

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



**ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES**

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ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES  
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The Association of Official Seed Certifying Agencies (AOSCA), National Small Grain Variety Review Board (NSGVRB), reviewed the following varieties on March 18, 2009, in Houston, Texas. 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:

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Respectfully submitted,

Steve Sebesta, Chairman  
National Small Grains Variety Review Board

## 2009 AOSCA SMALL GRAIN VARIETY REVIEW BOARD

### TABLE OF CONTENTS

**PLACING THE CURSOR OVER THE DESIRED VARIETY/EXPERIMENTAL DESIGNATION & CLICKING WILL TAKE YOU DIRECTLY TO THE SUMMARY DESCRIPTION.**

Company	Page	Variety Name	Experimental Designation
<b>Wheat</b>			
Kansas State University Research Foundation	1	<a href="#">Everest</a>	<a href="#">KS970093-8-9-#1</a>
Ohio Seed Improvement	2	<a href="#">Sunburst</a>	<a href="#">Gypsy, SE91-1492-4</a>
Syngenta Seeds	3	<a href="#">AP Legacy</a>	<a href="#">OR F2 BC9800267-03</a>
Syngenta Seeds	4	<a href="#">Brennan</a>	<a href="#">01S0042-10</a>
Syngenta Seeds	5	<a href="#">Bullseye</a>	<a href="#">B02-0081</a>
Syngenta Seeds	6	<a href="#">Jackpot</a>	<a href="#">AP04T8211</a>
Syngenta Seeds	7	<a href="#">Jenna</a>	<a href="#">00S0291-3</a>
Syngenta Seeds	8	<a href="#">Legion</a>	<a href="#">99x1009-23</a>
Syngenta Seeds	9	<a href="#">Oakes</a>	<a href="#">03JH000543 or B030543</a>
Syngenta Seeds	10	<a href="#">W1062</a>	<a href="#">TW110-062</a>
Syngenta Seeds	11	<a href="#">W1104</a>	<a href="#">M03-3104B</a>
Syngenta Seeds	12	<a href="#">W1566</a>	<a href="#">M04-4566</a>
Syngenta Seeds	13	<a href="#">Whetstone</a>	<a href="#">W98-344</a>
WestBred LLC AZ	14	<a href="#">WB-Cristallo</a>	<a href="#">DA904-32W</a>
WestBred LLC KS	15		<a href="#">HV9W03-539R</a>
WestBred LLC KS	16		<a href="#">HV9W03-696R</a>
WestBred LLC ND	17	<a href="#">Boomer</a>	<a href="#">CA9W07-819</a>
WestBred LLC ND	18	<a href="#">Striker</a>	<a href="#">CA9W07-818</a>
WestBred LLC ND	19		<a href="#">CA907-816W</a>
WestBred LLC ND	20		<a href="#">CA9W07-817</a>
WestBred LLC ND	21	<a href="#">Brogan</a>	<a href="#">CA905-780</a>
WestBred LLC ND	22		<a href="#">BZ903-504</a>
WestBred LLC ND	23	<a href="#">Edge</a>	<a href="#">CA905-781</a>
<b>Barley</b>			
WestBred LLC ND	24		<a href="#">CA506-705</a>

## Everest (KS970093-8-9-#1)

1. Everest is a hard red winter wheat developed by the Kansas Agricultural Experiment Station.
2. Everest was selected for yield, disease resistance and test weight using a modified bulk procedure.
3. Everest is best adapted to eastern and central Kansas and adjoining regions of other states. Its susceptibility to drought limits expansion westward.
4. Everest is resistant to leaf rust, stripe rust, soil-borne mosaic virus, spindle streak mosaic virus, barley yellow dwarf virus and Hessian fly. It is also moderately resistant to Fusarium head blight.
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 at boot:Recurved/not twst</u> |
| 7. <u>Auricle color: White</u>            | 8. <u>Days to 50% heading: 137</u>            |
| 9. <u>Anther color: Yellow</u>            | 10. <u>Stem color: no anthocyanin</u>         |
| 11. <u>Plant height (cm): 68</u>          | 12. <u>Internodes: hollow</u>                 |
| 13. <u>Spike shape: tapering</u>          | 14. <u>Spike density: mid-dense</u>           |
| 15. <u>Spike curvature: nodding</u>       | 16. <u>Awn type: awned</u>                    |
| 17. <u>Awn color: Tan</u>                 | 18. <u>Glume color: Tan</u>                   |
| 19. <u>Glume length: Medium</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: Red</u>                | 26. <u>Seed shape: Elliptical</u>             |
| 27. <u>Cheeks: Rounded</u>                | 28. <u>Brush size (S,M, L) S</u>              |
| 29. <u>Avg 1,000 kernel wt (g): 31.36</u> | 30. <u>Phenol reaction: Dark brown</u>        |
| 31. <u>Other:</u>                         |   |

Physiological/biochemical traits:

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

Variants and frequency: 1 in 5,000 tall

6. Head row, progeny row, or intensively rogued seed blocks will be used to maintain breeder seed. The Foundation seed program of the Kansas Agricultural Experiment Station will produce all foundation seed. Foundation, Registered and Certified seed classes will be used.
7. Likely first sale of Everest will occur in the Fall of 2009.
8. Application will be made for Plant Variety Protection with the Certification Option.
9. Certified seed production acreage may be published by AOSCA.



## Sunburst (Gypsy, SE91-1492-4)

1. Sunburst is a common soft red winter wheat developed by the Sunbeam Extract Company.
2. Sunburst was selected for its winter hardiness, test weight, high yield potential, tolerance to scab and resistance to leaf stripe rust and stem rust.
3. Sunburst is widely adapted to the Eastern Corn Belt, more specifically to Ohio, Michigan, Pennsylvania, and parts of Canada. Sunburst is intended for the general purpose wheat market.
4. Sunburst is resistant to powdery mildew, moderately resistant to stem rust, moderately susceptible to leaf rust, has good scab resistance and is resistant to leaf stripe rust and susceptible to Hessian fly.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind</u> : Common, soft red winter           | 2. <u>Growth habit</u> : Winter                             |
| 3. <u>Coleoptile color</u> : 60% White, 40% Purple | 4. <u>Juvenile growth habit</u> : Erect                     |
| 5. <u>Leaf color at boot</u> : Blue-Green          | 6. <u>Flag leaf at boot</u> : Erect, Twisted, No Waxy Bloom |
| 7. <u>Auricle color</u> : White                    | 8. <u>Days to 50% heading</u> : 145                         |
| 9. <u>Anther color</u> : Yellow                    | 10. <u>Stem color</u> : White                               |
| 11. <u>Plant height (cm)</u> : 81                  | 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> : N/A                         | 18. <u>Glume color</u> : Tan                                |
| 19. <u>Glume length</u> : Long                     | 20. <u>Shoulder shape</u> : Wanting                         |
| 21. <u>Shoulder width</u> : Narrow                 | 22. <u>Beak shape</u> : Acuminate                           |
| 23. <u>Beak length (S, M, L, VL)</u> : M           | 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> : 37.5          | 30. <u>Phenol reaction</u> :                                |
| 31. <u>Other</u> :                                 |   |

Physiological/biochemical traits:

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

Variants and frequency: Green stage variants include: .05% yellow green tall; 05% yellow green awned; .35% yellow green; .05% tall awned; .1% tall, for a combined variant off-type total of .6%. Up to 1% total variants allowed.

