maturity, 2-row spring barley variety with a semi-erect juvenile growth habit, green plant color at boot, white auricles, a straight neck with a v-shaped collar, an oblong, mid-dense nodding spike, short rachilla hairs, semi-smooth short awns and naked seed with colorless aleurone. CA505-756 has been uniform and stable through 2 breeder seed increases, however, it may contain up to 1% of hulled variants in subsequent generations.

WestBred LLC will maintain breeder and Foundation seed as needed by growing head row purification increases. The certified classes of seed shall be Foundation, Registered and Certified. Foundation seed will be produced in summer of 2007 and certified seed may be offered for sale in the spring of 2008. Application will be made for protection under the Plant Variety Protection Act and the certification option will not be selected. Acreage of CA505-756 is not to be published by AOSCA and certifying agencies.

Aspen (HV9W96-1383W)

Hard White Winter Wheat

Aspen (HV9W96-1383W) is a hard white winter wheat developed from the cross TX91D6913/B1551W made by Hybritech in about 1995, in either Wichita, or Mt. Hope, Ks. The material was advanced by pedigree methods by Hybritech until 2000. After Hybritech ceased operations, Goertzen Seed Research screened the line and made further selections during testing and purification. Western Plant Breeders acquired the rights to the material from Monsanto in 2003, and merged their operations with Goertzen Seed Research to form WestBred LLC, who is the owner of the variety.

A single white seeded F8 head row was selected in 2003 and advanced to F9 head row families in 2004 which were bulked to provide seed for increase. Breeder Seed was produced in 2005.

Aspen will be best adapted to the southern Great Plains, in general south of I-70 in Kansas, Colorado, and Oklahoma for the purpose of grain production.

Aspen is a common hard white winter wheat with a white coleoptile, and erect juvenile growth habit. The leaf color at boot stage is yellow green. The flag leaf is erect, twisted, and has waxy bloom present. The auricle color is purple. Aspen is early, averaging 2 days earlier heading than Santa Fe. The stem color is white. Aspen is medium short, averaging 9 cm shorter than Shocker. The internodes are hollow, and the anthers are yellow. The spike is tapering, mid dense, and erect at maturity. Aspen has mid-long awns, which are tan. The glumes are tan, mid-long, and glabrous, with a square shoulder and acuminate beaks that are short. The seed is white and elliptical, with a medium brush. The TKW is similar to Jagalene. The seeds are most similar to Danby. The phenol reaction is brown. Variants which may occur include taller (5-10 cm) plants at a rate of 0.3%, bronze/brown chaffed plants at a rate of 0.1%, and red seed at a rate of 0.5%.

Aspen is susceptible to Hessian fly, and susceptible to Greenbug and Russian aphid. It is moderately resistant to leaf rust, and resistant to powdery mildew. It is resistant to soil borne mosaic virus and spindle streak mosaic virus. Aspen is moderately resistant to stripe rust and stem rust. It is moderately susceptible to wheat streak mosaic. It is moderately resistant to aluminum toxicity under low pH soil conditions. The coleoptile length is medium long, and the grazing potential is very good. Straw strength is excellent. The milling and baking quality is acceptable. The protein quantity is good, and test weight is good. Aspen has resistance to sprouting in the head similar to Danby.

Remnant breeder seed will be utilized to reproduce the variety as needed. If necessary, 300 heads will be selected from the breeder seed increase and grown under irrigation in Colorado to renew the breeder seed and maintain purity. Seed classes to be recognized include Foundation, Registered, and Certified. We anticipate certified seed sales in fall 2008. Plant Variety Protection will be applied for. The certification option will not be elected. AOSCA and seed certifying agencies may publish acreages.

Spartan (HV9W94-CB94005RP) Hard Red Winter Wheat

Spartan (HV9W94-CB94005RP) is derived from the cross RL8400193/PL2180. The cross was made by Hybritech in Wichita, KS in about 1993, and advanced through pedigree methods until 2000. After closure of the Hybritech program, Goertzen Seed Research screened the line and made further selections during the testing and purification process. Western Plant Breeders acquired the rights to the material from Monsanto in 2003, and merged their operations with Goertzen Seed to form WestBred LLC, who is the owner of the variety.

Spartan is adapted to the southern Great Plains primarily in Kansas and Oklahoma for the purpose of grain production.

Spartan is a common hard red winter wheat with a white coleoptile and semi-erect growth habit. The leaf color at boot stage is yellow-green. The flag leaf is erect, twisted, and has waxy bloom present. The auricle color is white. Spartan is medium maturing, with an average heading date 3 days later than the variety Shocker. The stem is white with hollow internodes. The plant height is medium, with an average of 94 cm, which is 5 cm shorter than the variety Shocker. The anthers are yellow. The spike is tapering, mid-dense, and erect at maturity. Spartan has mid-long awns that are tan at maturity. The glumes are glabrous, tan, mid-long, with oblique shoulders and long, acuminate beaks. The seed is red and ovate with a medium brush. The TKW is similar to that of the variety Jagalene. The seed appearance is most similar to the seed of Karl 92. The phenol reaction is fawn. Variants that may occur include taller (5-10 cm) plants at a rate of 0.2%, and bronze/brown chaffed plants at a rate of 0.1%.

