

A REPORT OF THE
NATIONAL SMALL GRAIN VARIETY REVIEW BOARD



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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May 2012

The Association of Official Seed Certifying Agencies (AOSCA), National Small Grain Variety Review Board (NSGVRB), reviewed the following varieties on March 15, 2012. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

All variety information, including descriptions, claims, and research data to support any claim, was supplied to the National Small Grain Variety Review Board by the applicants. The National Small Grain Variety Review Board makes judgments regarding recommendation of varieties for inclusion into certification based on the data supplied. Beyond that, the National Small Grain Variety Review Board 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 National Small Grain Variety Review Board can be obtained from:

Chet Boruff, Chief Executive Officer
Association of Official Seed Certifying Agencies
1601 52nd Ave., Suite 1
Moline, IL 61265

Phone: 309-736-0120
Fax: 309-736-0115
E-Mail: cboruff@aosca.org

Respectfully submitted,

Lester Cannon, Chairman
National Small Grains Variety Review Board

2012 AOSCA SMALL GRAIN VARIETY REVIEW BOARD

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Clara CL (KS08HW35-1)

1. *Clara CL* is a hard white winter wheat variety tested under the experimental designation KS08HW35-1. It was developed by Dr. Joe Martin at the Agriculture Research Center-Hays and released by Kansas State University.
2. *Clara CL* was selected from the cross KS03HW154/KS03HW1. KS03HW154 is a sister line of RonL and KS03HW1 is a Hays experimental line that carries the BASF Clearfield® gene for herbicide resistance. Clara CL has a single gene (Als-1) for resistance to the herbicide Beyond® and was selected for its preharvest sprouting tolerance and for its overall bread baking quality.
3. *Clara CL* was tested in western Kansas and is a well-adapted bread wheat for dryland conditions in that area.
4. This line has a very good disease package. It is resistant to leaf rust and moderately resistant to stripe rust. Clara CL carries the wsm2 gene for resistance to Wheat Streak Mosaic Virus and it is moderately resistant to Soil Borne Mosaic Virus and Hessian Fly.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|--|
| 1. <u>Kind: Common Wheat</u> | 2. <u>Seasonal growth habit: Winter</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Prostrate</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Erect, Not Twisted, Wax Present</u> |
| 7. <u>Auricle color: White</u> | 8. <u>Days to 50% heading: 134</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: Green</u> |
| 11. <u>Plant height (cm): 100</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Mid Dense</u> |
| 15. <u>Spike curvature: Inclined</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Medium</u> | 20. <u>Shoulder shape: Oblique</u> |
| 21. <u>Shoulder width: Medium</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length (S, M, L, VL): M</u> | 24. <u>Glume pubescence: Absent</u> |
| 25. <u>Seed color: White</u> | 26. <u>Seed shape: Ovale</u> |
| 27. <u>Cheeks: Angular</u> | 28. <u>Brush size (S,M, L): M</u> |
| 29. <u>Avg 1,000 kernel wt (g): 30</u> | 30. <u>Phenol reaction: Black</u> |

Physiological/biochemical traits: Clara CL is resistant to the Wheat Streak Mosaic Virus virus and has Als1 which imparts tolerance to the herbicide Beyond®.

Variants and frequency: Variants are limited to: slightly taller plants that occur at a frequency of less than 1 in 1,000 plants, plants with red glumes that occur at a frequency of less than 1 in 1,000 plants, and plants that produce seed with a red seed coat that occur at a frequency of less than 1 in 200 plants.

6. Recognized classes of Clara CL are breeder, foundation, registered, and certified. Kansas State University-ARCH will maintain the variety by the head-row purification method to produce breeder seed as needed.
7. Certified seed will likely be available for planting in fall of 2013.
8. An application will be submitted for protection under the U.S. Plant Variety Protection Act for Clara CL and the “Certification Option” will be elected (to be sold by variety name only as a class of certified seed).
9. Certified seed production acreage may be published by AOSCA and certifying agencies.



LCS Artdeco (NSA06-2153A)

1. LCS Artdeco (experimental name NSA06-2153A) is a soft white winter wheat developed by Limagrain Europe and is being sold and marketed by Limagrain Cereal Seeds, LLC in the USA.
2. The breeding objective of LCS Artdeco was to combine the yield potential and agronomic package of NSA02-1466 with the earliness, durability, good finishing characteristics, and soft grain of VR99B057 (both proprietary Limagrain lines in Europe), using the single seed descent method.
3. The area of adaptation for LCS Artdeco is the Pacific Northwest, especially the irrigated and high-rainfall production areas of SE Washington and NE Oregon.
4. LCS Artdeco is moderately susceptible to prevalent stripe rust races in the Pacific Northwest and moderately resistant to Septoria.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
 1. Kind: Common SWW
 2. Seasonal growth habit: Facultative
 3. Coleoptile color: Intermed
 4. Juvenile growth habit: Semi Erect
 5. Leaf color at boot: Green
 6. Flag leaf at boot: Erect, not twisted, Wax Absent
 7. Auricle color: White
 8. Days to 50% heading: 154
 9. Anther color: Yellow
 10. Stem color: Absent
 11. Plant height (cm): 115
 12. Internodes: Hollow
 13. Spike shape: Oblong
 14. Spike density: Mid dense
 15. Spike curvature: Inclined
 16. Awn type: Awned
 17. Awn color: white
 18. Glume color: White/Amber
 19. Glume length: Medium
 20. Shoulder shape: Oblique
 21. Shoulder width: Narrow
 22. Beak shape: Acute
 23. Beak length (S, M, L, VL):M
 24. Glume pubescence: Absent
 25. Seed color: White
 26. Seed shape: Ovate
 27. Cheeks: Rounded
 28. Brush size (S,M, L): M
 29. Avg 1,000 kernel wt (g): 44
 30. Phenol reaction: Dark Brown

Physiological/biochemical traits: None. Variants and frequency: LCS Artdeco may contain up to 1 per 1000 awnless plants and up to 1 per 1000 talls (1-2 heads taller). It may also contain up to 15 red seeds/pound.
6. Recognized classes of LCS Artdeco are Breeder, Foundation, Registered and Certified. Seed of LCS Artdeco may be produced and sold only through a license agreement. Limagrain Cereal Seeds will maintain Breeder and Foundation seed of LCS Artdeco by roguing and removal of off-types in bulk seedings.
7. Foundation seed was sold in Fall 2011 in Washington and Registered seed will be available in the Fall of 2012.
8. Application will be made for Plant Variety Protection with the Certification Option.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.



LCS Azimut (NSA97-2365)

1. LCS Azimut (experimental name NSA97-2365) is a hard red winter wheat developed by Nickerson (Now Limagrain Europe) and is being sold and marketed by Limagrain Cereal Seeds, LLC.
2. The breeding objective of the cross which led to LCS Azimut was to combine earliness and the good overall agronomic and quality package of ALICANTE with the durability of ORATORIO, in particular strawbreaker resistance, using the single seed descent method.
3. LCS Azimut is best suited to the Pacific Northwest where it has exhibited excellent yield potential and good resistance to Stripe rust.
4. LCS Azimut has resistance to Stripe rust races prevailing in the PNW in 2010-2011 and moderate resistance to Septoria. LCS Azimut is susceptible to Orange Blossom midge.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : Common HRW | 2. <u>Seasonal growth habit</u> : Winter |
| 3. <u>Coleoptile color</u> : Red | 4. <u>Juvenile growth habit</u> : Semi-Erect |
| 5. <u>Leaf color at boot</u> : Gray-Blue | 6. <u>Flag leaf at boot</u> : Erect, not twisted, wax present |
| 7. <u>Auricle color</u> : Slightly purple | 8. <u>Days to 50% heading</u> : 152 after January 1st |
| 9. <u>Anther color</u> : Yellow | 10. <u>Stem color</u> : absent |
| 11. <u>Plant height (cm)</u> : 110 | 12. <u>Internodes</u> : Hollow |
| 13. <u>Spike shape</u> : Tapering | 14. <u>Spike density</u> : Mid Dense |
| 15. <u>Spike curvature</u> : Inclined | 16. <u>Awn type</u> : Apically awnletted |
| 17. <u>Awn color</u> : N/A | 18. <u>Glume color</u> : White/Amber |
| 19. <u>Glume length</u> : Medium | 20. <u>Shoulder shape</u> : Square |
| 21. <u>Shoulder width</u> : Narrow | 22. <u>Beak shape</u> : Acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : S | 24. <u>Glume pubescence</u> : Absent |
| 25. <u>Seed color</u> : Red | 26. <u>Seed shape</u> : Ovate |
| 27. <u>Cheeks</u> : Rounded | 28. <u>Brush size (S,M, L)</u> : M |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 35 | 30. <u>Phenol reaction</u> : Dark Brown |
- Physiological/biochemical traits:

Variants and frequency: LCS Azimut may contain up to 1 per 1000 awned plants and up to 1 per 1000 talls (1-2 heads taller). It may also contain up to 25 white seeds/pound.

