

A REPORT OF THE  
**NATIONAL SMALL GRAIN VARIETY REVIEW BOARD**



**ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES**

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NATIONAL SMALL GRAIN VARIETY REVIEW BOARD  
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The Association of Official Seed Certifying Agencies (AOSCA), National Small Grain Variety Review Board (NSGVRB), review the following varieties on February 21, 2006, in Manhattan, Kansas. 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

WHEAT VARIETIES RECOMMENDED FOR CERTIFICATION 2006

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## **Kelby Hard Red Spring Wheat**

Kelby is a hard red spring wheat bred and developed by AgriPro under the experimental designation of W98S0113-20 intended for grain production. Kelby originated from the cross "N97-0117/3/N92-0098//Sumai 3/Dalen" which was made in Berthoud, CO during the fall crossing session of 1997. Its pedigree consists of AgriPro hard red spring experimental lines and Sumai 3. Sumai 3 is a Chinese wheat used for its fusarium head blight tolerance. Single heads were selected from the F2 population of this cross at Casselton, ND during the 1998 season. Selections were based on height, leaf rust and scab tolerance. Kelby is a semidwarf variety and has very good lodging resistance. It has early maturity and very good test weight. It has very good protection to the prevalent races of leaf rust and to foliar diseases. This variety was intended as a bread wheat and has high protein and satisfactory breadmaking characteristics. Kelby is broadly adapted to the spring wheat growing areas of the northern plains.

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

Kelby will be maintained by AgriPro, in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of Kelby, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

Kelby has been uniform and stable since 2004. About 0.8% of the plants were rogued from the initial Breeder's seed increase in 2001. Approximately 90% of the rogued variant plants were taller height wheat plants (5 to 15 cm.) and approximately 10% were awnletted wheat plants. Up to 0.8% variant plants may be encountered in subsequent generations.

AgriPro maintains seed stock and certified classes of Foundation, Registered and Certified. Certified seed stocks of Kelby will be available in the spring of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and Kelby may only be sold as a class of certified seed.

## **COKER 9553**

### **Soft Red Winter Wheat**

COKER 9553 (D00\*6847-2) is a soft red winter wheat bred and developed by AgriPro for grain production. The single cross that produced COKER 9553, (aka. D00\*6874-2), "89M-4035A/Pioneer 2580" was made in the 1993 spring greenhouse at Brookston, IN. COKER 9553 is a medium height wheat with medium-early season heading. This variety is intended for grain production with grain yield data that indicates it is adapted to most of the midsouthern and southeastern soft wheat areas. COKER 9553 has shown moderate-to-good resistance to field races of Stripe Rust.

Juvenile growth habit is semierect. Plant color at boot stage is dark green. 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, middense and awned. Glumes are glabrous, midwide in width and short in length with oblique shoulders and acute beaks. Seed shape is ovate. Brush hairs are long in length and occupy a large area of the seed tip. Seed crease depth is shallow and width is narrow. Seed cheeks are rounded.

COKER 9553 will be maintained by AgriPro in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of COKER 9553, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

COKER 9553 has been uniform and stable since 2004. Less than 0.8% of the plants were rogued from the Breeders Seed increase in 2005. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 5% were awnletted plants and 5% were bronze chaffed wheat plants. Up to 0.8% variant plants may be encountered in subsequent generations.

AgriPro maintains seed stock and certified classes of Foundation, Registered and Certified. Certified seed stocks of COKER 9553 will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and COKER 9553 may only be sold as a class of certified seed.

## **NuDakota Hard White Winter Wheat**

NuDakota (BC97ROM-50W) is a hard white winter wheat developed by Agripro for grain production. NuDakota is derived from a bulk population derived from the cross Jagger/Romanian Bulk. NuDakota is a medium height semidwarf variety, awned and has yellow chaff at maturity. It has medium late maturity and excellent straw strength. It has erect plant type, erect flag leaves and the spikes are upright at maturity. NuDakota is resistant to current central plains field races of stem rust, stripe rust and leaf rust. It is resistant to wheat soil-borne mosaic virus and moderately resistant to wheat streak mosaic virus and wheat spindle streak mosaic virus. NuDakota is moderately resistant to speckled leaf blotch and tan spot. NuDakota is best adapted to the northern high plains north of interstate 80.

Juvenile growth habit is semi-erect. Auricle anthocyanin and auricle hairs are present. Plant color at boot stage is dark green. Anther color is yellow. Flag leaf is erect and twisted at boot stage. Head shape is strap and awned. Glume shoulder shape is oblique with an acuminate beak. Glume length is midlong and glume width is midwide. Chaff color is yellow at maturity. Seed shape is elliptical with long brush hairs that occupy a large area. Seed crease depth is shallow and seed crease width is narrow. Seed cheeks are rounded.

NuDakota will be maintained by Agripro Wheat, in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of NuDakota, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

NuDakota has been uniform and stable since 2004. Less than 0.8% of the plants were rogued from the Breeders seed increase in 2005. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm), 5% were awnless wheat plants and 5% were bronze chaffed wheat plants. Up to 1% variant plants may be encountered in subsequent generations. A red seed variant has been identified in the Breeders seed and production plots and up to 0.8% may be encountered in subsequent generations.

AgriPro Wheat maintains seed stock and certified classes of Foundation, Registered and Certified. Registered and Foundation seed stocks of NuDakota will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and NuDakota may only be sold as a class of certified seed

## **NuGrain**

### **Hard White Winter Wheat**

NuGrain is a hard white winter wheat variety developed by AgriPro for grain production. NuGrain is a cross between Platte/W92-456W (exp. designation 96x530W). It is a medium height semidwarf variety, awned and has yellow chaff at maturity. It has medium late maturity, similar to NuHills and excellent straw strength. It has *Septoria triticii* and tan spot tolerance. It has shown resistance to central plains races of leaf rust and stem rust. It is intermediate in reaction to stripe rust. It is susceptible to Hessian Fly. NuGrain has been shown to have equal milling and baking characteristics when compared to NuHills and Platte. NuGrain is high in polyphenol oxidase. NuGrain has intermediate pre-harvest sprouting tolerance, similar to NuHills. NuGrain is adapted to western Kansas, eastern Colorado and southwestern Nebraska.