Spartan is susceptible to Hessian fly, Russian aphid, and Greenbug. It is moderately susceptible to leaf rust, moderately resistant to stripe rust, and resistant to stem rust. It is resistant to both soil borne mosaic virus and spindle streak mosaic virus. Spartan is moderately resistant to powdery mildew, moderately susceptible to wheat streak mosaic, and resistant to aluminum toxicity under low pH soil conditions. The coleoptile is medium long. Grazing potential is good. Straw strength is very good. The milling and baking quality is very good. The protein quantity is good, and the test weight is good.

Remnant breeder seed will be utilized to reproduce the variety as needed. If necessary, 300 heads will be selected from the breeder seed increase and grown under irrigation in Colorado to renew the breeder seed and maintain purity. Seed classes to be recognized include Foundation, Registered, and Certified. We anticipate certified seed sales in fall 2008. Plant Variety Protection will be applied for. The certification option will not be elected. AOSCA and seed certifying agencies may publish acreages.

**Winterhawk (HV9W02-846R)
Hard Red Winter Wheat**

Winterhawk (HV9W02-846R) is a common, hard red winter wheat derived from the cross 474S10-1/X87807//HBK736-3, made by Kansas State University in Manhattan, KS in 1995. It was advanced by modified bulk until 2000. Goertzen Seed Research made individual head selections from an F6 population, which was advanced by pedigree methods during the testing and purification stages. Western Plant Breeders merged their operations with Goertzen Seed Research to form WestBred LLC, which owns the rights to the variety.

Winterhawk is adapted to the southern Great Plains, primarily east of U.S. 281, for the purpose of grain production.

Winterhawk is a common hard red winter wheat with a white coleoptile and semi-erect juvenile growth habit. It has a yellow-green leaf color at boot stage. The flag leaf is erect, not twisted, and has waxy bloom present. The auricle color is white. Winterhawk is medium maturity, averaging 4 days earlier heading than Jagalene. The stem color is white. Winterhawk is medium tall, averaging 10 cm taller than Jagalene. The internodes are hollow, and the anthers are yellow. The spike is tapering, mid-dense, and inclined at maturity. Winterhawk has mid-long awns that are tan at maturity. The glumes are glabrous, white/amber at maturity, mid-long, with slightly elevated shoulders that quickly fall off to essentially oblique. The beak is acuminate and medium length. The seed is red, oval, with a large brush. The TKW is heavier than Jagalene. The seeds are most similar in appearance to Overlay. The phenol reaction is light brown. Variants that may occur include taller (5-10 cm) plants at a rate of 0.1%, and bronze/brown chaffed plants at a rate of 0.01%.

Winterhawk is susceptible to Hessian fly, Greenbug, and Russian wheat aphid. It is moderately susceptible to powdery mildew and resistant to wheat soil borne mosaic virus and wheat spindle streak mosaic virus. Winterhawk is moderately susceptible to stem rust in greenhouse seedling tests, although stem rust has not been observed in the field. It is resistant to leaf rust and stripe rust. It is moderately resistant to wheat streak mosaic, and moderately susceptible to aluminum toxicity under low soil pH conditions. The coleoptile length is medium. The grazing potential is very good. Winterhawk has good straw strength and very good test weight. The milling and baking quality of Winterhawk is acceptable.

Remnant breeder seed will be utilized to reproduce the variety as needed. If necessary, 300 heads will be selected from the breeder seed increase and grown under irrigation in Colorado to renew the breeder seed and maintain purity. Seed classes to be recognized include Foundation, Registered, and Certified. We anticipate certified seed sales in fall 2008. Plant Variety Protection will be applied for. The certification option will not be elected. AOSCA and seed certifying agencies may publish acreages.

Baker (IA97105-3)
Amendment – Description
(Amendment in Bold and Italics)

The variety Baker has been documented to produce high yield and groat percentage in Iowa. Its likely area of adaptation will be the southern regions of spring oat production. Locations where Baker consistently excelled (from west to east) were Beresford and Watertown, SD; Ames, IA; Morris, MN; and Urbana, IL. Areas where Baker excelled in one year were Rosemount, MN; W. Lafayette, IN; E. Lansing, MI; and Ithaca, NY. These data show that Baker can excel across the southern regions for spring oat production. Areas of definite adaptation are from eastern South Dakota, Iowa and areas of Minnesota and Illinois. Further testing will be necessary to determine how competitive it is with other released varieties in other areas. In Iowa, the variety has high yield and groat percentage, making it valuable for both on-farm use and processing.

Baker is a mid-season oat, maturing at a date similar to Ogle, Jerry, and Blaze. It displays an erect growth habit in its tillers and flag leaf. At maturity, it has yellow, medium diameter stems, with pubescence at the nodes. Its panicles are mid-long, broad, and equilateral, with dropping main branches. ***Baker seed is white, slender, and fluorescent.*** Recurring variants with Baker have not been observed.

Baker's disease resistance is similar to those of other current spring oat varieties. Baker's resistance to insects has not been evaluated.

Foundation seed will be maintained by the Iowa State University Committee for Agricultural Development. Other seed classes to be used are Certified and Registered.

Foundation seed will be offered for sale to seed companies in 2006. Certified seed will first be offered for sale to farmers in 2007.

Application will not be made for protection under PVP.