6. Recognized classes of LCS Azimut are Breeder, Foundation, Registered and Certified. Seed of LCS Azimut may be produced and sold only through a license agreement. Limagrain Cereal Seeds will maintain Breeder and Foundation seed of LCS Azimut by roguing and removal of off-types in bulk seedings.
7. Foundation seed was sold in Fall 2011 in Washington and Registered seed will be available in the Fall of 2012.
8. Application for Plant Variety Protection will not be made for LCS Azimut. Descriptive data can be supplied to the PVP database.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.



T153 (T153)

1. T153 (experimental name T153) is a hard red winter wheat developed by Trio Research, Inc. T153 is now owned, and is being sold and marketed by Limagrain Cereal Seeds, LLC, made possible by the acquisition of Trio Research in 2010.
2. The breeding objective of T153 was to transfer the soil borne mosaic and leaf rust resistance from KS93U206 into a T81 background and improve the winter hardiness of T136.
3. T153 is best suited to the eastern and southern areas of the Great Plains where acid soil conditions are prevalent as T153 has tolerance to acid soil conditions. T153 should not be planted in areas prone to wheat streak mosaic virus.
4. T153 has resistance to soil borne mosaic virus and acid soil conditions. It is moderately resistant to stripe rust and stem rust while moderately susceptible to leaf rust and wheat streak mosaic virus. T153 is susceptible to Hessian fly, greenbug, and Russian wheat aphid.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: Common</u> | 2. <u>Seasonal growth habit: Winter</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Semi-Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Re-curved, not-twisted, waxy</u> |
| 7. <u>Auricle color: White</u> | 8. <u>Days to 50% heading: 134</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: Absent</u> |
| 11. <u>Plant height (cm): 69</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Mid-dense</u> |
| 15. <u>Spike curvature: Erect</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: white/amber</u> |
| 19. <u>Glume length: Medium</u> | 20. <u>Shoulder shape: Square</u> |
| 21. <u>Shoulder width: Medium</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length: Medium</u> | 24. <u>Glume pubescence: Absent</u> |
| 25. <u>Seed color: Red</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): Short</u> |
| 29. <u>Avg 1,000 kernel wt (g): 35</u> | 30. <u>Phenol reaction: Dark Brown</u> |
- Physiological/biochemical traits: None

Variants and frequency: Variants may include up to 1 in 1,000 plants with brown glumes, up to 1 in 1,000 talls, and up to 1 in 1,000 awnless plants.

6. Recognized classes of T153 are Breeder, Foundation, Registered, and Certified. Seed of T153 may be produced and sold only through a license agreement. Limagrain Cereal Seeds will maintain Breeder seed by rouging and removal of off-types in bulk seedings.
7. Foundation seed will be available in the Fall of 2012 with small quantities of Certified seed available in 2013.
8. Application for Plant Variety Protection will not be made for T153. Descriptive data can be supplied to the PVP database.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.



T154 (T154)

1. T154 (experimental name T154) is a hard red winter wheat developed by Trio Research, Inc. T154 is now owned, and is being sold and marketed by Limagrain Cereal Seeds, LLC, made possible by the acquisition of Trio Research in 2010.
2. T154 was selected for resistance to soil borne mosaic virus, early maturity, and yield potential via a modified bulk breeding procedure.
3. T154 has a broad area of adaptation including eastern regions of the Great Plains, irrigated areas of the southern Great plains, and the eastern High Plains. T154 is well adapted to acid soils. Grain hardness of T154 is very good even under high moisture conditions as experienced in the eastern Great Plains.
4. T154 is moderately susceptible to wheat streak mosaic virus, barley yellow dwarf virus and leaf rust. T154 has resistance to acid soil conditions and soil borne mosaic virus. T154 is moderately resistant to stem rust and stripe rust. T154 is susceptible to Hessian fly, greenbug, and Russian wheat aphid.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: Common</u> | 2. <u>Seasonal growth habit: Winter</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Semi-Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Re-curved, Not-twisted, waxy</u> |
| 7. <u>Auricle color: White</u> | 8. <u>Days to 50% heading: 135</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: Absent</u> |
| 11. <u>Plant height (cm): 71</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Mid-dense</u> |
| 15. <u>Spike curvature: Erect</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Medium</u> | 20. <u>Shoulder shape: Square</u> |
| 21. <u>Shoulder width: Medium</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length: Medium</u> | 24. <u>Glume pubescence: Absent</u> |
| 25. <u>Seed color: Red</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): Short</u> |
| 29. <u>Avg 1,000 kernel wt (g): 35</u> | 30. <u>Phenol reaction: Dark Brown</u> |

Physiological/biochemical traits: None

Variants and frequency: Variants may include up to 1 in 1,000 plants with brown glumes, up to 1 in 1,000 tall, and up to 1 in 1,000 awnless plants.

6. Recognized classes of T154 are Breeder, Foundation, Registered, and Certified. Seed of T154 may be produced and sold only through a license agreement. Limagrain Cereal Seeds will maintain Breeder seed by rouging and removal of off-types in bulk seedings.
7. Foundation seed will be available in the Fall of 2012 with small quantities of Certified seed available in 2013.
8. Application for Plant Variety Protection will not be made for T154. Descriptive data can be supplied to the PVP database.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.



T163 (T163)

1. T163 (experimental name T163) is a hard red winter wheat developed by Trio Research, Inc. T163 is now owned, and is being sold and marketed by Limagrain Cereal Seeds, LLC, made possible by the acquisition of Trio Research in 2010.
2. T163 was developed as a re-selection out of T140 for wheat streak mosaic virus resistance. T163 has higher tillering ability than T140.
3. T163 is primarily adapted to dryland conditions from northern Kansas into Western Nebraska and Eastern Colorado. It has been shown to have acceptable yields in areas prone to wheat streak mosaic virus and soil borne mosaic virus infections.
4. T163 is moderately susceptible to moderately resistant to leaf rust and stripe rust. It has been resistant to current field races of stem rust in the area of its adaptation. It is resistant to soil borne mosaic virus and wheat streak mosaic virus. T163 is susceptible to Russian wheat aphid, greenbug, and powdery mildew.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind:</u> Common | 2. <u>Seasonal growth habit:</u> Winter |
| 3. <u>Coleoptile color:</u> White | 4. <u>Juvenile growth habit:</u> Semi-Erect |
| 5. <u>Leaf color at boot:</u> Green | 6. <u>Flag leaf at boot:</u> Re-curved, not-twisted, waxy |
| 7. <u>Auricle color:</u> White | 8. <u>Days to 50% heading:</u> 136 |
| 9. <u>Anther color:</u> Yellow | 10. <u>Stem color:</u> Absent |
| 11. <u>Plant height (cm):</u> 86 | 12. <u>Internodes:</u> Hollow |
| 13. <u>Spike shape:</u> Tapering | 14. <u>Spike density:</u> Mid-dense |
| 15. <u>Spike curvature:</u> Erect | 16. <u>Awn type:</u> Awned |
| 17. <u>Awn color:</u> White | 18. <u>Glume color:</u> White |
| 19. <u>Glume length:</u> Short | 20. <u>Shoulder shape:</u> Square |
| 21. <u>Shoulder width:</u> Wide | 22. <u>Beak shape:</u> Acuminate |
| 23. <u>Beak length:</u> Medium | 24. <u>Glume pubescence:</u> Absent |
| 25. <u>Seed color:</u> Red | 26. <u>Seed shape:</u> Ovate |
| 27. <u>Cheeks:</u> Rounded | 28. <u>Brush size (S,M, L):</u> S |
| 29. <u>Avg 1,000 kernel wt (g):</u> 36 | 30. <u>Phenol reaction:</u> Dark Brown |

Physiological/biochemical traits: None

Variants and frequency: Variants may include up to 1 in 1,000 plants with brown glumes, up to 1 in 1,000 talls, and up to 1 in 1,000 awnless plants.