Juvenile growth habit is semi-erect. Auricle anthocyanin and auricle hairs are present. Plant color at boot stage is blue green. Anther color is yellow. Flag leaf is erect and twisted at boot stage. Head shape is strap and awned. Glume shoulder shape is oblique with an acuminate beak. Glume length is medium and glume width is midwide. Chaff color is yellow at maturity. Seed shape is ovate. Seed crease depth is shallow and seed crease width is narrow. Seed cheeks are rounded.

NuGrain will be maintained by AgriPro, in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of NuGrain, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

NuGrain has been uniform and stable since 2002. Less than 0.8% of the plants were rogued from the Breeders seed increase in 2003. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm). Up to 1% variant plants may be encountered in subsequent generations. A red seed variant has been identified in the Breeders seed and production plots and up to 0.8% may be encountered in subsequent generations.

AgriPro maintains seed stock and certified classes of Foundation, Registered and Certified. Foundation and Registered seed stocks of NuGrain will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and NuGrain may only be sold as a class of certified seed.

## **Platte2**

### **Hard White Winter Wheat**

Platte2 is a hard white winter wheat variety developed by AgriPro for grain production. Platte2 is a cross between Platte/W92-456W. It is a medium height semidwarf variety, awned and has yellow chaff at maturity. It has medium late maturity, similar to Platte and excellent straw strength. Platte2. It was selected as an improvement over the variety Platte it has smaller head size but greater numbers of tillers. It has improved *Septoria triticii* and tan spot tolerance over Platte. Improved stripe rust tolerance and better dryland grain yield performance. Platte2 has been shown to have equal milling and baking characteristics when compared to Platte.

Platte2 is best adapted to both irrigated and dryland regions of the western high plains, including western Kansas, eastern Colorado and the panhandle of Nebraska.

Platte2 is resistant to field races of leaf rust and stem rust. It is moderately susceptible to stripe rust. It has intermediate tolerance to *Septoria triticii* and tan spot and Hessian Fly.

Juvenile growth habit is semi-erect. Auricle anthocyanin and auricle hairs are present. Plant color at boot stage is blue green. Anther color is yellow. Flag leaf is erect and twisted at boot stage. Head shape is tapering and awned. Glume shoulder shape is oblique with an acuminate beak. Glume length is short and glume width is narrow. Chaff color is yellow at maturity. Seed shape is ovate with short brush hairs that occupy a midsize area. Seed crease depth is shallow and seed crease width is narrow. Seed cheeks are rounded.

Platte2 has been uniform and stable since 2004. Less than 0.8% of the plants were rogued from the Breeders seed increase in 2005. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm), 5% were awnless wheat plants and 5% were bronze chaffed wheat plants. Up to 0.8% variant plants may be encountered in subsequent generations. A red seed variant has been identified in the Breeders seed and production plots and up to 0.8% may be encountered in subsequent generations.

Platte2 will be maintained by AgriPro, in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of Platte2, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

AgriPro maintains seed stock and certified classes of Foundation, Registered and Certified. Registered and Foundation seed stocks of Platte2 will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and Platte2 may only be sold as a class of certified seed.



## **Post Rock Hard Red Winter Wheat**

Postrock is a hard red winter wheat developed by AgriPro for grain production. It was evaluated and tested under the experimental designations BC85811-7-4 and W03-20. Postrock is derived from the cross Ogallala/KSU94U261//Jagger made by Kansas State University in 1995. All selections and evaluations were done by AgriPro. Postrock has been evaluated in AgriPro, USDA regional and State Variety yield trials from 2002-2005. It has been stable and uniform since 2004. Postrock is a tall semidwarf variety in plant height, awned and has brown chaff at maturity. It has medium maturity and excellent straw strength. It has erect flag leaves and the spikes are mid-dense at maturity. Postrock is resistant to current central plains field races of stem rust, stripe rust and leaf rust. It is resistant to wheat soil-borne mosaic virus and moderately resistant to wheat streak mosaic virus and intermediate in response to wheat spindle streak mosaic virus. Postrock is moderately resistant to Speckled leaf blotch and tan spot. It is moderately susceptible to powdery mildew, and is susceptible to Hessian Fly. Postrock is best adapted to the central and western high plains south of interstate 80.

Juvenile growth habit is semi-erect. Auricle anthocyanin and auricle hairs are present. Plant color at boot stage is dark green. Anther color is yellow. Flag leaf is erect and twisted at boot stage. Head shape is tapering and awned. Glume shoulder shape is square with an acuminate beak. Glume length is midlong and glume width is midwide. Chaff color is bronze at maturity. Seed shape is ovate with medium length brush hairs that occupy a large area of the seed tip. Seed crease depth is shallow and seed crease width is narrow. Seed cheeks are rounded.

Postrock will be maintained by AgriPro Wheat, in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of Postrock, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

Postrock has been uniform and stable since 2004. Less than 0.8% of the plants were rogued from the Breeders seed increase in 2005. Approximately 80% of the rogued variant plants were taller height wheat plants (8 to 15 cm), 5% were white chaffed wheat plants and 5% were awnless wheat plants. Up to 0.8% variant plants may be encountered in subsequent generations.

AgriPro Wheat maintains seed stock and certified classes of Foundation, Registered and Certified. Foundation and Registered seed stocks of Postrock will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and Postrock may only be sold as a class of certified seed.

## **AgriPro Paladin Hard Red Winter Wheat**

AgriPro Paladin is a hard red winter wheat bred and developed by AgriPro and tested under the experimental designation of W96-355 intended for grain production. AgriPro Paladin 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)]. The final cross for AgriPro Paladin was made in 1992 and the plant selection based upon plant height, fertility and the absence of leaf rust was made in Berthoud, Colorado in 1994. AgriPro Paladin is a medium height semidwarf variety in plant height and has yellow chaff at maturity. It has medium maturity and excellent straw strength. AgriPro Paladin 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.