6. Ohio Foundation Seed will maintain breeder seed. The certified classes of seed will be Foundation, Registered, and Certified.
7. Foundation seed will be available in the fall of 2008, with limited certified seed available in 2009.
8. Application for PVP title V will be made and the Certification Option will be elected.
9. Acreage will be published by AOSCA and certifying agencies.



## AP Legacy ( OR F2 BC9800267-03 )

1. AP Legacy is a soft white winter wheat bred and developed by Syngenta Seeds, Inc.
2. AP Legacy was an F3 derived, single plant selection from the cross: Stephens/Madsen//Rod. The final cross for AP Legacy was made in 1998 by Dr. C.J. Peterson, Oregon State University who made the population available to AgriPro Wheat in 1999. The plant selection based upon plant height, fertility and the absence of stripe rust was made in Matawa, Washington in 2000.
3. AP Legacy is best adapted to higher rainfall dryland production in Eastern Washington, West-central Idaho and Northeastern Oregon and dryland production along the Highway 2 corridor of Washington.
4. AP Legacy is resistant to current prevalent races of stripe rust and has shown moderate resistance to dryland footrot.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
  1. Kind: soft white winter wheat
  2. Growth habit: winter
  3. Coleoptile color: white
  4. Juvenile growth habit: semierect
  5. Leaf color at boot: green
  6. Flag leaf at boot: recurved, twisted, waxy
  7. Auricle color: purple
  8. Days to 50% heading: 166
  9. Anther color: yellow
  10. Stem color: white
  11. Plant height (cm): 114
  12. Internodes: hollow
  13. Spike shape: strap (oblong)
  14. Spike density: middense
  15. Spike curvature: inclined
  16. Awn type: awned
  17. Awn color: white
  18. Glume color: white
  19. Glume length: medium
  20. Shoulder shape: wanting
  21. Shoulder width: narrow
  22. Beak shape: acuminate
  23. Beak length (S, M, L, VL): L
  24. Glume pubescence: absent
  25. Seed color: white
  26. Seed shape: ovate
  27. Cheeks: angular
  28. Brush size (S,M, L) L
  29. Avg 1,000 kernel wt (g): 33
  30. Phenol reaction: -----
  31. Other:  
Physiological/biochemical traits:  
Other characteristics (e.g., herbicide tolerance):  
Variants and frequency: AP Legacy has been uniform and stable since 2007. Less than 0.7% of the plants were rogued from the breeder seed increase in 2007. Approximately 96% of the variant plants were taller height wheat plants and approximately 4% were awnletted wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations. Up to 0.7% red seeds may be encountered in subsequent generations.
6. Recognized classes of AP Legacy are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. AP Legacy may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of AP Legacy will likely be available in the fall of 2010.
8. Plant Variety Protection is anticipated in the fall of 2009 and AP Legacy may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Brennan (01S0042-10)

1. Brennan is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. Brennan was selected for early maturity, short height and good strong straw strength using a modified single seed descent breeding method.
3. Brennan is broadly adapted to the spring wheat growing areas of North and South Dakota, Minnesota and Montana.
4. Brennan is moderately resistant to the prevalent races of leaf rust. It has good tolerance to natural infections of foliar disease complex, i.e., tan spot and septoria.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

1. Kind: hard red spring

2. Growth habit: spring

3. Coleoptile color: absent or white

4. Juvenile growth habit: erect

5. Leaf color at boot: dark green

6. Flag leaf at boot: recurved, twisted, waxy

7. Auricle color: white

8. Days to 50% heading: 171

9. Anther color: yellow

10. Stem color: white

11. Plant height (cm): 72

12. Internodes: hollow

13. Spike shape: tapering

14. Spike density: middense

15. Spike curvature: inclined

16. Awn type: awned

17. Awn color: white

18. Glume color: white

19. Glume length: midlong

20. Shoulder shape: square

21. Shoulder width: medium

22. Beak shape: acuminate

23. Beak length (S, M, L, VL): M

24. Glume pubescence: absent

25. Seed color: red

26. Seed shape: ovate

27. Cheeks: angular

28. Brush size (S, M, L) M

29. Avg 1,000 kernel wt (g): 35

30. Phenol reaction:

31. Other:

Physiological/biochemical traits:

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

Variants and frequency:

Brennan has been uniform and stable since 2007. About 0.8% of the plants were rogued from the initial breeders seed increase in 2007-8. Approximately 90% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 5% were a bluer plant color at boot and 5% were awnletted. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Brennan are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Brennan may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of Brennan will likely be available in the spring of 2010.
8. Plant Variety Protection is anticipated in 2009 and Brennan may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Bullseye

1. Bullseye is a hard red spring wheat bred and developed Syngenta Seeds, Inc.
2. The final cross for Bullseye was made in Argentina in 1996 (cross # 260163). Generations F1 through F5 (1997 to 2001) were grown in the field in La Dulce. Sixteen F2 plants were selected for plant height, spike fertility and disease resistance.
3. Bullseye is higher rainfall dryland production in Eastern Washington, West-central Idaho and Northeastern Oregon and irrigated production in the basin of Washington and Southern Idaho.
4. Bullseye is moderately resistant to current predominant races of stripe rust, has shown good field tolerance to fusarium head scab and is resistant to a Kansas population of Hessian fly but susceptible to Hessian fly biotype L.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |  |
|--|--|
| 1. <u>Kind: hard red spring wheat</u>    | 2. <u>Growth habit: spring</u>                       |
| 3. <u>Coleoptile color: white</u>        | 4. <u>Juvenile growth habit: erect</u>               |
| 5. <u>Leaf color at boot: dark green</u> | 6. <u>Flag leaf at boot: recurved, twisted, waxy</u> |
| 7. <u>Auricle color: purple</u>          | 8. <u>Days to 50% heading: 159</u>                   |
| 9. <u>Anther color: yellow</u>           | 10. <u>Stem color: white</u>                         |
| 11. <u>Plant height (cm): 83</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): ML</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) S</u>                     |
| 29. <u>Avg 1.000 kernel wt (g): 35</u>   | 30. <u>Phenol reaction:</u>                          |
| 31. <u>Other:</u>                        |  |

Physiological/biochemical traits:

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

Bullseye was uniform and stable in 2008. Less than 0.8% of the plants were rogued from the breeders seed increase in 2008. Approximately 90% of the variant plants were taller height wheat plants and approximately 10% were shorter wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Bullseye are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Bullseye may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Limited quantities of foundation seed will be available in the spring of 2009. Certified seed stocks of Bullseye will likely be available in the spring of 2010.
8. Plant Variety Protection will be submitted in 2009 and Bullseye may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Jackpot

