

A REPORT OF THE
SMALL GRAIN VARIETY REVIEW BOARD



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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SMALL GRAIN VARIETY REVIEW BOARD

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August 2015

The Association of Official Seed Certifying Agencies (AOSCA), Small Grain Variety Review Board (SGVRB), reviewed the following varieties on August 6, 2015. 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 Small Grain Variety Review Board by the applicants. The Small Grain Variety Review Board makes judgments regarding recommendation of varieties for inclusion into certification based on the data supplied. Beyond that, the 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 Small Grain Variety Review Board can be obtained from:

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Respectfully submitted,

Steve Schuler, Chairman
Small Grains Variety Review Board

2015 AOSCA SMALL GRAIN VARIETY REVIEW BOARD

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Wheat

TCG-Cornerstone (TCG 507B, Exp)

1. TCG-Cornerstone is a hard red spring wheat (HRS) developed by 21st Century Genetics Corp (TCG).
2. TCG-Cornerstone was selected as a high yielding, high protein, medium maturity, medium short height HRS with excellent standability and good bread making quality based on SDS sedimentation tests and formal dough strength and pup loaf evaluations.
3. TCG-Cornerstone has been tested primarily in the Red River Valley region of ND and MN. TCG TCG-Cornerstone is adapted to the Red River Valley region of ND and MN and is intended for the bread wheat milling industry.
4. TCG –Cornerstone has shown good field resistance (R-MR) to the prevalent races of leaf rust, MR for foliar disease, (tan spot, Septoria tritici, and Stagnosporium nodorum) and MS for Fusarium head blight.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind: Common, Hard Red Spring

If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)

2. Seasonal Growth Habit:	<u>Spring</u>	16. Awn Type:	<u>Awned</u>
3. Coleoptile Color:	<u>Red</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Erect</u>	18. Glume Color:	<u>White/Amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Medium</u>
6. Flag Leaf at Boot:	<u>Erect, Twisted, Waxy</u>	20. Shoulder Shape:	<u>Wanting</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Days to 50% Heading:	<u>39 days after June 1</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Medium</u>
10. Anthocyanin: stem	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>77</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Ovate</u>
13. Spike Shape:	<u>Oblong</u>	27. Cheeks:	<u>Angular</u>
14. Spike Density:	<u>Mid Dense</u>	28. Brush Size (S,M,L.):	<u>Medium</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>43</u>

30. Physiological/biochemical Traits: DNA markers LR34, Glu-D1, Glu-A1, Tsn1-5B, SR2-2B

Variants and frequency: TCG-Cornerstone may have a tall variant at a frequency of 1/1000.

6. Recognized classes of seed are Breeder, Foundation, Registered, and Certified. TCG-Cornerstone will be regenerated by head row purification when needed
7. Certified Seed will be offered for sale in 2016.
8. Application will be made for PVP (Title V) protection.
9. Seed production acreage of TCG-Cornerstone is not to be published by AOSCA or other seed certifying agencies.

Date this application was submitted: Jun 25, 2015

Date recommended by the VRB: Sep 09, 2015



Wheat

KS11HW39-5-4 (Exp)

1. KS11HW39-5-4 is a hard white winter wheat breeding line. It was developed by Dr. Guorong Zhang at the Agricultural Research Center-Hays, Kansas State University.
2. KS11HW39-5-4 was selected for yield, baking quality, disease resistance (WSMV, stripe rust, leaf rust, SBMV, Hessian fly), and other agronomic traits (pre-harvest sprouting, grain shattering, lodging, maturity) using the modified bulk method.
3. KS11HW39-5-4 was extensively tested in Kansas and is well adapted to the dryland production areas in western Kansas.
4. KS11HW39-5-4 is resistant to wheat streak mosaic virus, stripe rust, and leaf rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Common, Hard White</u>		
If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)			
2. Seasonal Growth Habit:	<u>Winter</u>	16. Awn Type:	<u>Awned</u>
3. Coleoptile Color:	<u>White</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Prostrate</u>	18. Glume Color:	<u>Tan</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Medium</u>
6. Flag Leaf at Boot:	<u>Erect, Twisted, Not Waxy</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Medium</u>
8. Days to 50% Heading:	<u>139.5 (from Jan 1)</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>M</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>66</u>	25. Seed Color:	<u>White</u>
12. Internodes:	<u>Five</u>	26. Seed Shape:	<u>Ovate</u>
13. Spike Shape:	<u>Tapering</u>	27. Cheeks:	<u>Rounded</u>
14. Spike Density:	<u>Middense</u>	28. Brush Size (S,M,L.):	<u>Medium</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>29</u>