Juvenile growth habit is semierect. Coleoptile color is white. Plant color at boot stage is blue green at boot stage. Flag leaf is erect and twisted. Waxy bloom is present on the head, stem and flag leaf sheath. Anther color is yellow. Head shape is tapering, middense and awned. Glumes are glabrous, midwide in width and midlong in length with oblique shoulders and acuminate beaks. Seed shape is ovate. Seed crease depth is shallow and width is narrow. Seed cheeks are rounded.

AgriPro Paladin will be maintained by AgriPro, in Berthoud, Colorado by the head row method. These heads are compared to the morphological characteristics for the variety and any variant rows are discarded. These head rows are then individually harvested and grown as progeny plots. The selected progeny plots are bulked to produce Breeders seed. Generations of AgriPro Paladin, which may be multiplied, will be limited to Breeders seed, Foundation, Registered and Certified.

AgriPro Paladin has been uniform and stable since 2003. Less than 0.8% of the plants were rogued from the Breeder seed increase in 2004. Approximately 90% of the variant plants were taller height wheat plants and approximately 10% were awnletted wheat plants. Up to 0.8% variant plants may be encountered in subsequent generations.

AgriPro maintains seed stock and certified classes of Foundation, Registered and Certified. Certified seed stocks of AgriPro Paladin will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Plant Variety Protection is anticipated and AgriPro Paladin may only be sold as a class of certified seed.

## **KS00F5-14-7 (experimental designation) Hard Red Winter Wheat**

KS00F5-14-7 (experimental designation) is a hard red winter wheat developed by the Kansas Agricultural Experiment Station. The name 'Fuller' has been selected and is pending approval from USDA. KS00F5-14-7 was selected from a population with an unknown pedigree. F2 seed was planted in the field for the 1997 crop year at Manhattan, KS. The population was advanced as a bulk to the F4 generation, which was grown at Manhattan, KS in 1999. Individual spikes were pulled from the F4 population and grown as head rows during the 2000 crop year. KS00F5-14-7 was selected as a head row in 2000. In 2001, KS00F5-14-7 was entered in the "short-row" yield trial, a non-replicated test grown at Manhattan and Hutchinson, KS. Based on performance, it was advanced to the "Preliminary yield trials" at Hutchinson and Manhattan in 2002. In 2003, KS00F5-14-7 was tested in the Advanced Yield Trials at six sites across Kansas and was advanced to the Kansas Intrastate Nursery, an elite test grown at 17 locations in Kansas in 2004 and 2005. KS00F5-14-7 has had a significant yield advantage over Jagger (58.6 bu/ac to 52.5 bu/ac) in central Kansas throughout its testing. KS00F5-14-7 also has superior test weight and thousand kernel weight compared to Jagger (see Appendix). KS00F5-14-7 has had longer mixing times and somewhat lower loaf volumes than Jagger in bake tests. Overall, KS00F5-14-7 has acceptable baking quality.

The variety is intended for traditional hard red winter wheat uses. It has performed particularly well in central Kansas, with reasonable, but not exceptional, performance in western Kansas. It is most likely to be grown in central Kansas and adjacent areas of Oklahoma.

KS00F5-14-7 is an early maturing, awned, bronze chaffed hard red winter wheat that is one-half to one day later than Jagger. It is dark green from vegetative through boot stage and is about 2.5 cm taller than Jagger. Variants are limited to: taller plants that occur at a frequency of less than 1 in 10,000. White chaffed plants are also present at a frequency of less than 1 in 1,000. It is also differentiated from Jagger based on reaction to leaf rust. KS00F5-14-7 is highly resistant, while Jagger is fully susceptible to the prevalent races in the Great Plains.

KS00F5-14-7 is resistant to soil-borne mosaic virus, spindle streak mosaic virus, leaf rust, and stripe rust. It is moderately resistant to stem rust and intermediate for tan spot. It is susceptible to Hessian fly.

Seed stock will be maintained via the seed block method by the Kansas Foundation Seed Program, Agronomy Department, Kansas State University, Manhattan, KS. Breeders, foundation, registered and certified seed classes will be used. Foundation seed is planned to be offered for sale in August, 2006. Application for PVP, Title V option is anticipated. Acreage will be published by AOSCA and certifying agencies.

## **RonL**

### **Hard White Winter Wheat**

RonL (KS03HW158) is a hard white winter wheat developed by the Kansas Agricultural Experiment Station. It was selected from the cross Trego/CO960293 which was made at Hays, KS in 1999. The pedigree method of breeding was used during its development. RonL is an increase of a F<sub>5</sub> head-row selected in 2003.

It was tested in the Kansas Intra-State Nursery (KIN) over the last two years and performed best at the western Kansas locations. Its primary area of adaptation is very similar to that of Trego. The milling and baking tests on RonL indicate that it has good baking quality. In 2005 the Wheat Quality Council judged it as being well above average in overall baking quality and not significantly different from the bread quality of Jagger.

RonL is an awned, white chaffed semi-dwarf with a medium late maturity similar to Trego. Its height is also similar to that of Trego. Seed of RonL are white with an ovate shape and medium sized brush. Variants within RonL include tall plants, red chaffed plants, and plants with red seed but none of these occur at a frequency of more than one in 10,000 plants.

RonL carries the temperature sensitive high level of resistance to wheat streak mosaic derived from CO960293. It is also resistant to soilborne mosaic virus and stripe rust. It is susceptible to the current races of leaf rust and Hessian fly.

Seed stocks will be maintained by intensely roguing foundation production fields and by re-purification through head rows at the KSU Agricultural Research Center-Hays. Foundation, Registered, and Certified classes of seed will be recognized. Foundation seed could first be offered for sale in August of 2006. Plant Variety Protection will be applied for and the "Certification Option" elected. The acreage of RonL can be published by AOSCA and certifying agencies.