1. Jackpot is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. Jackpot is the result of a cross made in 1999 by Syngenta Seeds, Inc. in Berthoud, Colorado. Jackpot was selected for early maturity, medium height semidwarf with good test weight patterns.
3. Jackpot has been tested regionally since 2005 by Syngenta in Texas, Nebraska, South Dakota, Colorado Oklahoma and Kansas. It appears to be best adapted to southern Kansas, Texas and Oklahoma.
4. It has moderate resistance to leaf rust and resistant to the prevalent races of stripe rusts.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |  |
|--|--|
| 1. <u>Kind: hard red winter wheat</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 at boot: recurved, twisted, waxy</u> |
| 7. <u>Auricle color: purple</u>          | 8. <u>Days to 50% heading: 99</u>                    |
| 9. <u>Anther color: yellow</u>           | 10. <u>Stem color: bronze</u>                        |
| 11. <u>Plant height (cm): 37in</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: bronze</u>             | 18. <u>Glume color: Brown or bronze</u>              |
| 19. <u>Glume length: long</u>            | 20. <u>Shoulder shape: rounded</u>                   |
| 21. <u>Shoulder width: wide</u>          | 22. <u>Beak shape: acuminate</u>                     |
| 23. <u>Beak length (S, M, L, VL): VL</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>                          |
| 31. <u>Other:</u>                        |  |

Physiological/biochemical traits:

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

Variants and frequency: Jackpot has been uniform and stable since 2006. Less than 0.8% of the plants were rogued from the breeder and foundation seed increases. 90 % of the variant plants were taller height wheat plants (8 to 15 cm). 5% of the variant plants were awnletted and 5% of the variant plants were white chaffed. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Jackpot are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Jackpot may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed sales of Jackpot will be available in the fall of 2009.
8. Plant Variety Protection will be submitted in 2009 and Jackpot may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Jenna

1. Jenna is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. Jenna was selected for high yield, disease resistance and semidwarf height using a modified single seed descent breeding method.
3. Jenna is broadly adapted to the spring wheat growing areas of North Dakota, Minnesota and Montana.
4. It is moderately resistant to the prevalent races of leaf rust. Foliar disease protection is very good. Jenna has intermediate tolerance to scab.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind: hard red spring wheat</u>    | 2. <u>Growth habit: spring</u>                        |
| 3. <u>Coleoptile color: white</u>        | 4. <u>Juvenile growth habit: erect</u>                |
| 5. <u>Leaf color at boot: blue green</u> | 6. <u>Flag leaf at boot: recurved, twisted, waxey</u> |
| 7. <u>Auricle color: purple</u>          | 8. <u>Days to 50% heading: 175</u>                    |
| 9. <u>Anther color: yellow</u>           | 10. <u>Stem color: white</u>                          |
| 11. <u>Plant height (cm): 77</u>         | 12. <u>Internodes: hollow</u>                         |
| 13. <u>Spike shape: strap (oblong)</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 (S, M, L, VL):</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) L</u>                      |
| 29. <u>Avg 1,000 kernel wt (g): 37</u>   | 30. <u>Phenol reaction:</u>                           |
| 31. <u>Other:</u>                        |   |

Physiological/biochemical traits:

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

Variants and frequency: Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 5% were awnleted. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Jenna are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Jenna may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Foundation seed stocks of Jenna will be available in the spring of 2009.
8. Plant Variety Protection will be submitted in 2009 and Jenna may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Legion

1. Legion is a soft white winter wheat bred and developed by Syngenta Seeds, Inc. Legion is a tall semidwarf variety and has white chaff at maturity. It has medium maturity and moderate straw strength.
2. The final cross for Legion was made in 1999 and the plant selection based upon plant height, fertility and the absence of stripe rust was made in Walla Walla, Washington in 2001. Legion was advanced to preliminary trials in 2003 on the basis of uniform plant height, standability, fertility and the absence of stripe rust.
3. Legion is best adapted to higher rainfall dryland production in Eastern Washington, West-central Idaho and Northeastern Oregon and dryland production along the Highway 2 corridor of Washington.
4. Legion is resistant to the currently prevalent races of stripe rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
  1. Kind: soft white winter wheat
  2. Growth habit: winter
  3. Coleoptile color: white
  4. Juvenile growth habit: semierect
  5. Leaf color at boot: blue green
  6. Flag leaf at boot: erect, twisted, waxy
  7. Auricle color: purple
  8. Days to 50% heading: 145
  9. Anther color: yellow
  10. Stem color: white
  11. Plant height (cm): 107cm
  12. Internodes: hollow
  13. Spike shape: strap (oblong)
  14. Spike density: middense
  15. Spike curvature: inclined
  16. Awn type: awned
  17. Awn color: white
  18. Glume color: white
  19. Glume length: long
  20. Shoulder shape: wanting
  21. Shoulder width: narrow
  22. Beak shape: acuminate
  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) L
  29. Avg 1,000 kernel wt (g): 32
  30. Phenol reaction: ----
  31. Other:

Physiological/biochemical traits:  
Other characteristics (*e.g.*, herbicide tolerance):  
Variants and frequency: Legion has been uniform and stable since 2005. Less than 0.7% of the plants were rogued from the breeder seed increase in 2006. Approximately 96% of the variant plants were taller height wheat plants and approximately 4% were awnletted wheat plants. Up to 0.7% red seeds may be encountered in subsequent generations. Up to 1.0% variant plants may be encountered in subsequent generations.
6. Recognized classes of Legion are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Legion may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of Legion will likely be available in the fall of 2010.
8. Plant Variety Protection is anticipated in the fall of 2009 and Legion may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Oakes

1. Oakes is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. Oakes was selected for height, appearance, maturity, and kernel soundness.
3. In 2007-08, 03JH000543 was tested in both the Uniform Eastern Soft Red Winter Wheat Nursery and the Uniform Southern Soft Red Winter Wheat Nursery. Oakes (as 03JH000543) is being retested in the Uniform Eastern Soft Red Winter Wheat Nursery and is also being tested in state-run official wheat trials in Arkansas, Mississippi, Alabama, Virginia, North Carolina, Delaware, Pennsylvania, Maryland, Missouri, Tennessee, Kentucky and Kansas in 2008-09.
4. Oakes is resistant to moderately resistant to stripe rust field races prevalent in 2006, 2007 and 2008. Oakes has shown moderate resistance to moderate susceptibility to leaf rust field races prevalent in the midsouth and southeastern US in 2006, 2007 and 2008. Oakes is moderately susceptible to susceptible to powdery mildew in the southeast. Oakes is moderately resistant to moderately susceptible to Wheat Spindle Streak Virus, Soil Borne Mosaic Virus and Septoria tritici. Oakes is susceptible to Hessian Fly.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind</u> : soft red winter         | 2. <u>Growth habit</u> : winter                       |
| 3. <u>Coleoptile color</u> : white       | 4. <u>Juvenile growth habit</u> : semierect           |
| 5. <u>Leaf color at boot</u> : green     | 6. <u>Flag leaf at boot</u> : recurved, twisted, waxy |
| 7. <u>Auricle color</u> : purple         | 8. <u>Days to 50% heading</u> : 108                   |
| 9. <u>Anther color</u> : yellow          | 10. <u>Stem color</u> : white                         |
| 11. <u>Plant height (cm)</u> : 89        | 12. <u>Internodes</u> : hollow                        |
| 13. <u>Spike shape</u> : tapering        | 14. <u>Spike density</u> : middense                   |
| 15. <u>Spike curvature</u> : inclined    | 16. <u>Awn type</u> : apically awnletted              |
| 17. <u>Awn color</u> : white             | 18. <u>Glume color</u> : white                        |
| 19. <u>Glume length</u> : short          | 20. <u>Shoulder shape</u> : oblique                   |
| 21. <u>Shoulder width</u> : midwide      | 22. <u>Beak shape</u> : obtuse                        |
| 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> : 32  | 30. <u>Phenol reaction</u> :                          |
| 31. <u>Other</u> :                       |   |