30. Physiological/biochemical Traits: NA

Variants and frequency: Variants are limited to: slightly taller plants that occur at a frequency of less than 1 in 1,000 plants; white chaffed plants that occur at a frequency of less than 5 in 1,000 plants under normal growing condition; dark chaffed plants that occur at a frequency of less than 5 in 1,000 plants, which might be due to the Barley Yellow Dwarf Virus.

6. Recognized classes are breeder, foundation, registered, and certified seed. Kansas State University will maintain its purity by the head-row method to produce breeder seed as needed.
7. Certified seed will likely be available for planting in fall of 2016.
8. If this breeding line gets approved for release by the KSU Plant and Genetic Material Release Committee, an application will be submitted for protection under the U.S. Plant Variety Protection Act 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.

Date this application was submitted: Jul 29, 2015

Date recommended by the VRB: Aug 06, 2015



Wheat

LCS Compass (VA10HRW-13 & LCH10-13, Exp)

1. LCS Compass is a Hard Red Winter Wheat developed by Limagrain Cereal Seeds.
2. LCS Compass was developed in Virginia with selection based of absence of obvious disease, early maturity, short straw and desirable head shape and size using a modified bulk breeding methodology.
3. LCS Compass is adapted to the northern regions of the Great Plains including Nebraska, South Dakota and parts of North Dakota on the basis of its performance in the USDA-ARS Northern Regional Performance Nursery.
4. LCS Compass is moderately resistant to stem rust, bacterial leaf streak, fusarium head blight caused by *Fusarium graminearum*, and Barley Yellow Dwarf Virus.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind: Common, Hard Red

If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)

2. Seasonal Growth Habit:	Winter	16. Awn Type:	Awned
3. Coleoptile Color:	White	17. Awn Color:	White
4. Juvenile Growth Habit:	Semi-Erect	18. Glume Color:	White/Amber
5. Leaf Color at Boot:	Blue-Green	19. Glume Length:	Medium
6. Flag Leaf at Boot:	Erect, Not Twisted, Wax Absent	20. Shoulder Shape:	Oblique
7. Auricle Color:	Green	21. Shoulder Width:	Narrow
8. Days to 50% Heading:	147	22. Beak Shape:	Acuminate
9. Anther Color:	Yellow	23. Beak Length (S.M.L.VL):	Short
10. Anthocyanin:	Absent	24. Glume Pubescence:	Absent
11. Plant Height (cm):	81	25. Seed Color	Red
12. Internodes:	Hollow	26. Seed Shape:	Ovate
13. Spike Shape:	Oblong	27. Cheeks:	Rounded
14. Spike Density:	Middense	28. Brush Size (S,M,L.):	Short
15. Spike Curvature:	Erect	29. Avg 1,000 Kernel Wt (g):	35

30. Physiological/biochemical Traits: none

Variants and frequency: LCS Compass may contain variants up to 0.8% in combination: taller plants (up to two spike lengths above the main canopy), plants with bronze or red glumes at maturity, or awnless plants.

6. Recognized seed classes will be Breeder, Foundation, Registered, and Certified. Registered and Certified seed of LCS Compass may be produced and sold only through a license agreement with LCS. LCS will maintain Breeder and Foundation seed by head-rowing and/or roguing and removal of off-types in bulk seedings as necessary.
7. Foundation seed will be available for planting in Fall 2015.
8. PVP will be applied for without the Title V option in Fall 2015.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.

Date this application was submitted: May 28, 2015

Date recommended by the VRB: Sep 08, 2015



Wheat

P12X4433W (Exp)

1. P12X4433W is a hard white spring wheat obtained from Cimmyt and commercialized by Phoenix Seed, Inc. for the food/beverage industry.
2. P12X4433W was selected from a heat tolerant wheat nursery and advanced as a bulk for 4 generations of testing and increase. Selection was based on yield, low protein and disease resistance.
3. P12X4433W has been grown and tested in North Dakota and Montana since 2012. P12X4433W is widely adapted to the northern plains region of the United States.
4. P12X4433W is susceptible to leaf rust and Fusarium head blight.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind: Hard White Common