**KS03HW6-6 (experimental designation)  
Hard White Winter Wheat**

KS03HW6-6 is a hard white winter wheat developed by the KSU Agricultural Experiment Station. It was selected from the cross FS2/KS97HW150 //KS97HW349/3/Trego. The final cross was made at Hays, KS in 1998. The pedigree method of breeding was used during its development. KS03HW6-6 is an increase of a F<sub>6</sub> head-row selected in 2003.

KS03HW6-6 has been tested in Kansas replicated yield tests in 2004 and 2005. It is best adapted to western Kansas in the same areas that Trego has been grown. Milling and bread baking quality of KS03HW6-6 has been good. Relative to that of Trego, KS03HW6-6 has stronger mixing properties and more loaf volume than Trego.

KS03HW6-6 is an awned, white chaffed semi-dwarf with a medium late maturity similar to Trego. Its height is also similar to that of Trego. Seed of KS03HW6-6 are white with an ovate shape and medium sized brush. Variants within KS03HW6-6 include tall plants, red chaffed plants, and plants with red seed but none of these occur at a frequency of more than one in 10,000 plants.

KS03HW6-6 contains the BASF owned gene that confers resistance to Beyond herbicide. It also has resistance to the prevalent races of stripe rust in Kansas and soilborne mosaic virus resistance. It is susceptible to current races of leaf rust in Kansas. It is also susceptible to Hessian fly.

Seed stocks will be maintained by intensely rogueing foundation production fields and by re-purification through head rows at the KSU Agricultural Research Center-Hays. Foundation, Registered, and Certified classes of seed will be recognized. Foundation seed could first be offered for sale in August of 2006. Plant Variety Protection will be applied for and the "Certification Option" elected. The acreage of KS03HW6-6 can be published by AOSCA and certifying agencies.

**25R56 – (XW04A, experimental designation)  
Soft Red Winter Wheat**

25R56 (XW04A, experimental designation) is a soft red winter wheat that was developed by Pioneer Hi-Bred International, Inc. using a modified pedigree selection breeding method. XW04A 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 25R56 (XW04A, experimental designation) is white 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 25R56 (XW04A, experimental designation) are apically awnletted, mid-dense, tapering in shape and nodding at maturity. 25R56 (XW04A, experimental designation) has shown no variants other than what would normally be expected due to environment.

25R56 (XW04A, experimental designation) has shown excellent resistance to stripe rust in the mid-south U.S. region. It also has very good resistance to leaf rust in the northern Corn Belt. It is moderately resistant to the complex of organisms that incite leaf blights including *Septoria tritici* blotch, *Stagnospora nodorum* leaf blotch and tan spot. 25R56 (XW04A, experimental designation) has intermediate resistance to the prevalent races of powdery mildew and to wheat spindle streak mosaic virus and to soilborne mosaic virus.

25R56 (XW04A, experimental designation) has shown resistance to Hessian fly biotype L in tests conducted by the USDA-ARS Crop Production and Pest Control Research Unit at Purdue University and it is postulated to have the H9H10 genes for Hessian fly resistance.

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 25R56 (XW04A, experimental designation) will potentially first be offered for sale in the fall of 2006. 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.

**26R87 (XW04C, experimental designation)  
Soft Red Winter Wheat**

26R87 (XW04C, experimental designation) is a soft red winter wheat that was developed by Pioneer Hi-Bred International, Inc. using a modified pedigree selection breeding method. 26R87 (XW04C, experimental designation) is primarily intended for grain production and it has shown good adaptation to the soft red winter wheat growing regions of the southeastern and mid-southern U.S. approximately south of the Ohio River.

The coleoptile color of 26R87 (XW04C, experimental designation) is white 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 26R87 (XW04C, experimental designation) are awned, mid-dense, oblong in shape and inclined at maturity. 26R87 (XW04C, experimental designation) has shown no variants other than what would normally be expected due to environment.

26R87 (XW04C, experimental designation) has shown excellent resistance to leaf rust and stripe rust in the southern U.S. region. It also has very good resistance to powdery mildew in the region. It has shown moderate resistance to scab, wheat spindle streak mosaic virus, and the complex of organisms that incite leaf blights; including *Septoria tritici* blotch, *Stagnospora nodorum* leaf blotch and tan spot. 26R87 (XW04C, experimental designation) is moderately susceptible to soilborne mosaic virus.

26R87 (XW04C, experimental designation) is susceptible to the predominant biotypes of Hessian fly in the southern region.

The breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Parent Wheat Seed headquarters at Mt. Vernon, IN and Laurinburg, NC. 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 26R87 (XW04C, experimental designation) will potentially first be offered for sale in the fall of 2006. 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.

## **Chamberlin Hard Red Spring Wheat**

Chamberlin is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>5</sub> plant selection from the cross of Keystone x Granite. It was advanced and evaluated as a bulk through the F<sub>6</sub> to F<sub>9</sub> generations with an initial F<sub>10</sub> Breeder Seed Increase in 2005.

Chamberlin is a good standing, early maturing wheat that has good yield potential for high test weight, high protein grain in the hard red spring wheat growing areas of the Northern Great Plains. Chamberlin is resistant to stem rust and moderately resistant to moderately susceptible to leaf rust and foliar disease (tan spot and Septoria tritici). Chamberlin has a moderately susceptible reaction to Fusarium head blight similar to the standard check variety "2375". Quality of Chamberlin is good based on test weight, protein and flour SDS sedimentation values. Chamberlin was developed for the wheat bread flour market.

Chamberlin is an awned, early maturing, semi-dwarf variety with mid-dense, erect, oblong shaped spikes. Awns are mid-long and light tan in color. The flowering glumes are light tan in color, short with square shoulders, and a medium length acuminate beak. The seeds are red and ovate with a medium brush. Chamberlin may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 Chamberlin is not to be published by AOSCA and certifying agencies.