Physiological/biochemical traits:

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

Variants and frequency: Oakes has been uniform and stable since 2007. Less than 0.8 % of the plants were rogued from the breeders seed increase in 2008. Approximately 95% of the rogued variant plants were taller wheat plants and 5 % were awned wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Oakes are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Oakes may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of Oakes will be available in the fall of 2009.
8. Plant Variety Protection will be submitted in 2009 and Oakes may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## W1062

1. W1062 (TW110-062) is a soft white winter wheat bred by Hyland Seeds, Inc. and licensed to Syngenta Seeds, Inc.
2. W1062 was selected for height, maturity, appearance, and kernel soundness using a doubled-haploid (maize pollinator) breeding method.
3. W1062 has been yield tested in the states of Michigan, Ohio, and New York and has demonstrated best adaptation to the white wheat growing areas of Michigan and NW Ohio. It is best adapted for grain production in Michigan and NW Ohio.
4. W1062 has shown moderate resistance to the current field races of Powdery Mildew in Michigan and has shown moderate resistance to current field races of Leaf Rust in Michigan, NW Ohio, and W. Kentucky.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind: Soft White Winter</u>        | 2. <u>Growth habit: Winter</u>                    |
| 3. <u>Coleoptile color: Red</u>          | 4. <u>Juvenile growth habit: Semi-Erect</u>       |
| 5. <u>Leaf color at boot: Dark Green</u> | 6. <u>Flag leaf at boot: recurved,twisted,wax</u> |
| 7. <u>Auricle color: Purple</u>          | 8. <u>Days to 50% heading: 150.4</u>              |
| 9. <u>Anther color: Purple</u>           | 10. <u>Stem color: white</u>                      |
| 11. <u>Plant height (cm): 90.3</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: awnletted</u>                    |
| 17. <u>Awn color: yellow</u>             | 18. <u>Glume color: yellow</u>                    |
| 19. <u>Glume length: medium</u>          | 20. <u>Shoulder shape: oblique</u>                |
| 21. <u>Shoulder width: medium</u>        | 22. <u>Beak shape: obtuse</u>                     |
| 23. <u>Beak length (S, M, L, VL): S</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): 32</u>   | 30. <u>Phenol reaction: -----</u>                 |
| 31. <u>Other:</u>                        |   |

Physiological/biochemical traits:

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

Variants and frequency:

W1062 has been uniform and stable since 2007. About 0.8% of the plants were rogued from the initial breeders seed increase in 2007-8. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm) and 5% were awned. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of W1062 are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. W1062 may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of W1062 will likely be available in the fall of 2010.
8. Plant Variety Protection is anticipated in the fall of 2009 and W1062 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## W1104

1. W1104 is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. W1104 was selected for height, maturity, appearance, and kernel soundness using a modified bulk breeding method.
3. W1104 has been yield tested in the states of Illinois, Indiana, Kentucky, Michigan, and Ohio and has demonstrated best adaptation to these states of the Midwest (USA). It is best adapted for grain production in these states.
4. W1104 has shown moderate resistance to the current races of Leaf Rust in OH, KY & TN and showed moderate resistance to Soil Virus Complex (WSBMV/WSSMV) at Urbana, IL in 2008. It was moderately susceptible to current races of Powdery Mildew in Michigan in 2007. W1104 is a relatively short semidwarf variety with medium maturity.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |   |   |
|---|---|
| 1. <u>Kind: soft red winter wheat</u>   | 2. <u>Growth habit: winter</u>                    |
| 3. <u>Coleoptile color: white</u>       | 4. <u>Juvenile growth habit: semierect</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: 140.0</u>              |
| 9. <u>Anther color: yellow</u>          | 10. <u>Stem color: white</u>                      |
| 11. <u>Plant height (cm): 85.7 cm</u>   | 12. <u>Internodes: hollow</u>                     |
| 13. <u>Spike shape: strap (oblong)</u>  | 14. <u>Spike density: middense</u>                |
| 15. <u>Spike curvature: inclined</u>    | 16. <u>Awn type: apically awnletted</u>           |
| 17. <u>Awn color: white</u>             | 18. <u>Glume color: white</u>                     |
| 19. <u>Glume length: long</u>           | 20. <u>Shoulder shape: square</u>                 |
| 21. <u>Shoulder width: wide</u>         | 22. <u>Beak shape: obtuse</u>                     |
| 23. <u>Beak length (S, M, L, VL): S</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) L</u>                  |
| 29. <u>Avg 1,000 kernel wt (g) :33</u>  | 30. <u>Phenol reaction: ----</u>                  |
| 31. <u>Other:</u>                       |   |

Physiological/biochemical traits:

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

Variants and frequency: W1104 has been uniform and stable since 2007. Less than 0.8 % of the plants were rogued from the breeder's seed increase in 2008. Approximately 95% of the rogued variant plants were taller wheat plants and 5 % were awned wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of W1104 are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. W1104 may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of W1104 will likely be available in the fall of 2010.
8. Plant Variety Protection is anticipated in the fall of 2009 and W1104 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## W1566

1. W1566 is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. W1566 was selected for height, maturity, appearance, and kernel soundness using a modified bulk breeding method.
3. W1566 has been yield tested in the states of Illinois, Indiana, Kentucky, Michigan, Ohio, Wisconsin, Delaware, Maryland, North Carolina, Pennsylvania, and Virginia and has demonstrated best adaptation to the states of the upper Midwest and the Northeast (USA). It is best adapted for grain production in these states.
4. W1566 has shown resistance to the current field races of Powdery Mildew. It is moderately susceptible to current field races of Leaf Rust and to Soil Virus Complex (WSBMV/WSSMV). It is susceptible to most biotypes of Hessian Fly. W1566 is a relatively tall semidwarf variety with medium maturity.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |   |  |
|---|--|
| 1. <u>Kind: soft red winter wheat</u>   | 2. <u>Growth habit: winter</u>                       |
| 3. <u>Coleoptile color: white</u>       | 4. <u>Juvenile growth habit: semierect</u>           |
| 5. <u>Leaf color at boot: green</u>     | 6. <u>Flag leaf at boot: recurved, twisted, waxy</u> |
| 7. <u>Auricle color: purple</u>         | 8. <u>Days to 50% heading: 136.8</u>                 |
| 9. <u>Anther color: yellow</u>          | 10. <u>Stem color: white, antho absent</u>           |
| 11. <u>Plant height (cm): 100.3 cm</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: awnletted</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: obtuse</u>                        |
| 23. <u>Beak length (S, M, L, VL): S</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): 32</u>  | 30. <u>Phenol reaction: -----</u>                    |
| 31. <u>Other:</u>                       |  |