6. Recognized classes of T163 are Breeder, Foundation, Registered, and Certified. Seed of T163 may be produced and sold only through a license agreement. Limagrain Cereal Seeds will maintain Breeder seed by rouging and removal of off-types in bulk seedings.
7. Foundation seed will be available in the Fall of 2012 with small quantities of Certified seed available in 2013.
8. Application for Plant Variety Protection will not be made for T163. Descriptive data can be supplied to the PVP database.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.



T173 (T173)

1. T173 (experimental name T173) is a soft red winter wheat developed by Trio Research, Inc. T173 is now owned, and is being sold and marketed by Limagrain Cereal Seeds, LLC, made possible by the acquisition of Trio Research in 2010.
2. T173 was selected as an awnless, high tillering wheat variety with resistance to soil borne mosaic virus.
3. T173 is intended to be used for grazing or silage purposes only. It has high tillering ability and tolerance to both acid soil conditions and soil borne mosaic virus which make it well suited to eastern Kansas and Oklahoma.
4. T173 is resistant to soil borne mosaic virus and acid soil conditions. It is moderately susceptible to wheat streak mosaic and barley yellow dwarf viruses.

5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : Common | 2. <u>Seasonal growth habit</u> : Winter |
| 3. <u>Coleoptile color</u> : White | 4. <u>Juvenile growth habit</u> : Semi-Erect |
| 5. <u>Leaf color at boot</u> : Green | 6. <u>Flag leaf at boot</u> : Recurved, non-twisted, waxy |
| 7. <u>Auricle color</u> : White | 8. <u>Days to 50% heading</u> : 143 |
| 9. <u>Anther color</u> : Yellow | 10. <u>Stem color</u> : Absent |
| 11. <u>Plant height (cm)</u> : 90 | 12. <u>Internodes</u> : Hollow |
| 13. <u>Spike shape</u> : Tapering | 14. <u>Spike density</u> : Mid-dense |
| 15. <u>Spike curvature</u> : Inclined | 16. <u>Awn type</u> : Awnless |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : Tan |
| 19. <u>Glume length</u> : Short | 20. <u>Shoulder shape</u> : Square |
| 21. <u>Shoulder width</u> : Wide | 22. <u>Beak shape</u> : Acute |
| 23. <u>Beak length</u> : Medium | 24. <u>Glume pubescence</u> : Absent |
| 25. <u>Seed color</u> : Amber | 26. <u>Seed shape</u> : Elliptical |
| 27. <u>Cheeks</u> : Rounded | 28. <u>Brush size (S,M, L)</u> : S |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 26 | 30. <u>Phenol reaction</u> : Dark brown |

Physiological/biochemical traits: None

Variants and frequency: Variants may include up to 1 in 1,000 plants with brown glumes, up to 1 in 1,000 tall, and up to 1 in 1,000 awned plants.

6. Recognized classes of T173 are Breeder, Foundation, Registered, and Certified. Seed of T173 may be produced and sold only through a license agreement. Limagrain Cereal Seeds will maintain Breeder seed by rouging and removal of off-types in bulk seedings.
7. Foundation seed will be available in the Fall of 2012 with small quantities of Certified seed available in 2013.
8. Application will be made for Plant Variety Protection with the Certification Option.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.



(XW10Q)

1. XW10Q is a soft red winter wheat developed by Pioneer Hi-Bred International, Inc.
2. The cultivar XW10Q was bred and selected using a modified pedigree selection method for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.
3. XW10Q has shown adaptation to the northern soft wheat regions.
4. XW10Q has excellent yield potential and test weight. It also has very good straw lodging resistance and strong fusarium head blight (scab) resistance. XW10Q also has very good wheat soil borne mosaic virus and spindle streak mosaic virus resistance.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
 1. Kind: Common soft red
 2. Seasonal growth habit: Winter
 3. Coleoptile color: Red
 4. Juvenile growth habit: Semi-Erect
 5. Leaf color at boot: Green
 6. Flag leaf at boot: Recurved, twisted, wax present
 7. Auricle color: White
 8. Days to 50% heading: 125
 9. Anther color: Purple
 10. Stem color: Present
 11. Plant height (cm): 86
 12. Internodes: Hollow
 13. Spike shape: Tapered
 14. Spike density: Mid-dense
 15. Spike curvature: Erect
 16. Awn type: Awned
 17. Awn color: Tan
 18. Glume color: Tan
 19. Glume length: Medium
 20. Shoulder shape: Oblique
 21. Shoulder width: Medium
 22. Beak shape: Acuminate
 23. Beak length (S, M, L, VL): M
 24. Glume pubescence: Not present
 25. Seed color: Red
 26. Seed shape: Ovate
 27. Cheeks: Rounded
 28. Brush size (S, M, L): M
 29. Avg 1,000 kernel wt (g): 37
 30. Phenol reaction: Light brown
 31. Other:
 - Physiological/biochemical traits:
 - Other characteristics (e.g., herbicide tolerance):
 - Variants and frequency: XW10Q has shown no variants other than what would normally be expected due to environment. The maximum levels of off types allowable for foundation, registered and certified seed are 0.0067%, 0.01%, and 0.02%, respectively.
6. Breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Hi-Bred International, Inc. Parent Seed Operations and Production department. 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, Production department, or the appropriate certifying agency. Production of certified seed by licensed producer/distributors will be controlled by the Pioneer Production department.
7. Certified seed of XW10Q will potentially first be offered for sale in the fall of 2012.
8. Application for Plant Variety Protection will be made in 2012 and the certification option will not be elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



(XW10S)

1. XW10S is a soft red winter wheat developed by Pioneer Hi-Bred International, Inc.
2. The cultivar XW10S was bred and selected using a modified pedigree selection method for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.
3. XW10S has shown its best adaptation to the northern soft wheat regions.
4. XW10S has excellent yield potential and test weight. It also has excellent resistance to stripe rust. XW10S has short plant height with good straw lodging resistance. It also has very good resistance to soil borne mosaic virus.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|--|
| 1. <u>Kind</u> : Common | 2. <u>Seasonal growth habit</u> : Winter |
| 3. <u>Coleoptile color</u> : Red | 4. <u>Juvenile growth habit</u> : Semi-erect |
| 5. <u>Leaf color at boot</u> : Green | 6. <u>Flag leaf at boot</u> : Recurved, twisted, wax present |
| 7. <u>Auricle color</u> : White | 8. <u>Days to 50% heading</u> : 120 |
| 9. <u>Anther color</u> : Purple | 10. <u>Stem color</u> : Absent |
| 11. <u>Plant height (cm)</u> : 84 | 12. <u>Internodes</u> : Hollow |
| 13. <u>Spike shape</u> : Oblong | 14. <u>Spike density</u> : Middense |
| 15. <u>Spike curvature</u> : Inclined | 16. <u>Awn type</u> : Awned |
| 17. <u>Awn color</u> : Tan | 18. <u>Glume color</u> : White |
| 19. <u>Glume length</u> : Long | 20. <u>Shoulder shape</u> : Oblique |
| 21. <u>Shoulder width</u> : Medium | 22. <u>Beak shape</u> : Acuminate |
| 23. <u>Beak length (S, M, L, VL):</u> M | 24. <u>Glume pubescence</u> : Not present |
| 25. <u>Seed color</u> : Red | 26. <u>Seed shape</u> : Oval |
| 27. <u>Cheeks</u> : Rounded | 28. <u>Brush size (S, M, L)</u> : Short |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 35 | 30. <u>Phenol reaction</u> : Dark brown |

31. Other:

Physiological/biochemical traits:

Other characteristics (*e.g.*, herbicide tolerance):

Variants and frequency: XW10S has shown no variants other than what would normally be expected due to environment. The maximum levels of off types allowable for foundation, registered and certified seed are 0.0067%, 0.01%, and 0.02%, respectively.

6. Breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Hi-Bred International, Inc. Parent Seed Operations and Production department. 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, Production department, or the appropriate certifying agency. Production of certified seed by licensed producer/distributors will be controlled by the Pioneer Production department.
7. Certified seed of XW10S will potentially first be offered for sale in the fall of 2012.
8. Application for Plant Variety Protection will be made in 2012 and the certification option will not be elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



(XW10T)

1. XW10T is a soft red winter wheat developed by Pioneer Hi-Bred International, Inc.
2. The cultivar XW10T was bred and selected using a modified pedigree selection method for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.
3. XW10T has shown adaptation to the southern soft wheat growing regions.
4. XW10T has excellent yield potential and test weight. It has excellent stripe rust resistance. XW10T has very good straw lodging resistance and very good resistance to powdery mildew and leaf rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
 1. Kind: Common
 2. Seasonal growth habit: Winter
 3. Coleoptile color: Red
 4. Juvenile growth habit: Semi-erect
 5. Leaf color at boot: Yel/Green
 6. Flag leaf at boot: Recurved,twisted,wax present
 7. Auricle color: White
 8. Days to 50% heading: 119
 9. Anther color: Yellow
 10. Stem color: Absent
 11. Plant height (cm): 84
 12. Internodes: Hollow
 13. Spike shape: Tapered
 14. Spike density: Middense
 15. Spike curvature: Inclined
 16. Awn type: Awned
 17. Awn color: Tan
 18. Glume color: Tan
 19. Glume length: Medium
 20. Shoulder shape: Rounded
 21. Shoulder width: Medium
 22. Beak shape: Acuminate
 23. Beak length (S, M, L, VL):L
 24. Glume pubescence: Not present
 25. Seed color: Red
 26. Seed shape: Ovate
 27. Cheeks: Rounded
 28. Brush size (S,M, L): M
 29. Avg 1,000 kernel wt (g): 37
 30. Phenol reaction: Dark brown

Physiological/biochemical traits:

Other characteristics (*e.g.*, herbicide tolerance):

Variants and frequency: XW10T has shown no variants other than what would normally be expected due to environment. The maximum levels of off types allowable for foundation, registered and certified seed are 0.0067%, 0.01%, and 0.02%, respectively.

6. Breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Hi-Bred International, Inc. Parent Seed Operations and Production department. 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, Production department, or the appropriate certifying agency. Production of certified seed by licensed producer/distributors will be controlled by the Pioneer Production department.
7. Certified seed of XW10T will be potentially first be offered for sale in the fall of 2012.
8. Application for Plant Variety Protection will be made in 2012 and the certification option will not be elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



(XW10V)

1. XW10V is a soft red winter wheat developed by Pioneer Hi-Bred International, Inc.
2. The cultivar XW10V was bred and selected using a modified pedigree selection method for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.
3. XW10V has shown adaptation to the southern soft winter wheat growing regions.
4. XW10V has shown excellent yield potential and test weight. It shows excellent resistance to stripe rust and straw lodging. XW10V has very good leaf rust resistance.

5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind:</u> Common | 2. <u>Seasonal growth habit:</u> Winter |
| 3. <u>Coleoptile color:</u> Red | 4. <u>Juvenile growth habit:</u> Semi-erect |
| 5. <u>Leaf color at boot:</u> Green | 6. <u>Flag leaf at boot:</u> Recurved,twisted,wax present |
| 7. <u>Auricle color:</u> White | 8. <u>Days to 50% heading:</u> 121 |
| 9. <u>Anther color:</u> Purple | 10. <u>Stem color:</u> Absent |
| 11. <u>Plant height (cm):</u> 84 | 12. <u>Internodes:</u> Hollow |
| 13. <u>Spike shape:</u> Tapered | 14. <u>Spike density:</u> Middense |
| 15. <u>Spike curvature:</u> Nodding | 16. <u>Awn type:</u> Awned |
| 17. <u>Awn color:</u> Tan | 18. <u>Glume color:</u> Tan |
| 19. <u>Glume length:</u> Medium | 20. <u>Shoulder shape:</u> Oblique |
| 21. <u>Shoulder width:</u> Medium | 22. <u>Beak shape:</u> Acuminate |
| 23. <u>Beak length (S, M, L, VL):</u> M | 24. <u>Glume pubescence:</u> Not present |
| 25. <u>Seed color:</u> Red | 26. <u>Seed shape:</u> Ovate |
| 27. <u>Cheeks:</u> Rounded | 28. <u>Brush size (S,M, L):</u> S |
| 29. <u>Avg 1,000 kernel wt (g):</u> 37 | 30. <u>Phenol reaction:</u> Dark brown |

31. Other:

Physiological/biochemical traits:

Other characteristics (e.g., herbicide tolerance):

Variants and frequency: W10V has shown no variants other than what would normally be expected due to environment. The maximum levels of off types allowable for foundation, registered and certified seed are 0.0067%, 0.01%, and 0.02%, respectively.

6. Breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Hi-Bred International, Inc. Parent Seed Operations and Production department. 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, Production department, or the appropriate certifying agency. Production of certified seed by licensed producer/distributors will be controlled by the Pioneer Production department.
7. Certified seed of XW10V will potentially first be offered for sale in the fall of 2012.
8. Application for Plant Variety Protection will be made in 2012 and the certification option will not be elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



SY 107 (03PN103#7)

1. SY 107 is a soft white winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY 107 originated from the cross ORH010837 (OR 0845/E81FR) / OR2001611 and was made in 2003. This line was selected on the basis of the absence of Stripe Rust, short plant height, and medium maturity
3. SY 107 has shown good adaptation in the high to moderate rainfall regions of western Idaho, eastern Washington, north-central and northeastern Oregon and irrigated production in the southern Snake River region of Idaho and the irrigated production areas of Washington.
4. SY 107 resistant to current predominant races of stripe rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind: common</u> | 2. <u>Growth habit: winter</u> |
| 3. <u>Coleoptile color: white</u> | 4. <u>Juvenile growth habit: semi-erect</u> |
| 5. <u>Leaf color at boot: green</u> | 6. <u>Flag leaf: waxy,erect,twisted</u> |
| 7. <u>Auricle color: purple</u> | 8. <u>Days to 50% heading: 176</u> |
| 9. <u>Anther color: yellow</u> | 10. <u>Stem color: absent</u> |
| 11. <u>Plant height (cm): 96</u> | 12. <u>Internodes: hollow</u> |
| 13. <u>Spike shape: tapering</u> | 14. <u>Spike density: middense</u> |
| 15. <u>Spike curvature: inclined</u> | 16. <u>Awn type: awned</u> |
| 17. <u>Awn color: white</u> | 18. <u>Glume color: white</u> |
| 19. <u>Glume length: long</u> | 20. <u>Shoulder shape: oblique</u> |
| 21. <u>Shoulder width: medium</u> | 22. <u>Beak shape: acuminate</u> |
| 23. <u>Beak length (S, M, L, VL): M</u> | 24. <u>Glume pubescence: absent</u> |
| 25. <u>Seed color: white</u> | 26. <u>Seed shape: elliptical</u> |
| 27. <u>Cheeks: rounded</u> | 28. <u>Brush size (S,M, L) M</u> |
| 29. <u>Avg 1,000 kernel wt (g): 40</u> | 30. <u>Phenol reaction:</u> |
| 31. <u>Other:</u> | |

Physiological/biochemical traits:

Other characteristics (*e.g.*, herbicide tolerance):

SY 107 has been uniform and stable since 2004. Less than 0.8% of the plants were rogued from the foundation seed increase in 2009/10. All of the variant plants were taller height wheat plants, ranging from 3 to 6 inches taller than the canopy. Up to 0.5% red seed may be encountered in registered and certified seed production. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce Breeders seed if needed.
7. Foundation seed stocks of SY 107 will be available in the fall of 2012. Certified seed stocks will be available in fall of 2013.
8. Plant Variety Protection is anticipated in 2012 and SY 107 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY 115T (05T14058)