If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)

2. Seasonal Growth Habit:	<u>Spring</u>	16. Awn Type:	<u>Awned</u>
3. Coleoptile Color:	<u>White</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Semi-Erect</u>	18. Glume Color:	<u>Tan</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Erect, Twisted, Waxy</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Medium</u>
8. Days to 50% Heading:	<u>49</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Medium</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>85.7</u>	25. Seed Color:	<u>White</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Oval</u>
13. Spike Shape:	<u>Oblong</u>	27. Cheeks:	<u>Angular</u>
14. Spike Density:	<u>Lax</u>	28. Brush Size (S,M,L.):	<u>Medium</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>41</u>

30. Physiological/biochemical Traits:

Variants and frequency: Variants are limited to: slightly taller plants that occur at a frequency of less than .2% (20/10,000 plants); red seed at a frequency of .5% (50/10,000).

6. Recognized classes are breeder, foundation, registered, and certified seed. Phoenix Seed, Inc. will maintain its purity by the head-row method to produce breeder seed as needed.
7. Commercial seed of P12X4433W may be ready for commercial sale by the spring of 2016.
8. Application for PVP is anticipated for P12X4433W. Title V option will likely not be taken.
9. Certified seed production acreage cannot be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 27, 2015

Date recommended by the VRB: Sep 22, 2015



Wheat

04PN3001-2 (Exp)

1. 04PN3001-2 is a hard red spring common wheat bred and developed by Syngenta Seeds.
2. 04PN3001-2 was selected for height, uniformity, agronomics and disease reaction.
3. 04PN3001-2 was tested in the spring wheat growing areas (12 to 20 inch moisture zones) of the Pacific Northwest (PNW) and was determined to be adapted to this area.
4. 04PN3001-2 has shown a tolerant reaction to the current strains of stripe rust in the PNW.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red Spring</u>		
	If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)		
2. Seasonal Growth Habit:	<u>Spring</u>	16. Awn Type:	<u>Awed</u>
3. Coleoptile Color:	<u>White</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Erect</u>	18. Glume Color:	<u>White</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Recurved, Twisted, Waxy</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Medium</u>
8. Days to 50% Heading:	<u>155</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Long</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>98 cm</u>	25. Seed Color	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Ovate</u>
13. Spike Shape:	<u>Strap</u>	27. Cheeks:	<u>Rounded</u>
14. Spike Density:	<u>Lax</u>	28. Brush Size (S,M,L.):	<u>Medium</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>41.7g</u>

30. Physiological/biochemical Traits:

Variants and frequency: 04PN3001-2 has been uniform and stable since 2012. Less than 0.5% of the plants were rogued from the Breeder seed increases. The majority of the variant plants were taller height wheat plants (3 to 10 cm). The white seeded variant of approximately 0.5% has also been identified in the Progeny 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/progeny method to produce breeder seed as needed. Royalty fees are anticipated.
7. Certified seed will likely be available for planting in the spring of 2016.
8. Plant Variety Protection is anticipated in 2015 and 04PN3001-2 may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 30, 2015

Date recommended by the VRB: Sep 28, 2015



Wheat

04W40292R (Exp)

- 04W40292R is a hard red spring common wheat bred and developed by Syngenta Seeds.
- 04W40292R was selected on yield, test weight, disease reaction and end use quality.
- 04W40292R was tested in the spring wheat growing areas of the Pacific Northwest and was determined to be adapted to this area.
- 04W40292R has a MR (moderately resistant) reaction to current strains of strip rust.
- Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red Spring</u>		
If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)			
2. Seasonal Growth Habit:	<u>Spring</u>	16. Awn Type:	<u>Awne</u>
3. Coleoptile Color:	<u>White</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Erect</u>	18. Glume Color:	<u>White</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Recurved, Twisted, Wax Present</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>Purple</u>	21. Shoulder Width:	<u>Narrow</u>
8. Days to 50% Heading:	<u>151</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>M</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Present</u>
11. Plant Height (cm):	<u>95</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Ovate</u>
13. Spike Shape:	<u>Tapering</u>	27. Cheeks:	<u>Rounded</u>
14. Spike Density:	<u>Middense</u>	28. Brush Size (S,M,L.):	<u>M</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>41</u>

30. Physiological/biochemical Traits:

Variants and frequency: 04W40292R has been uniform and stable since 2012. Less than 0.1% of the plants were rogued from the Breeder. Seventy five percent of the variant plants were taller height wheat plants (4 to 8 cm). Twenty-five percent of the variants were later maturity (2 to 3 days). White seeded variant of approximately 0.1% has also been identified in the Breeder Seed production. Up to 1.0% variant plants may be encountered in subsequent generations.