Physiological/biochemical traits:

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

Variants and frequency: W1566 has been uniform and stable since 2007. Less than 0.8% of the plants were rogued from the Breeder's seed increase in 2007. Approximately 90% of the rogued variant plants were taller height wheat plants and 10% were awned wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of W1566 are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. W1566 may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Limited quantities of foundation seed stocks of W1566 will likely be available in the fall of 2009.
8. Plant Variety Protection will be submitted in the fall of 2009 and W1566 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## Whetstone

1. Whetstone is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. Whetstone is an F3 derived, single plant selection from the cross, the final cross for Whetstone was made in 1994 and the plant selection based upon plant height, fertility and the absence of leaf rust was made in Berthoud, Colorado in 1996.
3. Whetstone has shown good adaptation to 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 Basin of Washington.
4. Whetstone is moderately 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: hard red winter</u>          | 2. <u>Growth habit: winter</u>                       |
| 3. <u>Coleoptile color: purple</u>       | 4. <u>Juvenile growth habit: semierect</u>           |
| 5. <u>Leaf color at boot: green</u>      | 6. <u>Flag leaf at boot: recurved, twisted, waxy</u> |
| 7. <u>Auricle color: purple</u>          | 8. <u>Days to 50% heading: 157</u>                   |
| 9. <u>Anther color: yellow</u>           | 10. <u>Stem color: buckskin</u>                      |
| 11. <u>Plant height (cm): 100</u>        | 12. <u>Internodes: hollow</u>                        |
| 13. <u>Spike shape: strap (oblong)</u>   | 14. <u>Spike density: middense</u>                   |
| 15. <u>Spike curvature: inclined</u>     | 16. <u>Awn type: awned</u>                           |
| 17. <u>Awn color: buckskin</u>           | 18. <u>Glume color: light buckskin</u>               |
| 19. <u>Glume length: midlong</u>         | 20. <u>Shoulder shape: round</u>                     |
| 21. <u>Shoulder width: midwide</u>       | 22. <u>Beak shape: acuminate</u>                     |
| 23. <u>Beak length (S, M, L, VL): ML</u> | 24. <u>Glume pubescence: absent</u>                  |
| 25. <u>Seed color: red</u>               | 26. <u>Seed shape: ovate</u>                         |
| 27. <u>Cheeks: round</u>                 | 28. <u>Brush size (S, M, L) L</u>                    |
| 29. <u>Avg 1,000 kernel wt (g) 34:</u>   | 30. <u>Phenol reaction:</u>                          |
| 31. <u>Other:</u>                        |  |

Physiological/biochemical traits:

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

Variants and frequency: Whetstone has been uniform and stable since 2005. Less than 0.8% of the plants were rogued from the breeders seed increase in 2004. Approximately 94% of the variant plants were taller height wheat plants, 5% were bronze chaffed wheat plants and 0.5% were awnless wheat plants. Up to 0.5% white seed may be encountered in registered and certified seed production. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Whetstone are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Whetstone may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed stocks of Whetstone will likely be available fall of 2009.
8. Plant Variety Protection will be submitted in 2009 and Whetstone may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## WB-Cristallo

1. WB-Cristallo is a hard white wheat developed by WestBred, LLC.
2. WB-Cristallo was selected for resistance to stripe rust and acceptable baking characteristics using a selected spike bulk modified pedigree breeding method.
3. WB-Cristallo was tested in the central valleys of California and is primarily adapted to the irrigated central valleys of California. Its primary use will be for bread flour.
4. WB-Cristallo is resistant to 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</u> : Common                   | 2. <u>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 absent |
| 7. <u>Auricle color</u> : White           | 8. <u>Days to 50% heading</u> : 110                       |
| 9. <u>Anther color</u> : Yellow           | 10. <u>Stem color</u> : White                             |
| 11. <u>Plant height (cm)</u> : 95         | 12. <u>Internodes</u> : Hollow                            |
| 13. <u>Spike shape</u> : Oblong           | 14. <u>Spike density</u> : Lax                            |
| 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> : Long            | 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> : VL | 24. <u>Glume pubescence</u> : Absent                      |
| 25. <u>Seed color</u> : White             | 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> : 40   | 30. <u>Phenol reaction</u> : Light Brown                  |
| 31. <u>Other</u> :                        |   |

Physiological/biochemical traits:

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

Variants and frequency: A 12 to 25 centimeter taller plant occurs at a frequency of up to .2%. A red seed variant occurs at a frequency of up to .2%.

6. WestBred, LLC will maintain breeder seed by planting spike rows as needed. The certified classes of seed will be Foundation, Registered and Certified. WestBred, LLC will produce all foundation seed. A royalty fee will be collected on all registered and certified seed sales by our associate seed companies.
7. Certified seed will be first offered for sale in the fall of 2009.
8. Application for Plant Variety Protection will be made in 2009 and the “Certification Option” will not be elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



## HV9W03-539R

1. HV9W03-539R is a hard red winter wheat developed by WestBred LLC.
2. HV9W03-539R was selected for earliness, leaf rust resistance, baking quality, and yield potential using the pedigree method.
3. HV9W03-539R was tested throughout Kansas, eastern Colorado, southern Nebraska, northern Oklahoma, and the Texas panhandle. It is broadly adapted throughout the central plains as bread wheat.
4. HV9W03-539R is susceptible to Hessian fly, greenbug, and Russian wheat aphid. It is resistant to soil borne mosaic and spindle streak mosaic. It is moderately resistant to powdery mildew. It has adult plant resistance to current races of leaf rust and stem rust, and is moderately susceptible to stripe rust. It has a medium long coleoptile length and has very good winterhardiness. It is medium height and early-medium maturity. Straw strength is good. It is moderately resistant to shattering and has good test weight. The protein quantity is very good, and the milling and baking quality is excellent.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |   |   |
|---|---|
| 1. <u>Kind: Common HRW</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 at boot: erect, twisted, waxy</u> |
| 7. <u>Auricle color: purple</u>             | 8. <u>Days to 50% heading: 131.5</u>              |
| 9. <u>Anther color: yellow</u>              | 10. <u>Stem color: white</u>                      |
| 11. <u>Plant height (cm): 96.5</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: tan</u>                   | 18. <u>Glume color: bronze</u>                    |
| 19. <u>Glume length: long</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, VL): short</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) S</u>                  |
| 29. <u>Avg 1,000 kernel wt (g): 27</u>      | 30. <u>Phenol reaction: light brown</u>           |
| 31. <u>Other:</u>                           |   |

Physiological/biochemical traits:

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

Variants and frequency: Talls > 10 cm (10 in 10000), white chaffed (10 in 10000)

6. Recognized classes of HV9W03-539R are breeder, foundation, registered, and certified. WestBred LLC will maintain the variety through growing remnant breeder seed 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.
7. We anticipate first sale of certified seed in fall 2010.
8. Plant Variety Protection will be applied for. The certification option will not be elected.
9. AOSCA and seed certifying agencies may publish certified seed production acreages.