1. SY 115T is a triticale bred and developed Syngenta Seeds, Inc.
2. SY 115T (05T14058) is derived from a cross made by RSI, Inc. in 2002 within germplasm obtained from the International Maize and Wheat Improvement Center (CIMMYT).
3. SY 115T has shown good adaptation for forage production in California.
4. SY 115T has shown tolerance to the filed races of stripe rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|--|
| 1. <u>Kind:</u> | 2. <u>Seasonal growth habit:</u> <u>spring</u> |
| 3. <u>Coleoptile color:</u> <u>red</u> | 4. <u>Juvenile growth habit:</u> <u>erect</u> |
| 5. <u>Leaf color at boot:</u> <u>green</u> | 6. <u>Flag leaf at boot:</u> <u>erect,twisted,waxy</u> |
| 7. <u>Auricle color:</u> <u>absent</u> | 8. <u>Days to 50% heading:</u> <u>91</u> |
| 9. <u>Anther color:</u> <u>yellow</u> | 10. <u>Stem color:</u> <u>white</u> |
| 11. <u>Plant height (cm):</u> <u>110</u> | 12. <u>Internodes:</u> <u>hollow</u> |
| 13. <u>Spike shape:</u> <u>tapering</u> | 14. <u>Spike density:</u> <u>dense</u> |
| 15. <u>Spike curvature:</u> <u>inclined</u> | 16. <u>Awn type:</u> <u>awned</u> |
| 17. <u>Awn color:</u> <u>white</u> | 18. <u>Glume color:</u> <u>white</u> |
| 19. <u>Glume length:</u> <u>long</u> | 20. <u>Shoulder shape:</u> <u>apiculate</u> |
| 21. <u>Shoulder width:</u> <u>narrow</u> | 22. <u>Beak shape:</u> <u>acuminate</u> |
| 23. <u>Beak length (S, M, L, V):</u> <u>M</u> | 24. <u>Glume pubescence:</u> <u>absent</u> |
| 25. <u>Seed color:</u> <u>red</u> | 26. <u>Seed shape:</u> <u>ovate</u> |
| 27. <u>Cheeks:</u> <u>round</u> | 28. <u>Brush size (S,M, L):</u> <u>S</u> |
| 29. <u>Avg 1,000 kernel wt (g):</u> <u>42</u> | 30. <u>Phenol reaction:</u> |

Physiological/biochemical traits:

Variants and frequency: SY 115T has been uniform and stable since 2009. SY 115T is a triticale bred for forage production and it needs to be noted that forage triticales tend to have uneven canopies. About 0.8% of the plants were rogued from the Breeders seed increase in 2010. All of the rogued variant plants were taller height triticale plants (5 to 10 cm). Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce Breeders seed if needed.
7. Limited quantities of Certified seed stocks of SY 115T were available in Fall of 2011 in CA.
8. Plant Variety Protection is anticipated in 2012 and SY 115T may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



141 (04T90141)

1. 141 is a triticale bred and developed by Syngenta Seeds, Inc.
2. 141 (Exp. 04T90141) resulted from a cross of the line number 2858 to the triticale variety Trical 762.
3. 141 has shown good adaptation for forage production in Washington and the Eastern states of the US.
- 4.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind:</u> | 2. <u>Seasonal growth habit:</u> spring |
| 3. <u>Coleoptile color:</u> white | 4. <u>Juvenile growth habit:</u> erect |
| 5. <u>Leaf color at boot:</u> green | 6. <u>Flag leaf at boot:</u> erect,twisted,waxy |
| 7. <u>Auricle color:</u> white | 8. <u>Days to 50% heading:</u> 81 |
| 9. <u>Anther color:</u> yellow | 10. <u>Stem color:</u> tan |
| 11. <u>Plant height (cm):</u> 101 | 12. <u>Internodes:</u> hollow |
| 13. <u>Spike shape:</u> tapering | 14. <u>Spike density:</u> dense |
| 15. <u>Spike curvature:</u> inclined | 16. <u>Awn type:</u> awnletted |
| 17. <u>Awn color:</u> tan | 18. <u>Glume color:</u> tan |
| 19. <u>Glume length:</u> long | 20. <u>Shoulder shape:</u> oblique |
| 21. <u>Shoulder width:</u> medium | 22. <u>Beak shape:</u> acute |
| 23. <u>Beak length (S, M, L, V):</u> S | 24. <u>Glume pubescence:</u> absent |
| 25. <u>Seed color:</u> red | 26. <u>Seed shape:</u> elliptical |
| 27. <u>Cheeks:</u> rounded | 28. <u>Brush size (S,M, L):</u> L |
| 29. <u>Avg 1,000 kernel wt (g):</u> 42 | 30. <u>Phenol reaction:</u> |

Physiological/biochemical traits:

Variants and frequency:

141 has been uniform and stable during seed purification stages initiated in 2008. Less than 0.5% of the plants were rogued from the foundation seed increase in Othello Washington in 2010. The primary variant plants (80%) were taller height triticale plants ranging from 3 to 6 inches taller than the canopy. Approximately 10% awned triticale plants were also rogued. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce Breeders seed if needed.
7. Limited quantities of Certified seed stocks of 141 were available in spring of 2011. Certified seed stocks of 141 will be available in 2012.
8. Plant Variety Protection is anticipated in 2012 and 141 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY 314 (0590314)

1. SY 314 is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. SY 314 (Exp. 05W90314) hard red spring wheat results from the cross between the Syngenta Seeds, Inc. wheat variety Summit and a line developed from crosses among Syngenta and International Maize and Wheat Improvement Center (CIMMYT) germplasm.
3. SY 314 was tested extensively in California and is adapted to the interior valleys of California.
4. SY 314 has shown resistance to the current field races of stripe rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: common</u> | 2. <u>Seasonal growth habit: spring</u> |
| 3. <u>Coleoptile color: white</u> | 4. <u>Juvenile growth habit: erect</u> |
| 5. <u>Leaf color at boot: green</u> | 6. <u>Flag leaf at boot: erect, twisted, waxy</u> |
| 7. <u>Auricle color: white</u> | 8. <u>Days to 50% heading: 97</u> |
| 9. <u>Anther color: yellow</u> | 10. <u>Stem color: white</u> |
| 11. <u>Plant height (cm): 90</u> | 12. <u>Internodes: hollow</u> |
| 13. <u>Spike shape: tapering</u> | 14. <u>Spike density: middense</u> |
| 15. <u>Spike curvature: inclined</u> | 16. <u>Awn type: awned</u> |
| 17. <u>Awn color: white</u> | 18. <u>Glume color: white</u> |
| 19. <u>Glume length: long</u> | 20. <u>Shoulder shape: apiculate</u> |
| 21. <u>Shoulder width: narrow</u> | 22. <u>Beak shape: acuminate</u> |
| 23. <u>Beak length (S, M, L, V): L</u> | 24. <u>Glume pubescence: absent</u> |
| 25. <u>Seed color: red</u> | 26. <u>Seed shape: elliptical</u> |
| 27. <u>Cheeks: angular</u> | 28. <u>Brush size (S, M, L): s</u> |
| 29. <u>Avg 1,000 kernel wt (g): 46</u> | 30. <u>Phenol reaction:</u> |

Physiological/biochemical traits:

Variants and frequency: SY 314 has been uniform and stable since 2009. Approximately 90% of the variant plants were taller height wheat plants, <2% were bronze chaffed wheat plants and <1% were awnless wheat plants. Up to 0.5% white seed may be encountered in foundation, registered and certified seed production. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce Breeders seed if needed.
7. Certified seed stocks of SY 314 were available in Fall of 2012 in California.
8. Plant Variety Protection is anticipated in 2012 and SY 314 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY 483 (MH07-7483)

1. SY 483 is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY 483 was selected for height, maturity, appearance, and kernel soundness using a modified bulk breeding method.
3. SY 483 has been tested throughout the Midwest and Northeast and is best adapted to the Midwestern soft red wheat growing regions north of I-70 and in the Del-Mar-VA area.
4. It has shown moderate resistance to powdery mildew, moderate susceptibility to *Fusarium*, leaf rusts in the area, and *Septoria*. SY 483 tests susceptible to *Rhizoctonia* in laboratory trials.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
 1. Kind: soft red winter wheat
 2. Seasonal growth habit: winter
 3. Coleoptile color: white
 4. Juvenile growth habit: semi-erect
 5. Leaf color at boot: green
 6. Flag leaf at boot: erect,twisted,waxy
 7. Auricle color: purple
 8. Days to 50% heading: 123
 9. Anther color: yellow
 10. Stem color: white
 11. Plant height (cm): 92
 12. Internodes: hollow
 13. Spike shape: tapering
 14. Spike density: middense
 15. Spike curvature: inclined
 16. Awn type: awnletted
 17. Awn color: white
 18. Glume color: white
 19. Glume length: short
 20. Shoulder shape: oblique
 21. Shoulder width: midwide
 22. Beak shape: obtuse
 23. Beak length (S, M, L,): S
 24. Glume pubescence: absent
 25. Seed color: red
 26. Seed shape: ovate
 27. Cheeks: rounded
 28. Brush size (S,M, L): M
 29. Avg 1,000 kernel wt (g):36.8
 30. Phenol reaction:

Physiological/biochemical traits:
Variants and frequency:
6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the fall of 2013
8. Plant Variety Protection is anticipated in 2012 and SY 483 may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY 901 (MC07*7001W)