## **Vantage Hard Red Spring Wheat**

Vantage (CA-902-704) is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>5</sub> plant selection from the cross of Keystone x Granite. It was advanced and evaluated as a bulk through the F<sub>6</sub> to F<sub>8</sub> generations with an F<sub>9</sub> Breeder Seed increase in 2005.

Vantage is a good standing, medium-late maturing wheat that can achieve high yield of high test weight and high protein grain in the hard red spring wheat growing areas of the Northern Great Plains. Vantage is resistant to stem rust and moderately resistant to moderately susceptible to leaf rust and foliar disease (tan spot and Septoria tritici). Vantage has a moderately susceptible reaction to Fusarium head blight similar to the check variety "2375". Quality of Vantage is good based on test weight, protein and flour SDS sedimentation values. Vantage was developed for the wheat bread flour market.

Vantage is an awned, medium-late maturing, semi-dwarf variety with mid-dense, erect, oblong shaped spikes. Awns are mid-long and light tan in color. The flowering glumes are light tan in color, short with square shoulders, and medium length acuminate beaks. The seeds are red and ovate with a medium brush. Vantage may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 Vantage is not to be published by AOSCA and certifying agencies.

**CA904-742 (experimental designation)  
Hard Red Spring Wheat**

CA904-742 is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>5</sub> plant selection from the cross of Alsen x Keystone. It was advanced and evaluated as a bulk through the F<sub>6</sub> to F<sub>7</sub> generations with an F<sub>8</sub> Breeder Seed increase in 2005.

CA904-742 is a good standing, medium late maturing wheat that has good yield potential for high test weight, high protein grain. It is adapted to the northern half of North Dakota and Minnesota. CA904-742 is resistant to stem rust and moderately resistant to moderately susceptible to leaf rust and foliar diseases (tan spot and Septoria tritici). CA904-742 has a moderately resistant to moderately susceptible reaction to Fusarium head blight in its area of adaptation. It has a reaction similar to the check variety Alsen. Test weight and protein of CA904-742 is good, however, flour SDS sedimentation values are marginal often falling below 100 mm. CA904-742 was developed for the wheat bread flour market.

CA904-742 is an awned, medium late maturing, semi-dwarf variety with mid-dense, erect, oblong shaped spikes. Awns are mid-long and tan in color. The flowering glumes are tan in color, short with oblique shoulders, and medium length acuminate beaks. The seeds are red and oval in shape with a medium brush. CA904-742 may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 CA904-742 is not to be published by AOSCA and certifying agencies.

**CA904-743 (experimental designation)  
Hard Red Spring Wheat**

CA904-743 is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>5</sub> plant selection from the cross of Keystone x Granite. It was advanced and evaluated as a bulk through the F<sub>6</sub> to F<sub>8</sub> generations with an initial F<sub>9</sub> Breeder Seed increase in 2005.

CA904-743 is a good standing, medium-early maturing wheat with good yield potential of good test weight and moderate protein grain and is adapted to the hard red spring wheat growing areas of the Northern Great Plains. CA904-743 is resistant to stem rust but susceptible to leaf rust. It is moderately susceptible to foliar diseases (tan spot and Septoria tritici). CA904-743 has a moderately susceptible reaction to Fusarium head blight similar to the check variety "2375". Quality of CA904-743 is good based on test weight, protein and flour SDS sedimentation values. CA-04-743 was developed for the wheat bread flour market.

CA904-743 is an awned, medium-early maturing, semi-dwarf variety with mid-dense, inclined, oblong shaped spikes. Awns are mid-long and light tan in color. The flowering glumes are light tan in color, short with oblique shoulders, and medium length, acuminate beaks. The seeds are red and ovate in shape with a medium brush. CA904-743 may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 CA904-743 is not to be published by AOSCA and certifying agencies.

**CA905-751 (experimental designation)  
Hard Red Spring Wheat**

CA905-751 is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>5</sub> plant selection from the cross of Express x Knudson. It was advanced and evaluated as a bulk through the F<sub>6</sub> to F<sub>7</sub> generations with an initial F<sub>8</sub> Breeder Seed increase in 2005.

CA905-751 is a good standing, late maturing hard red spring wheat that has good yield potential for medium test weight and medium high protein grain in the northern half of the Red River Valley and northwestern Minnesota. Preliminary observations indicate that it is resistant to stem rust, moderately resistant to leaf rust, and moderately resistant to moderately susceptible to foliar diseases (tan spot and *Septoria tritici*). CA905-751 has a moderately susceptible reaction to *Fusarium* head blight. Quality of CA905-751 is good based on test weight, protein and flour SDS sedimentation values. CA905-751 was developed for the wheat bread flour market.

CA905-751 is an awned, late maturing, semi-dwarf variety with mid-dense, inclined, oblong shaped spikes. Awns are mid-long and tan in color. The flowering glumes are tan in color, mid-long with rounded shoulders, and medium length, acuminate beaks. The seeds are red and ovate in shape with a large brush. CA905-751 may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 CA905-751 is not to be published by AOSCA and certifying agencies.

## **Samson Hard Red Spring Wheat**

Samson is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>5</sub> plant selection from the cross of Express x Knudson. It was advanced and evaluated as a bulk through the F<sub>6</sub> to F<sub>7</sub> generations with an initial F<sub>8</sub> Breeder Seed increase in 2005.

Samson is a medium maturing hard red spring wheat that can achieve high yield of medium test weight and medium high protein grain in the northern half of the Red River Valley and northwestern Minnesota. Preliminary observations indicate that it is resistant to stem rust, moderately resistant to leaf rust and foliar diseases (tan spot and *Septoria tritici*). Samson has a moderately susceptible to susceptible reaction to *Fusarium* head blight and stripe rust. Quality of Samson is good based on test weight, protein and flour SDS sedimentation values. Samson was developed for the wheat bread flour market.