## HV9W03-696R

1. HV9W03-696R is a hard red winter wheat developed by WestBred LLC.
2. HV9W03-696R was selected for early maturity, leaf rust resistance, Hessian fly resistance, and yield potential using the pedigree method.
3. HV9W03-696R was tested throughout Kansas, eastern Colorado, southern Nebraska, northern Oklahoma, and the Texas panhandle. It is best adapted to the eastern portion of the central plains in areas prone to Hessian fly problems, for use as bread wheat.
4. HV9W03-696R is resistant to Hessian fly, but susceptible to greenbug, and Russian wheat aphid. It is resistant to soil borne mosaic and spindle streak mosaic. It is resistant to powdery mildew. It has adult plant resistance to current races of leaf rust, stem rust, and stripe rust. It has a medium coleoptile length and has good winterhardness. Grazing potential is very good. It is medium height and medium maturity. Straw strength is very good. It is moderately susceptible to shattering and has very good test weight. The protein quantity is good, but the milling and baking quality is below average.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
  1. Kind: common HRW
  2. Growth habit: winter
  3. Coleoptile color: white
  4. Juvenile growth habit: semi-erect
  5. Leaf color at boot: green
  6. Flag leaf at boot: re-curved, twisted, waxy
  7. Auricle color: white
  8. Days to 50% heading: 131
  9. Anther color: yellow
  10. Stem color: white
  11. Plant height (cm): 86
  12. Internodes: hollow
  13. Spike shape: tapering
  14. Spike density: mid-dense
  15. Spike curvature: erect
  16. Awn type: awned
  17. Awn color: white
  18. Glume color: white
  19. Glume length: medium
  20. Shoulder shape: square
  21. Shoulder width: medium
  22. Beak shape: acuminate
  23. Beak length (S, M, L, VL): medium
  24. Glume pubescence: absent
  25. Seed color: red
  26. Seed shape: ovate
  27. Cheeks: rounded
  28. Brush size (S, M, L): medium
  29. Avg 1,000 kernel wt (g): 27
  30. Phenol reaction: dark brown
  31. Other:

Physiological/biochemical traits:  
Other characteristics (e.g., herbicide tolerance):  
Variants and frequency: Talls > 10 cm (5 in 10000), red chaff 100 in 10000
6. Recognized classes of HV9W03-696R are breeder, foundation, registered, and certified. WestBred LLC will maintain the variety through growing remnant breeder seed 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.
7. We anticipate first sale of certified seed in fall 2010.
8. Plant Variety Protection will be applied for. The certification option will not be elected.
9. AOSCA and seed certifying agencies may publish certified seed production acreages.



## Boomer

1. Boomer (CA9W07-819) is a hard red winter wheat developed by WestBred LLC.
2. Boomer was selected for very good leaf rust resistance using the modified pedigree breeding method.
3. Boomer was tested in North and South Dakota and is best suited for North Dakota.
4. Boomer is rated moderately resistant to leaf rust, moderately susceptible to *Septoria tritici*, *Stagonospora nodorum*, and tan spot based on field testing.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:
  1. Kind: Common
  2. Growth habit: Winter
  3. Coleoptile color: White
  4. Juvenile growth habit: Semi-Erect
  5. Leaf color at boot: Blue-Green
  6. Flag leaf at boot: Erect twisted waxy
  7. Auricle color: white
  8. Days to 50% heading: 162 (Julian)
  9. Anther color: Yellow
  10. Stem color: no anthocyanin
  11. Plant height (cm): 87
  12. Internodes: Hollow
  13. Spike shape: Tapering
  14. Spike density: Mid Dense
  15. Spike curvature: Inclined
  16. Awn type: Awned
  17. Awn color: white
  18. Glume color: White
  19. Glume length: medium
  20. Shoulder shape: Oblique
  21. Shoulder width: Narrow
  22. Beak shape: Accuminate
  23. Beak length (S, M, L, VL): M
  24. Glume pubescence: Glabrous
  25. Seed color: Red
  26. Seed shape: Ovate
  27. Cheeks: Rounded
  28. Brush size (S,M, L) Medium
  29. Avg 1,000 kernel wt (g): 32
  30. Phenol reaction: Black
  31. Other:

Physiological/biochemical traits:  
Other characteristics (*e.g.*, herbicide tolerance):  
Variants and frequency: Talls 10-15cm 1 in 10, 000; Red Glume 1 in 10, 000
6. Recognized classes of Boomer are Breeder, Foundation, Registered, and Certified. WestBred LLC will maintain Boomer by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. Boomer will be subject to collection of royalty fee.
7. Certified seed Sales may be offered for sale in the Fall of 2010.
8. Application will be made either under the Plant Variety Protection Act and certification option will not be selected or patented under the US Patent and Trade mark office.
9. Acreage of Boomer is not to be published by AOSCA and certifying agencies.



## Striker

1. Striker (CA9W07-818) is a hard red winter wheat developed by WestBred LLC.
2. Striker was selected for leaf rust resistance using the modified pedigree breeding method.
3. Striker was tested in North and South Dakota and is best suited for the Dakotas.
4. Striker is rated moderately resistant to leaf rust, moderately susceptible to *Stagonospora nodorum*, *Septoria tritici*, and tan spot based on field testing.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |   |  |
|---|--|
| 1. <u>Kind</u> : Common                   | 2. <u>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> : Blue-Green | 6. <u>Flag leaf at boot</u> : Erect twisted waxy |
| 7. <u>Auricle color</u> : Purple          | 8. <u>Days to 50% heading</u> : 161 (Julian)     |
| 9. <u>Anther color</u> : Yellow           | 10. <u>Stem color</u> : no anthocyanin           |
| 11. <u>Plant height (cm)</u> : 81         | 12. <u>Internodes</u> : Hollow                   |
| 13. <u>Spike shape</u> : Tapering         | 14. <u>Spike density</u> : Mid Dense             |
| 15. <u>Spike curvature</u> : Nodding      | 16. <u>Awn type</u> : Awned                      |
| 17. <u>Awn color</u> : white              | 18. <u>Glume color</u> : White                   |
| 19. <u>Glume length</u> : medium          | 20. <u>Shoulder shape</u> : Elevated             |
| 21. <u>Shoulder width</u> : Narrow        | 22. <u>Beak shape</u> : Accuminate               |
| 23. <u>Beak length (S, M, L, VL)</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> Medium            |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 32   | 30. <u>Phenol reaction</u> : Black               |
| 31. <u>Other</u> :                        |  |

Physiological/biochemical traits:

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

Variants and frequency: Talls 10-15cm 1 in 10, 000; Red Glume 1 in 10, 000

6. Recognized classes of Striker are Breeder, Foundation, Registered, and Certified. WestBred LLC will maintain Striker by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. Striker will be subject to collection of royalty fee.
7. Certified seed Sales may be offered for sale in the Fall of 2010.
8. Application will be made either under the Plant Variety Protection Act and certification option will not be selected or patented under the US Patent and Trade mark office.
9. Acreage of Striker is not to be published by AOSCA and certifying agencies.