1. SY 901 is a soft white winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY 901 was selected for height, maturity, appearance, and kernel soundness using a modified bulk breeding method.
3. SY 901 has been tested throughout the Midwest and is best adapted to the soft white wheat growing regions of Michigan, Indiana, and Ohio. In Indiana, and Ohio it appears to perform best in the area north of US 30, and it has shown very good sprout tolerance.
4. SY 901 has shown moderate resistance to fusarium head blight, moderate resistance to powdery mildew, moderate susceptibility to the races of leaf rust in this area, and susceptibility to soil borne mosaic virus. It has also shown moderate susceptibility to septoria complex.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind: soft white winter wheat</u> | 2. <u>Seasonal growth habit: winter</u> |
| 3. <u>Coleoptile color: red</u> | 4. <u>Juvenile growth habit: semi-erect</u> |
| 5. <u>Leaf color at boot: green</u> | 6. <u>Flag leaf at boot: erect,twisted,waxy</u> |
| 7. <u>Auricle color: purple</u> | 8. <u>Days to 50% heading: 146</u> |
| 9. <u>Anther color: yellow</u> | 10. <u>Stem color: white</u> |
| 11. <u>Plant height (cm): 91</u> | 12. <u>Internodes: hollow</u> |
| 13. <u>Spike shape: tapering</u> | 14. <u>Spike density: middense</u> |
| 15. <u>Spike curvature: inclined</u> | 16. <u>Awn type: awned</u> |
| 17. <u>Awn color: white</u> | 18. <u>Glume color: white</u> |
| 19. <u>Glume length: midlong</u> | 20. <u>Shoulder shape: oblique</u> |
| 21. <u>Shoulder width: midwide</u> | 22. <u>Beak shape: acuminate</u> |
| 23. <u>Beak length (M, L, VL): M</u> | 24. <u>Glume pubescence: absent</u> |
| 25. <u>Seed color: white</u> | 26. <u>Seed shape: ovate</u> |
| 27. <u>Cheeks: rounded</u> | 28. <u>Brush size (S,M, L): M</u> |
| 29. <u>Avg 1,000 kernel wt (g): 37</u> | 30. <u>Phenol reaction:</u> |

Physiological/biochemical traits:

Variants and frequency:

SY 901 has been uniform and stable since 2011. Approximately 0.8% of the plants were rogued from the Breeder's seed increase in 2011. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 0.2% were awnless. A red seed variant up to 0.2% may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the fall of 2013
8. Plant Variety Protection is anticipated in 2012 and SY 901 may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY Harrison (B05*0154)

1. SY Harrison is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY Harrison is the result of a cross made in 1998 by Syngenta Seeds, Inc. in Bay, Arkansas. SY Harrison was selected for height, appearance, maturity, and kernel soundness.
3. SY Harrison has been tested regionally since 2006 by Syngenta in Arkansas, Missouri, Tennessee, Mississippi, Louisiana, Virginia, North Carolina, South Carolina and Georgia. It appears to be best adapted to the major wheat growing areas of Arkansas, eastern Missouri, Tennessee, northern Louisiana and Mississippi in the Midsouth; and Virginia, North Carolina and South Carolina in the East. It has yielded well in Georgia but may mature later than some deeper south growers prefer.
4. SY Harrison has shown moderate resistance to Septoria complex (tritici/nodorum) and to currently prevalent races of stripe rust. It is moderately susceptible to Fusarium head scab but is average or better when compared to current variety checks. SY Harrison is moderately-susceptible / susceptible to leaf rust and powdery mildew.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|--|
| 1. <u>Kind: soft red winter wheat</u> | 2. <u>Seasonal growth habit: winter</u> |
| 3. <u>Coleoptile color: red</u> | 4. <u>Juvenile growth habit: semi-erect</u> |
| 5. <u>Leaf color at boot: blue-green</u> | 6. <u>Flag leaf at boot: recurved,twisted,waxy</u> |
| 7. <u>Auricle color: absent</u> | 8. <u>Days to 50% heading: 109</u> |
| 9. <u>Anther color: yellow</u> | 10. <u>Stem color: white</u> |
| 11. <u>Plant height (cm): 88</u> | 12. <u>Internodes: hollow</u> |
| 13. <u>Spike shape: tapering</u> | 14. <u>Spike density: middense</u> |
| 15. <u>Spike curvature: inclined</u> | 16. <u>Awn type: awned</u> |
| 17. <u>Awn color: white</u> | 18. <u>Glume color: white</u> |
| 19. <u>Glume length: midlong</u> | 20. <u>Shoulder shape: oblique</u> |
| 21. <u>Shoulder width: medium</u> | 22. <u>Beak shape: acuminate</u> |
| 23. <u>Beak length (S, M, L,): M</u> | 24. <u>Glume pubescence: absent</u> |
| 25. <u>Seed color: red</u> | 26. <u>Seed shape: ovate</u> |
| 27. <u>Cheeks: rounded</u> | 28. <u>Brush size (S,M, L): M</u> |
| 29. <u>Avg 1,000 kernel wt (g): 33</u> | 30. <u>Phenol reaction:</u> |

Physiological/biochemical traits:

Variants and frequency:

SY Harrison has been uniform and stable since 2010. Approximately 0.8% of the plants were rogued from the Breeder's seed increase in 2010. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 5% were awnless. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the fall of 2013
8. Plant Variety Protection is anticipated in 2012 and SY Harrison may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY Southwind (BC01138-45)

1. SY Southwind is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY Southwind is the result of a cross W99-188\$-1/BC950814-1-1 made in the spring of 2001 by Syngenta Seeds, Inc.
3. SY Southwind is best adapted to Central and Eastern Kansas as well as North Central Oklahoma and South Central Nebraska.
4. SY Southwind is resistant to leaf rust and Hessian fly, moderately resistant to stripe rust, septoria and tan spot.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: common</u> | 2. <u>Seasonal growth habit: winter</u> |
| 3. <u>Coleoptile color: red</u> | 4. <u>Juvenile growth habit: semierect</u> |
| 5. <u>Leaf color at boot: dark green</u> | 6. <u>Flag leaf at boot: erect, twisted, waxy</u> |
| 7. <u>Auricle color: purple</u> | 8. <u>Days to 50% heading: 127</u> |
| 9. <u>Anther color: yellow</u> | 10. <u>Stem color: white</u> |
| 11. <u>Plant height (cm): 82</u> | 12. <u>Internodes: hollow</u> |
| 13. <u>Spike shape: tapering</u> | 14. <u>Spike density: middense</u> |
| 15. <u>Spike curvature: inclined</u> | 16. <u>Awn type: awned</u> |
| 17. <u>Awn color: white</u> | 18. <u>Glume color: white</u> |
| 19. <u>Glume length: medium</u> | 20. <u>Shoulder shape: square</u> |
| 21. <u>Shoulder width: medium</u> | 22. <u>Beak shape: acuminate</u> |
| 23. <u>Beak length (S, M, L, V): M</u> | 24. <u>Glume pubescence: absent</u> |
| 25. <u>Seed color: red</u> | 26. <u>Seed shape: ovate</u> |
| 27. <u>Cheeks: angular</u> | 28. <u>Brush size (S, M, L): M</u> |
| 29. <u>Avg 1,000 kernel wt (g): 36</u> | 30. <u>Phenol reaction:</u> |

Physiological/biochemical traits:

Variants and frequency: SY Southwind has been uniform and stable since 2010. Approximately 0.8% of the plants were rogued from the Breeder's seed increase in 2010. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 5% were awnletted. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed available will be available in the fall of 2013.
8. Plant Variety Protection is anticipated in 2012 and SY Southwind may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



NE05496 (NE05496)

1. NE005496 (EXP NE05496) is a hard red winter wheat that was developed by the University of Nebraska and intended for grain production. The USDA-ARS is a co-developer of this line.
2. NE05496 was selected primarily for its stem rust and wheat soilborne mosaic virus resistance, good end-use quality, and agronomic performance in rainfed environments in west central Nebraska using a modified bulk breeding method.
3. NE05496 was tested in the Southern Great Plains including Nebraska and is adapted to rainfed wheat production systems in west central Nebraska and neighboring areas in adjacent states
4. NE05496 is moderately resistant to moderate susceptible to stem rust (caused by *Puccinia graminis Pers.: Pers. f. sp. tritici* Eriks & E. Henn.) in field nursery tests inoculated with a composite of stem rust races (RCRS, QFCS, QTHJ, RKQQ, and TPMK). In greenhouse tests, it is resistant to races TPMK, QFCS (the most common race of stem in the Great Plains), and RCRS, but susceptible to race TTTT and RKQQ (Table 3). NE05496 is resistant to soilborne wheat mosaic virus and moderately resistant to Hessian fly (*Mayetiola destructor* Say). (Table 4). It is moderately susceptible to leaf rust (caused by *P. triticina* Eriks) and, stripe rust (caused by *P. striiformis* Westendorp f. sp. *tritici*). It is susceptible to wheat streak mosaic virus (field observations in NE). It also may have resistance to a new wheat disease (wheat blast) incited by *Megaporthe grisea* (Herbert) Barr which has emerged in South America (see attached email from Dr. Gary Peterson).