Samson is an awned, medium maturing, semi-dwarf variety with mid-dense, inclined, oblong shaped spikes. Awns are mid-long and light tan in color. The flowering glumes are light tan in color, mid-long with oblique shoulders, and medium length, acuminate beaks. The seeds are red and ovate in shape with a large brush. Samson may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 Samson is not to be published by AOSCA and certifying agencies.

**CA903-724 (experimental designation)  
Hard Red Spring Wheat**

CA903-724 is a hard red spring wheat, bred and developed by WestBred LLC, that is derived from a single F<sub>4</sub> plant selection from the cross of Express x Verde. It was advanced and evaluated as a bulk through the F<sub>5</sub> to F<sub>7</sub> generations with an initial F<sub>8</sub> Breeder Seed increase in the winter of 2004-2005.

CA903-724 is a good standing, early maturing wheat variety that has good yield potential for high test weight and medium protein grain. It is adapted to the hard red spring wheat growing regions of North Dakota and Minnesota. CA903-724 is resistant to stem rust and moderately resistant to moderately susceptible to leaf rust and foliar diseases (tan spot and Septoria tritici). CA903-724 has a moderately susceptible to susceptible reaction to Fusarium head blight. Quality of CA903-724 is good based on test weight, protein and flour SDS sedimentation values. CA903-724 was developed for the wheat bread flour market.

CA903-724 is an awned, early maturing, semi-dwarf variety with mid-dense, inclined, oblong shaped spikes. Awns are mid-long and white/amber in color. The flowering glumes are white/amber in color, mid-long with rounded shoulders, and medium length acuminate beaks. The seeds are red and ovate with a medium brush. CA903-724 may contain a tall variant that is 10-20 cm taller than the general population at a frequency of 1 in 10,000.

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 2006 and registered 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 CA903-724 is not to be published by AOSCA and certifying agencies.

## **Shavano**

### **Hard White Winter Wheat**

Shavano is a hard white winter wheat variety developed by WestBred LLC and tested as HV9W98-926W.

Shavano was derived from the bulk population 95CGT-96WD, which was composed of a bulk of multiple red x white seeded F2 populations in 1994 and run over a gravity table for two consecutive years to generate a heavier seeded population segregating for white seeded types. Individual head selections were made in 1996, followed by traditional pedigree breeding methodology. A single F8 head row was harvested in 2000. Breeder seed was produced in 2004.

Performance of Shavano has been good region wide. It is, however, best adapted to the western high plains of the hard red winter wheat region for the purpose of grain production due to susceptibility to head sprout.

Shavano has a white coleoptile, semi-erect juvenile growth habit, and green leaf color at boot stage. The flag leaf is erect, twisted, and has no waxy bloom. The auricle color is white. The stem color is white. The internodes are hollow, and the anthers are yellow. The spike shape is tapering, mid-dense and inclined at maturity. Shavano has mid-long awns which are tan at maturity. The glumes are white/amber at maturity, glabrous, mid-long, with rounded shoulders, and medium length, acuminate beaks. The seed is white and ovate, with a medium brush. The phenol reaction is black.

Variants which may occur include slightly taller (5-10 cm) at a rate of 0.4%, bronze chaffed plants at a rate of 0.1%, and red seed at a rate of 0.8%.

Shavano is resistant to soil borne mosaic virus and spindle streak mosaic virus. It is moderately susceptible to barley yellow dwarf virus, and moderately resistant to glume blotch. It is susceptible to Hessian Fly and moderately resistant to the current races of leaf rust. Shavano is moderately resistant to powdery mildew and speckled leaf blotch. It is susceptible to stripe rust. It is moderately resistant to tan spot. Shavano is moderately susceptible to wheat streak mosaic virus, and is moderately resistant to acid soil conditions. It is medium maturity, about 3 days earlier than Trego, and medium height, about 2 inches taller than Trego.

Shavano has a medium length coleoptile, very good shatter resistance, and good straw strength. The milling and baking quality is very good

Seedstocks of Shavano will be maintained and increased by WestBred LLC by increasing remnant breeder seed. As needed, heads selections will be made from the breeder seed increase to renew and purify the seed.

Certified seed sales are anticipated fall of 2006.

Plant variety protection will not be applied for. Acreages may be published by AOSCA and certifying agencies.

## **Keota Hard Red Winter Wheat**

Keota is a hard red winter wheat developed by WestBred LLC, and tested as HV9W98-143R. Keota was derived from the cross OK88767-11/Jagger made in 1994. Traditional pedigree methodology was used, resulting in the selection of an F7 head-row in 2001. Breeder Seed was produced in 2004.

Keota is adapted throughout the southern Great Plains, but will be best utilized in the western high plains region for the purpose of grain production.

Keota has a white coleoptile and semi-erect juvenile growth habit. The leaf color at boot stage is green. The flag leaf is erect, twisted, and has waxy bloom. The auricle is white. Keota is medium maturity and medium-tall height. Its stem is white. The stems are hollow, and anthers are yellow. The spike at maturity is tapering, mid-dense, and erect. Keota has mid-long awns which are yellow at maturity. The glumes are white/amber, mid-long, and have a square shoulder. The beak is acuminate, and medium length. The glumes are glabrous. The seed is red, ovate, and with a small brush. The phenol reaction is black.

Variants which may occur include bronze chaffed plants at a rate of .01%, and slightly shorter plants at a rate of 0.1%, along with a longer, more lax headed type at a rate of .01%.

Keota is moderately susceptible to barley yellow dwarf and glume blotch. It is susceptible to Hessian Fly, leaf rust, and powdery mildew. It is moderately susceptible to speckled leaf blotch. Keota is resistant to soil borne mosaic virus and spindle streak mosaic virus, and moderately susceptible to stem rust. It is moderately resistant to current races of stripe rust. Keota is moderately susceptible to tan spot, and moderately resistant to wheat streak mosaic virus. It is moderately resistant to acid soil conditions.

Keota has a medium long coleoptile, with above average straw strength and good shattering resistance. Keota has acceptable milling and baking quality.