## CA907-816W

1. CA907-816W (experimental designation) is a hard white spring wheat developed by WestBred LLC.
2. CA907-816W was selected for high yield, early maturity, and very good milling and baking quality using the modified pedigree breeding method.
3. CA907-816W was tested in the Northern Plains and is best suited for Central and Western North Dakota. It is best adapted for bread flour markets.
4. CA907-816W is rated moderately resistant to leaf rust, moderately susceptible to *Septoria tritici*, *Stagonospora nodorum*, tan spot, and scab based on field testing.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind</u> : common                  | 2. <u>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 wax |
| 7. <u>Auricle color</u> : white          | 8. <u>Days to 50% heading</u> : 61              |
| 9. <u>Anther color</u> : Yellow          | 10. <u>Stem color</u> : no anthocyanin          |
| 11. <u>Plant height (cm)</u> : 80        | 12. <u>Internodes</u> : hollow                  |
| 13. <u>Spike shape</u> : oblong          | 14. <u>Spike density</u> : Mid Dense            |
| 15. <u>Spike curvature</u> : Nodding     | 16. <u>Awn type</u> : awned                     |
| 17. <u>Awn color</u> : white             | 18. <u>Glume color</u> : white                  |
| 19. <u>Glume length</u> : long           | 20. <u>Shoulder shape</u> : apiculate           |
| 21. <u>Shoulder width</u> : narrow       | 22. <u>Beak shape</u> : acuminate               |
| 23. <u>Beak length (S, M, L, VL)</u> : L | 24. <u>Glume pubescence</u> : Glabrous          |
| 25. <u>Seed color</u> : white            | 26. <u>Seed shape</u> : ovate                   |
| 27. <u>Cheeks</u> : angular              | 28. <u>Brush size (S, M, L)</u> medium          |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 32  | 30. <u>Phenol reaction</u> : Ivory              |
| 31. <u>Other</u> :                       |   |

Physiological/biochemical traits:

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

Variants and frequency: talls 10-15cm 1 in 10, 000; red seeded 0.5%

6. Recognized classes of CA907-816W are Breeder, Foundation, Registered, and Certified. WestBred LLC will maintain CA907-816W by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. CA906-816W will be subject to collection of royalty fee.
7. Certified seed Sales may be offered for sale in the Fall of 2010.
8. Application will be made either under the Plant Variety Protection Act and certification option will not be selected or patented under the US Patent and Trade mark office.
9. Acreage of CA907-816W is not to be published by AOSCA and certifying agencies.



## CA9W07-817

1. CA9W07-817 (experimental designation) is a hard red winter wheat developed by WestBred LLC.
2. CA9W07-817 was selected for very good leaf rust resistance using the modified pedigree breeding method.
3. CA9W07-817 was tested in North and South Dakota and is best suited for North Dakota.
4. CA9W07-817 is rated moderately resistant to leaf rust, moderately susceptible to *Septoria tritici*, *Stagonospora nodorum*, and tan spot based on field testing.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |   |  |
|---|--|
| 1. <u>Kind</u> : Common                   | 2. <u>Growth habit</u> : Winter                  |
| 3. <u>Coleoptile color</u> : White        | 4. <u>Juvenile growth habit</u> : Prostrate      |
| 5. <u>Leaf color at boot</u> : Blue-Green | 6. <u>Flag leaf at boot</u> : erect twisted waxy |
| 7. <u>Auricle color</u> : white           | 8. <u>Days to 50% heading</u> : 162 (Julian)     |
| 9. <u>Anther color</u> : Yellow           | 10. <u>Stem color</u> : anthocyanin absent       |
| 11. <u>Plant height (cm)</u> : 87         | 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> : Awned                      |
| 17. <u>Awn color</u> : white              | 18. <u>Glume color</u> : White                   |
| 19. <u>Glume length</u> : medium          | 20. <u>Shoulder shape</u> : Elevated             |
| 21. <u>Shoulder width</u> : Narrow        | 22. <u>Beak shape</u> : Accuminate               |
| 23. <u>Beak length (S, M, L, VL)</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> : Medium         |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 32   | 30. <u>Phenol reaction</u> : Black               |
| 31. <u>Other</u> :                        |  |

Physiological/biochemical traits:

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

Variants and frequency: CA9W07-817 may have a tall variant at the frequency of up to 1.0% that is 20cm above the canopy. It has a 20cm variance within the canopy across an entire production field. CA9W07-817 may have a red glume variant at 0.1%.

6. Recognized classes of CA9W07-817 are Breeder, Foundation, Registered, and Certified. WestBred LLC will maintain CA9W07-817 by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. CA9W07-817 will be subject to collection of royalty fee.
7. Certified seed Sales may be offered for sale in the Fall of 2010.
8. Application will be made either under the Plant Variety Protection Act and certification option will not be selected or patented under the US Patent and Trade mark office.
9. Acreage of CA9W07-817 is not to be published by AOSCA and certifying agencies.



## Brogan

1. Brogan (CA905-780) is a hard red spring wheat developed by WestBred LLC.
2. Brogan was selected for standability, yield, resistance to leaf rust and acceptable mellow milling wheat quality (average SDS sedimentation value of 104 mm) using the pedigree selection technique (head to row).
3. Brogan is best adapted to eastern North Dakota and South Dakota where parent variety Briggs is widely grown.
4. Brogan is resistant to moderately resistant to the prevalent races of leaf rust, moderately susceptible to foliar disease (tan spot and Septoria tritici), moderately susceptible to susceptible to Fusarium head blight, moderately susceptible to stem rust, and susceptible to stripe rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind</u> : Common                  | 2. <u>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, Not-Twisted, Wax Present |
| 7. <u>Auricle color</u> : White          | 8. <u>Days to 50% heading</u> : 23                            |
| 9. <u>Anther color</u> : Yellow          | 10. <u>Stem color</u> : Anthocyanin Absent                    |
| 11. <u>Plant height (cm)</u> : 85        | 12. <u>Internodes</u> : Hollow                                |
| 13. <u>Spike shape</u> : Oblong          | 14. <u>Spike density</u> : Mid Dense                          |
| 15. <u>Spike curvature</u> : Erect       | 16. <u>Awn type</u> : Awned                                   |
| 17. <u>Awn color</u> : Tan               | 18. <u>Glume color</u> : Tan                                  |
| 19. <u>Glume length</u> : Short          | 20. <u>Shoulder shape</u> : Oblique                           |
| 21. <u>Shoulder width</u> : Narrow       | 22. <u>Beak shape</u> : Acuminate                             |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : Absent                          |
| 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> M                              |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 32  | 30. <u>Phenol reaction</u> : Black                            |
| 31. <u>Other</u> :                       |   |

Physiological/biochemical traits:

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

Variants and frequency: CA905-780 may have a tall variant at a frequency of 1 per 1,000.