5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|--|
| 1. <u>Kind:</u> Common | 2. <u>Seasonal growth habit:</u> winter |
| 3. <u>Coleoptile color:</u> white | 4. <u>Juvenile growth habit:</u> prostrate |
| 5. <u>Leaf color at boot:</u> green | 6. <u>Flag leaf at boot:</u> erect,* |
| 7. <u>Auricle color:</u> white | 8. <u>Days to 50% heading:</u> 141 |
| 9. <u>Anther color:</u> yellow | 10. <u>Stem color:</u> green |
| 11. <u>Plant height (cm):</u> 81 | 12. <u>Internodes:</u> hollow |
| 13. <u>Spike shape:</u> tapering | 14. <u>Spike density:</u> lax |
| 15. <u>Spike curvature:</u> nodding | 16. <u>Awn type:</u> awned |
| 17. <u>Awn color:</u> white | 18. <u>Glume color:</u> white/amber |
| 19. <u>Glume length:</u> short | 20. <u>Shoulder shape:</u> square |
| 21. <u>Shoulder width:</u> narrow | 22. <u>Beak shape:</u> acuminate |
| 23. <u>Beak length:</u> M | 24. <u>Glume pubescence:</u> glabrous |
| 25. <u>Seed color:</u> red | 26. <u>Seed shape:</u> ovate |
| 27. <u>Cheeks:</u> rounded | 28. <u>Brush size (S,M, L):</u> L |
| 29. <u>Avg 1,000 kernel wt (g):</u> 30 | 30. <u>Phenol reaction:</u> Not tested |

Physiological/biochemical traits:

- Not-twisted, wax absent

Variants and frequency: NE05496 has been uniform and stable since 2009. Less than 0.5 % of the plants were rogued from the Breeder's seed increase in 2009-11. The rogued variant plants were taller in height (5 - 15 cm) or were awnless and/or with red chaff. Up to 1% (10:1000) variant plants may be encountered in subsequent generations.

6. The seed classes will be Breeder, Foundation, Registered, and Certified. NE01481 will be submitted for plant variety protection under P.L. 10577 with the certification option.
7. Certified seed will be available in September, 2013, but small quantities may be available in September, 2012
8. NE005496 will be submitted for plant variety protection under P.L. 10577 with the certification option.
9. Certified acreage may be published by AOSCA or the certifying agencies



WB9010 (DA905-10)

1. WB9010 is a hard red spring wheat bred and developed by WestBred, a unit of Monsanto Company.
2. WB9010 was selected for stripe rust resistance, yield, % protein, good baking characteristics and plant height.
1. WB9010 is adapted to the wheat growing areas of the Central Valleys of California. The primary use will be for flour to make raised loaf bread.
4. WB9010 shows a resistant reaction to the current field races of stripe rust in California.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: Common Hard Red</u> | 2. <u>Seasonal growth habit: Spring</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Erect, twisted, waxy</u> |
| 7. <u>Auricle color: Purple</u> | 8. <u>Days to 50% heading: 87</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: White</u> |
| 11. <u>Plant height (cm): 94</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Lax</u> |
| 15. <u>Spike curvature: Inclined</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Long</u> | 20. <u>Shoulder shape: Square</u> |
| 21. <u>Shoulder width: Wide</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length (S, M, L, VL):M</u> | 24. <u>Glume pubescence: Absent</u> |
| 25. <u>Seed color: Red</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): L</u> |
| 29. <u>Avg 1.000 kernel wt (g): 42</u> | 30. <u>Phenol reaction: Dark Brown</u> |

Physiological/biochemical traits:

Variants and frequency: WB9010 has been observed for three generations of reproduction and increase and is stable and uniform. WB9010 has a taller variant that is 12-30 cm taller that occurs at a frequency of up to .2%. A white seed variant occurs at a frequency of up to .2%. The variants are otherwise identical in all other characteristics as described in the Objective descriptions.

6. The certified classes of seed to be recognized are Breeder, Foundation, Registered and Certified. WestBred, a unit of Monsanto Company, will maintain the breeder seed by planting spike rows as needed. Monsanto Company will produce all foundation seed either from breeder seed or foundation class seed. Production of registered and certified seed will be by license to associate seed companies. A royalty fee will be collected on all registered and certified seed sales.
7. Certified seed will first be offered for sale in the fall of 2012.
8. Plant Variety Protection will be applied for and the “Certification Option” will not be selected
9. Certified acreage is not to be published by AOSCA and certifying agencies.



WB9229 (SJ907-229)

1. WB9229 is a hard red spring wheat bred and developed by WestBred, a unit of Monsanto Company.
2. WB9229 was selected for resistance to stripe rust and high protein using a modified bulk breeding method.
3. WB9229 is adapted to the wheat growing areas of the Central Valleys of California. The primary use will be for flour to make raised loaf bread.
4. WB9229 is resistant to the current field races of stripe rust in California.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: Common Hard Red</u> | 2. <u>Seasonal growth habit: Spring</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Erect, twisted, waxy</u> |
| 7. <u>Auricle color: White</u> | 8. <u>Days to 50% heading: 88</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: White</u> |
| 11. <u>Plant height (cm): 92</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Lax</u> |
| 15. <u>Spike curvature: Inclined</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Long</u> | 20. <u>Shoulder shape: Oblique</u> |
| 21. <u>Shoulder width: Wide</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length (S, M, L, VL):M</u> | 24. <u>Glume pubescence: Present</u> |
| 25. <u>Seed color: Red</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): L</u> |
| 29. <u>Avg 1.000 kernel wt (g): 39</u> | 30. <u>Phenol reaction: Dark Brown</u> |
- Physiological/biochemical traits:

Variants and frequency: WB9229 has been observed for three generations of reproduction and increase and is stable and uniform. WB9229 has a taller variant that is 12-30 cm taller that occurs at a frequency of up to .2%. A white seed variant occurs at a frequency of up to .2%. The variants are otherwise identical in all other characteristics as described in the Objective descriptions.

6. The certified classes of seed to be recognized are Breeder, Foundation, Registered and Certified. WestBred, a unit of Monsanto Company, will maintain the breeder seed by planting spike rows as needed. Monsanto Company will produce all foundation seed either from breeder seed or foundation class seed. Production of registered and certified seed will be by license to associate seed companies. A royalty fee will be collected on all registered and certified seed sales.
7. Certified seed will first be offered for sale in the fall of 2012.
8. Plant Variety Protection will be applied for and the 'Certification Option' will not be elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies



WB-Joaquin Oro (SJ909-369)

1. WB-Joaquin Oro is a hard red spring wheat bred and developed by WestBred, a unit of Monsanto Company..
2. WB-Joaquin Oro was selected for similarity to “Joaquin” for morphological, agronomic and quality traits. The breeding method was backcross.
3. WB-Joaquin Oro is adapted to the wheat growing areas of the San Joaquin Valley in California. The primary use will be for flour to make raised loaf bread.
4. WB-Joaquin Oro is resistant to the current field races of stripe rust in California. It is susceptible to Septoria tritici.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---------------------------------------|---|
| 1. <u>Kind: Common Hard Red</u> | 2. <u>Seasonal growth habit: Spring</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Erect, twisted, waxy</u> |
| 7. <u>Auricle color: Purple</u> | 8. <u>Days to 50% heading: 80</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: White</u> |
| 11. <u>Plant height (cm): 96</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Lax</u> |
| 15. <u>Spike curvature: Inclined</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Long</u> | 20. <u>Shoulder shape: Elevated</u> |
| 21. <u>Shoulder width: Narrow</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length (S, M, L, VL):</u> | 24. <u>Glume pubescence: Absent</u> |
| 25. <u>Seed color: Red</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): M</u> |
| 29. <u>Avg 1,000 kernel wt (g):42</u> | 30. <u>Phenol reaction: Dark Brown</u> |

Physiological/biochemical traits:

Variants and frequency: WB-Joaquin Oro has been observed for three generations of reproduction and increase and is stable and uniform. WB-Joaquin Oro has a taller variant that is 12-30 cm taller that occurs at a frequency of up to .2%. A white seed variant occurs at a frequency of up to .2%. The variants are otherwise identical in all other characteristics as described in the Objective descriptions.