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 2006. Plant Variety Protection will be applied for. The certification option will not be elected. AOSCA and seed certifying agencies may publish acreages.



## **Tarkio Hard Red Winter Wheat**

Tarkio is a hard red winter wheat variety developed by WestBred LLC of Haven, Kansas. Tarkio originated from the cross OK90604/KSSB-369-7//Snow White made in 1995, and advanced by traditional pedigree breeding methodology. Tarkio was derived from an F7 purification head-row. The F8 was bulked to provide seed for breeder seed production in 2004.

Tarkio is best adapted to north central and northeastern Kansas for grain production. Due to a lower test weight pattern and marginally acceptable quality, Tarkio will be used almost exclusively in variety blends.

Tarkio has a white coleoptile color, is semi-erect during juvenile growth, with green leaves at boot stage. Tarkio is medium-early maturity, and medium height. The flag leaf is erect, twisted, with waxy bloom present. The auricle color is white. The anther color is yellow. The stem color is white, with hollow internodes. The spike is tapering, dense, and inclined at maturity. Tarkio has mid-long awns which are white/amber at maturity. The glume color at maturity is white/amber. Glumes are mid-long with square shoulders, and medium length, acuminate beaks. The glumes have a very slight pubescence. The seed is red and ovate, with a large brush. The phenol reaction is black brown.

Variants which may occur include slightly taller plants at a rate of 0.02%, and bronze chaffed plants at a rate of 0.1%.

Tarkio is moderately susceptible to barley yellow dwarf virus, moderately resistant to glume blotch, susceptible to leaf rust, resistant to powdery mildew, moderately resistant to stripe rust, moderately resistant to speckled leaf blotch, resistant to soil borne mosaic virus, resistant to spindle streak mosaic virus, moderately resistant to current races of stem rust, moderately resistant to tan spot, moderately susceptible to wheat streak mosaic, and moderately resistant to aluminum toxicity. Tarkio is susceptible to Hessian Fly and Russian Wheat Aphid. It has a medium length coleoptile, and has good shatter resistance. The straw strength is good. The quality of Tarkio is marginally 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 2006. Plant Variety Protection will not be applied for. AOSCA and seed certifying agencies may publish acreages.

## **Shocker**

### **Hard Red Winter Wheat**

Shocker is a hard red winter wheat developed by WestBred LLC, and tested as HV9W99-558R. It was derived from the cross Freedom/Tomahawk//Jagger made in 1995, and selected from an F7 head-row produced by traditional pedigree breeding methodology. Breeder Seed was produced in 2005.

Shocker is best adapted to the southern half of the hard winter wheat growing region of the Great Plains, including Kansas, Oklahoma, and Texas for the purpose of grain production.

The coleoptile color is white. The juvenile growth habit is erect. The leaf color at boot stage is green. The flag leaf is erect, twisted, and with no waxy bloom. The auricle is white. The stem is white at maturity, with hollow internodes. The anthers are yellow. The spike is tapering, mid-dense, and inclined at maturity. WestBred Shocker has mid-long awns which are tan at maturity. The glumes are glabrous, white/amber at maturity, mid-long, have square shoulders, and acuminate beaks which are medium length. The seed is red and oval, with a large brush. The phenol reaction is black brown.

Variants which may occur include 0.2% bronze/brown chaffed plants, and 0.1% slightly taller plants.

WestBred Shocker is moderately susceptible to barley yellow dwarf, moderately resistant to glume blotch, susceptible to Hessian Fly, and resistant to current races of leaf rust. It is moderately susceptible to powdery mildew, and moderately resistant to speckled leaf blotch. It is resistant to soil borne mosaic virus and spindle streak mosaic virus. It is moderately resistant to stripe rust and tan spot.

Shocker has very good straw strength and test weight, and good shattering resistance. Shocker is early maturing and medium height. The milling and baking quality 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 2006. Plant Variety Protection will be applied for. The certification option will not be elected. AOSCA and seed certifying agencies may publish acreages.

## **Smoky Hill Hard Red Winter Wheat**

Smoky Hill is a hard red winter wheat developed and owned by WestBred LLC. It was derived from a population designated "97K 8/64 Masa 3" and tested as HV9W99-1324R. "97K 8/64 Masa 3" was a population created by bulking the harvested F2 plots of 4 different populations, each with GSR2500 as a parent. Individual heads were selected from the resulting F3 population in 1997, followed by traditional pedigree breeding methodology. Several selected F8 head rows were bulked to produce the line in 2002. Breeder seed was produced in 2005.

Smoky Hill is best adapted to the northern tier of Kansas and northeast Colorado roughly above I-70 for the purpose of grain production.

Smoky Hill has a white coleoptile and prostrate juvenile growth habit. The leaf color is green, and the flag leaf is erect, twisted, with no waxy bloom present. The auricle color is purple. The stems are white and have hollow internodes. The anthers are yellow. The spike is tapering, mid-dense, and inclined at maturity. Smoky Hill has mid-long awns which are tan at maturity. The glumes are glabrous, brown and mid-long, with square shoulders and acuminate, medium length beaks. The seed is red and ovate with a medium size brush. The phenol reaction is black brown.

Variants which may occur include taller plants at a rate of 0.1% and white chaffed plants at a rate of 0.3%.

Smoky Hill is moderately susceptible to barley yellow dwarf virus, and moderately resistant to glume blotch. It is susceptible to Hessian Fly. It is resistant to current races of leaf rust in the southern Great Plains. It is moderately susceptible to powdery mildew, and moderately resistant to speckled leaf blotch. It is resistant to soil borne mosaic virus and spindle streak mosaic virus. Smoky Hill is moderately resistant to current races of stripe rust, and is also moderately resistant to tan spot.

Smoky Hill has a medium coleoptile length, is medium height, and is medium late maturity. It has good shattering resistance and good straw strength. The test weight is good. Winterhardness is very good. The protein, milling, and baking quality of Smoky Hill are very 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 2006. Plant Variety Protection will be applied for. The certification option will not be elected. AOSCA and seed certifying agencies may publish acreages.