6. Recognized classes of Brogan are Breeder, Foundation, Registered and Certified. WestBred LLC will maintain Brogan by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. Brogan will be subject to collection of royalty fee.
7. Some Certified seed will be first offered for sale in 2010.
8. Application will be made either under the Plant Variety Protection Act, and the certification option will not be selected, or patented under the US Patent and Trademark office.
9. Seed production acreage of Brogan is not to be published by AOSCA and certifying agencies.



## BZ903-504

1. BZ903-504 (experimental designation) is a hard red spring wheat developed by WestBred LLC.
2. BZ903-504 was selected for yield and quite acceptable traditional strong milling quality (average SDS sedimentation value of 109 mm) using the pedigree selection technique (head to row).
3. BZ903-504 was tested in the northern Great Plains and is best adapted to areas where Fusarium head blight, leaf rust, and foliar disease are not serious problems, such as western North Dakota.
4. BZ903-504 is moderately susceptible to susceptible to the prevalent races of leaf rust and foliar disease (tan spot and Septoria tritici). It is resistant to moderately susceptible to the prevalent races of stem rust and is susceptible to Fusarium head blight.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind</u> : Common                  | 2. <u>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, Wax Present |
| 7. <u>Auricle color</u> : White          | 8. <u>Days to 50% heading</u> : 24                        |
| 9. <u>Anther color</u> : Yellow          | 10. <u>Stem color</u> : Anthocyanin Absent                |
| 11. <u>Plant height (cm)</u> : 89        | 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> : Awned                               |
| 17. <u>Awn color</u> : White             | 18. <u>Glume color</u> : Yellow                           |
| 19. <u>Glume length</u> : Short          | 20. <u>Shoulder shape</u> : Rounded                       |
| 21. <u>Shoulder width</u> : Narrow       | 22. <u>Beak shape</u> : Acute                             |
| 23. <u>Beak length (S, M, L, VL)</u> : S | 24. <u>Glume pubescence</u> : Glabrous                    |
| 25. <u>Seed color</u> : Red              | 26. <u>Seed shape</u> : Ovate                             |
| 27. <u>Cheeks</u> : Angular              | 28. <u>Brush size (S,M, L)</u> M                          |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 37  | 30. <u>Phenol reaction</u> : Black                        |
| 31. <u>Other</u> :                       |   |

Physiological/biochemical traits:

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

Variants and frequency: BZ903-504 may have a tall variant at a frequency of 1 per 1,000.

6. Recognized classes of BZ903-504 are Breeder, Foundation, Registered and Certified. WestBred LLC will maintain BZ903-504 by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. BZ903-504 will be subject to collection of royalty fee.
7. Some Certified seed will be first offered for sale in 2010.
8. Application will be made either under the Plant Variety Protection Act, and the certification option will not be selected, or patented under the US Patent and Trademark office.
9. Seed production acreage of BZ903-504 is not to be published by AOSCA and certifying agencies.



## Edge (CA905-781)

1. Edge (CA905-781) (experimental designation), named ‘Edge’, is a hard red spring wheat developed by WestBred LLC.
2. Edge (CA905-781) was selected for yield and very acceptable extra strong milling wheat quality (average SDS sedimentation value of 116 mm) using the pedigree selection technique (head to row).
3. Edge (CA905-781) was tested in the northern Great Plains and it is best adapted to areas where Fusarium head blight, leaf rust, and foliar disease are not serious problems, such as western North Dakota.
4. Edge (CA905-781) is susceptible to prevalent races of leaf rust and foliar disease (tan spot and Septoria tritici). It is resistant to moderately susceptible to the prevalent races of stem rust. It is susceptible to Fusarium head blight.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- |  |   |
|--|---|
| 1. <u>Kind</u> : Common                  | 2. <u>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, Wax Present |
| 7. <u>Auricle color</u> : Purple         | 8. <u>Days to 50% heading</u> : 22                        |
| 9. <u>Anther color</u> : Yellow          | 10. <u>Stem color</u> : Anthocyanin Absent                |
| 11. <u>Plant height (cm)</u> : 82        | 12. <u>Internodes</u> : Hollow                            |
| 13. <u>Spike shape</u> : Oblong          | 14. <u>Spike density</u> : Mid Dense                      |
| 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> : Medium         | 20. <u>Shoulder shape</u> : Elevated                      |
| 21. <u>Shoulder width</u> : Narrow       | 22. <u>Beak shape</u> : Acuminate                         |
| 23. <u>Beak length (S, M, L, VL)</u> : L | 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> : L                       |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 34  | 30. <u>Phenol reaction</u> : Black                        |
| 31. <u>Other</u> :                       |   |

Physiological/biochemical traits:

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

Variants and frequency: Edge (CA905-781) may have a tall variant at a frequency of 1 per 1,000.

6. Recognized classes of Edge (CA905-781) are Breeder, Foundation, Registered and Certified. WestBred LLC will maintain Edge (CA905-781) by head row purification when needed. WestBred LLC will maintain ownership of all Foundation seed. Edge (CA905-781) will be subject to collection of royalty fee.
7. Some Certified seed will be first offered for sale in 2010.
8. Application will be made either under the Plant Variety Protection Act, and the certification option will not be selected, or patented under the US Patent and Trademark office.
9. Seed production acreage of Edge (CA905-781) is not to be published by AOSCA and certifying agencies.



## CA506-705

CA506-705 is a hulless, high beta-glucan, 2-row spring barley cultivar developed by WestBred, LLC for the food barley market. CA506-705 was derived from the cross of Pronghorn x Meresse using a pedigree method that involved a modified single seed descent in early generations. It is a relatively large seeded, free threshing cultivar adapted to western North Dakota and adjacent western states.

CA506-705 is a short height, medium maturity, 2-row spring barley variety with an erect juvenile growth habit, green plant color at boot and white auricles. The spike has a straight neck with a v-shaped collar, a strap shaped head, lax nodding spike, long rachilla hairs, and semi-smooth long awns. The sterile laterals are of the deficiens type. The seed are naked with colorless aleurone. CA506-705 is susceptible to smut but has not been tested for specific disease reactions. CA506-705 has been uniform and stable through 2 breeder seed increases, however, it may contain up to 0.25% of any of the following variants in subsequent generations: covered seed, short awns, medium talls or non-deficiens laterals.

WestBred LLC will maintain breeder and Foundation seed as needed by growing head row purification increases. The certified classes of seed shall be Foundation, Registered and Certified. Foundation seed will be produced in summer of 2009 and certified seed may be offered for sale in the spring of 2010. Application will be made for a plant utility patent or for protection under the Plant Variety Protection Act and the certification option will not be selected. Acreage of CA506-705 is **not** to be published by AOSCA and certifying agencies.