6. The certified classes of seed to be recognized are Breeder, Foundation, Registered and Certified. WestBred, a unit of Monsanto Company, will maintain the breeder seed by planting spike rows as needed. Monsanto Company will produce all foundation seed either from breeder seed or foundation class seed. Production of registered and certified seed will be by license to associate seed companies. A royalty fee will be collected on all registered and certified seed sales.
7. Certified seed will first be offered for sale in the fall of 2011.
8. Plant Variety Protection has been applied for and the “Certification Option” was not selected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



WB-Patron (YU908-017)

1. WB-Patron is a hard red spring wheat bred and developed by WestBred, a unit of Monsanto Company.
2. WB-PATRON was selected for stripe rust resistance, high forage yield, earliness relative to PR 1404, high test weight, high grain yield, forage quality and resistance to lodging. A modified bulk breeding method was used.
3. WB-Patron is adapted to the forage wheat growing areas of California. The primary use for WB-Patron will be for whole plant forage.
4. WB-Patron is resistant to the current field races of stripe rust in California.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind: Common Hard Red</u> | 2. <u>Seasonal growth habit: Spring</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Erect, twisted, waxy</u> |
| 7. <u>Auricle color: White</u> | 8. <u>Days to 50% heading: 88</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: White</u> |
| 11. <u>Plant height (cm): 99</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Lax</u> |
| 15. <u>Spike curvature: Inclined</u> | 16. <u>Awn type: Awnletted</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Long</u> | 20. <u>Shoulder shape: Rounded</u> |
| 21. <u>Shoulder width: Narrow</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length (S, M, L, VL): L</u> | 24. <u>Glume pubescence: Present</u> |
| 25. <u>Seed color: Red</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): L</u> |
| 29. <u>Avg 1,000 kernel wt (g): 40</u> | 30. <u>Phenol reaction: Dark Brown</u> |

Physiological/biochemical traits:

Variants and frequency: WB-Patron has been observed for four generations (F5-F8) of reproduction and seed increase and is stable and uniform. WB-Patron has a white seed variant that occurs at a frequency of 0.2%. A taller variant that is 12-30 cm taller occurs at a frequency of up to 0.2%. An awned variant occurs at a frequency of up to 0.2%. The variants are otherwise identical to the variety in all other characteristics.

6. The certified classes of seed to be recognized are Breeder, Foundation, Registered and Certified. WestBred, a unit of Monsanto Company, will maintain the breeder seed by planting spike rows as needed. Monsanto Company will produce all foundation seed either from breeder seed or foundation class seed. Production of registered and certified seed will be by license to associate seed companies. A royalty fee will be collected on all registered and certified seed sales.
7. Certified seed will first be offered for sale in the fall of 2011.
8. Plant Variety Protection has been applied for and the “Certification Option” was not selected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



WB-Perla (SJ909-371W)

1. WB-Perla is a spring growth habit hard white wheat bred and developed by WestBred, a unit of Monsanto Company.
2. WB-Perla was selected for white seed and for similarity to 'Joaquin' for morphological, agronomic and quality traits. The backcross breeding method was used.
3. WB-Perla is adapted to the wheat growing areas of the San Joaquin Valley in California. The primary use will be for flour to make raised loaf bread.
4. WB-Perla is resistant to the current field races of stripe rust in California. It is susceptible to Septoria tritici.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind: Common Hard White</u> | 2. <u>Seasonal growth habit: Spring</u> |
| 3. <u>Coleoptile color: White</u> | 4. <u>Juvenile growth habit: Erect</u> |
| 5. <u>Leaf color at boot: Green</u> | 6. <u>Flag leaf at boot: Erect, twisted, waxy</u> |
| 7. <u>Auricle color: Purple</u> | 8. <u>Days to 50% heading: 83</u> |
| 9. <u>Anther color: Yellow</u> | 10. <u>Stem color: White</u> |
| 11. <u>Plant height (cm):94</u> | 12. <u>Internodes: Hollow</u> |
| 13. <u>Spike shape: Tapering</u> | 14. <u>Spike density: Lax</u> |
| 15. <u>Spike curvature: Inclined</u> | 16. <u>Awn type: Awned</u> |
| 17. <u>Awn color: White</u> | 18. <u>Glume color: White/Amber</u> |
| 19. <u>Glume length: Long</u> | 20. <u>Shoulder shape: Elevated</u> |
| 21. <u>Shoulder width: Narrow</u> | 22. <u>Beak shape: Acuminate</u> |
| 23. <u>Beak length (S, M, L, VL):M</u> | 24. <u>Glume pubescence: Absent</u> |
| 25. <u>Seed color: White</u> | 26. <u>Seed shape: Elliptical</u> |
| 27. <u>Cheeks: Rounded</u> | 28. <u>Brush size (S,M, L): M</u> |
| 29. <u>Avg 1,000 kernel wt (g): 42</u> | 30. <u>Phenol reaction: Dark Brown</u> |
- Physiological/biochemical traits:

Variants and frequency: WB-Perla has been observed for three generations of reproduction and increase and is stable and uniform. WB-Perla has a taller variant that is 12-30 cm taller that occurs at a frequency of up to .2%. A red seed variant occurs at a frequency of up to .2%. The variants are otherwise identical in all other characteristics as described in the Objective descriptions.

6. The certified classes of seed to be recognized are Breeder, Foundation, Registered and Certified. WestBred, a unit of Monsanto Company, will maintain the breeder seed by planting spike rows as needed. Monsanto Company will produce all foundation seed either from breeder seed or foundation class seed. Production of registered and certified seed will be by license to associate seed companies. A royalty fee will be collected on all registered and certified seed sales.
7. Certified seed will first be offered for sale in the fall of 2011
8. Plant Variety Protection has been applied for and the "Certification Option" was not selected
9. Certified acreage is not to be published by AOSCA and certifying agencies.



Shooter (O7-LFWH)

1. Shooter is a spring forage oat developed, produced, and marketed by Oregro Seeds, Inc. of Albany, OR
2. Shooter oat is a single plant outcross of Intimidator oats, characterized by tall plant height, increased leaf width and length, equilateral panicles, and very high indeterminate tillering.
3. Shooter oat was tested in Georgia and Florida by the University of Georgia and is adapted to forage production in areas with similar environments.
4. Not tested.
5. **Objective descriptors:**

Seasonal plant growth habit: facultative

Tillering capacity: high

Flag leaf attitude at booting: drooping

Leaf margin texture: glabrous

Ligules: present

Stem (culm) color at maturity: yellow

Pubescence at stem nodes: few

Panicle shape: equilateral

Relative Panicle width: broad

Rachis flexuousness: erect

Branch position: spreading

Floret separation mechanism: heterofracture

Number of florets per spikelet: 2-4

Relative length of glumes: long

Mature glume color: white

Mature lemma color: white

Awn frequency on 1st floret: infrequent

Seed,fluorescence:

Seed basal hairs: few

Seeds are most similar to (known variety): Intimidator

Juvenile growth habit: erect

Leaf color at booting: dark green

Relative time of heading: mid-season

Relative width first leaf below flag: wide

Leaf sheath texture: glabrous

Relative stem (culm) diameter: coarse

Relative total plant height: tall

Relative panicle size: large

Relative panicle length: mid-long

Average number of branch whorls: 4-7

Spikelet separation mechanism: fracture

2nd floret rachilla segment pubescence: no

Average number of veins on glumes: 9

Relative lemma length: long

Pubescence on lemma dorsal surface: yes

Awn type, if present: twisted/geniculate

Seed shape: slender

Average weight/1,000 seeds: 28.7gm

Variants (Describe, including frequency of occurrence; not to include off-types): none

6. Shooter classes include breeder, foundation, registered, and certified. Oregro Seeds, Inc. is responsible for maintaining adequate breeder seed stocks in long term storage, and will also produce all classes of seed. No royalties or licenses are anticipated.
7. If accepted, certified seed will be available in 2012.
8. PVP protection has not been decided upon. AOSCA can share information from this application with
9. Certified seed acreage is not to be released by AOSCA except by owner's permission.