## **Solano Hard Red Spring Wheat**

Solano (Experimental designation DA900-229) is a hard red spring wheat variety developed by Westbred, LLC. Solano originated from the cross DA993-191/Express using a modified pedigree breeding system. Solano has been tested in and is adapted to the irrigated areas of the Sacramento Valley and Delta areas of California. It has acceptable milling quality, good mixing characteristics and good baking quality. The quality is equal to the variety Express.

Solano is a day length insensitive spring wheat. The average height is 89 cm which is 8 cm shorter than Express. Solano has green leaves at the boot stage. The flag leaf is erect, twisted with waxy bloom. The auricles are white. Stems are white, hollow, with pubescence present on the last rachis internode. The spike is awned, lax, and white with an oblong shape. The awns are white and midlong. The spikes are inclined at maturity. The glumes are white, long, mid-wide and have elevated shoulders. The beaks are mid-wide, medium long and acuminate. Solano has long midwide and elliptical seed. The brushes are large, medium long and are not collared. The seed crease is shallow and narrow. The cheeks are rounded and the germ is midsize. Solano most resembles Express but differs in that Solano has elevated glume shoulders while Express has oblique glume shoulders. Solano has green leaves at booting while Express has blue-green leaves.

Solano has a tall variant that is 12 cm to 24 cm taller which occurs at a frequency of up to 0.1%. A white-seed variant occurs at a frequency of up to 0.1%. An awnless variant occurs at a frequency of up to 0.1%.

Solano was tolerant to the prevalent races of stripe rust found in California until 2004 but is now susceptible to at least one of the new races in 2005. Solano is tolerant to *Septoria tritici*. No data has been collected on insect susceptibility. Westbred, LLC will maintain breeder seed by planting spike rows as needed. The certified seed classes will be Foundation, Registered and Certified. Certified seed will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Application for Plant Variety Protection will be made in 2006 and the "Certification Option" will not be elected.

## **Joaquin Hard Red Wheat**

Joaquin (Experimental designation YU999-178) is a hard red wheat that originated from a cross made by Westbred, LLC with a pedigree of Eldon/PH994-199. The breeding method used was selected single-spike bulk modified pedigree. Joaquin is adapted to the irrigated areas of the San Joaquin Valley in California. It has acceptable milling, mixing and baking characteristics. The quality is equal to Blanca Grande.

Joaquin is a day-length insensitive spring wheat. The average height is 88 centimeters which is 11 centimeters taller than Yecora Rojo. Joaquin has green leaves at boot stage. The flag leaf is erect and twisted with waxy bloom. The auricles are white. The stems are white and hollow. Joaquin has a lax, tapering spike that is inclined at maturity. The awns are white. The white glumes are long with elevated shoulders. The glume beaks are medium long and acuminate. The seeds are oval shaped with medium size brushes. Joaquin has a tall variant that is 12 cm to 24 cm taller that occurs at a frequency of up to .2%. A white seed variant occurs at a frequency of up to .2%.

Joaquin was tolerant to the most prevalent stripe rust races found in California until 2004 but now is moderately susceptible to at least one of the new races in 2005. Joaquin is susceptible to *Septoria tritici* and thus is not recommended for the Sacramento Valley. No data has been collected on insect susceptibility.

Westbred, LLC will maintain breeder seed by planting spike rows as needed. The certified classes of seed will be Foundation, Registered and Certified. Certified seed will be available in the fall of 2006. Certified acreage is not to be published by AOSCA and certifying agencies. Application for Plant Variety Protection will be made in 2006 and the "Certification Option" will not be elected.

## **Baker Spring Oats**

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 drooping main branches. Its seed are white, slender, and non-fluorescent. Recurring variants with Baker have not been observed.

Baker's disease resistance are 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.

**Amended Description**  
**Santa Fe**  
**Hard Red Winter Wheat**

Santa Fe is a hard red winter wheat variety developed by WestBred LLC of Haven Kansas, and tested as experimental G980039. Santa Fe originated from the cross G1878 x Jagger made in 1993, and was selected through traditional pedigree breeding methods. Breeders seed was derived from the bulk of 50 F8 head-rows harvested in 2001. Santa Fe is well adapted to the southern Great Plains for grain production.

Santa Fe has semi-erect juvenile growth habit and green leaf color at boot stage. The flag leaf is erect, twisted, and has no waxy bloom. The auricle color is white. Santa Fe has a heading date 1 day later than Jagger. The anthers are yellow, and the internodes are hollow. The stem color at maturity is white. Plant height averages 2.5 cm shorter than Jagger. The spike shape is tapering, the density is mid-dense, and the position at maturity is inclined. Santa Fe is awned, with mid-long, brown awns. At maturity, the glumes are long, with elevated shoulders. The glume color is tan with a gray brown upper half. The glume beaks are medium length and acuminate. The seed is red, ovate, and has a medium size brush. The phenol reaction is black brown.

Variants which may occur, include later maturing plants at a rate of 0.2%, taller plants at a rate of 0.1%, and shorter, white chaffed plants at a rate of 0.2%. White seed may occur at a rate of 0.2%.

Santa Fe is moderately resistant to the current races of leaf rust prevalent in the southern plains, and resistant to the current race of stripe rust. It is resistant to soil borne mosaic virus, moderately resistant to septoria, and moderately resistant to tan spot. It is susceptible to powdery mildew, greenbug, Hessian fly, and Russian wheat aphid.

The milling and baking quality of Santa Fe is acceptable.

300 heads have been retained from breeder's seed plots, which will be used to re-constitute the variety under irrigation in Colorado and maintain a pure seed source. This cycle will be repeated as needed. Seed classes to be recognized include Foundation, Registered, and Certified.

We anticipate certified seed sales in August, 2005.

Application for protection through the Plant Variety Protection Act will be made. The Certification Option will be elected.

Acreages may be published by AOSCA and certifying agencies.