- 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/progeny method to produce breeder seed as needed. Royalty fees are anticipated.
- Certified seed will likely be available for planting in the spring of 2016
- Plant Variety Protection is anticipated in 2015 and 04W40292R may only be sold as a class of certified seed.
- Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 30, 2015

Date recommended by the VRB: Sep 28, 2015



Wheat

08W10136 (Exp)

- 08W10136 is a hard white spring common wheat bred and developed by Syngenta Seeds.
- 08W10136 was selected for disease reaction, yield, test weight, and end use quality.
- 08W10136 was tested in the spring wheat growing areas of the Pacific Northwest and in irrigated production area of southern Idaho. It was determined to be adapted to this area.
- 08W10136 has a moderate reaction to current strains of strip rust. Under high infection approximately 25 to 30 % of flag leaf will have a necrotic reaction.
- Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard White Spring</u>		
If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)			
2. Seasonal Growth Habit:	<u>Spring</u>	16. Awn Type:	<u>Awned</u>
3. Coleoptile Color:	<u>White</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Erect</u>	18. Glume Color:	<u>White</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Erect, Twisted, Waxy</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Medium</u>
8. Days to 50% Heading:	<u>160</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>S</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>81</u>	25. Seed Color:	<u>White</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Ovate</u>
13. Spike Shape:	<u>Tapering</u>	27. Cheeks:	<u>Rounded</u>
14. Spike Density:	<u>Lax</u>	28. Brush Size (S,M,L.):	<u>M</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>49</u>

30. Physiological/biochemical Traits:

Variants and frequency: 08W10136 has been uniform and stable since 2013. Less than 0.2% of the plants were rogued from the Breeder. Seventy five percent of the variant plants were taller height wheat plants (4 to 8 cm). Twenty-five percent of the variants were later maturity (2 to 3 days). Red seeded variant of approximately 0.5% has also been identified in the Breeder Seed production and may be encountered in subsequent generations. Up to 1.0% of the variant plants may be encountered in subsequent generations.

- 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/progeny method to produce breeder seed as needed. Royalty fees are anticipated.
- Certified seed will likely be available for planting in the spring of 2016
- Plant Variety Protection is anticipated in 2015 and 08W10136 may only be sold as a class of certified seed.
- Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 30, 2015

Date recommended by the VRB: Sep 28, 2015



Wheat

SY Drifter (AP09T7631, Exp)

1. SY Drifter is a hard red winter common wheat bred and developed by Syngenta Seeds.
2. SY Drifter was selected for its field reaction to endemic diseases during its selection and testing and for its grain yield performance in Texas and Oklahoma as compared to commonly grown commercial cultivars.
3. SY Drifter was tested in and determined to be primarily adapted to the areas of the Southern Great Plains of Texas and Oklahoma which are conventionally planted to hard wheats.
4. SY Drifter is tolerant of leaf and stripe rust, susceptible to powdery mildew, tolerant of acid soils and moderately susceptible to soil borne mosaic virus.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red Winter</u>		
	If common, provide appropriate kernel characteristic: (Hard Red, Soft Red, Hard White, Soft White)		
2. Seasonal Growth Habit:	<u>Winter</u>	16. Awn Type:	<u>Awned</u>
3. Coleoptile Color:	<u>White</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Erect</u>	18. Glume Color:	<u>White</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Short</u>
6. Flag Leaf at Boot:	<u>Erect, Twisted, Wax Absent</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Days to 50% Heading:	<u>104</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Medium</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>69</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Ovate</u>
13. Spike Shape:	<u>Tapering</u>	27. Cheeks:	<u>Rounded</u>
14. Spike Density:	<u>Mid-Dense</u>	28. Brush Size (S,M,L.):	<u>Short</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>27.2</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than 1% variants. Variants include taller plants (>3inches) and Awnless.

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 as needed. Royalty fees are anticipated.
7. Certified seed will likely be available for planting in the fall of 2015
8. Plant Variety Protection is anticipated in 2015 and SY Drifter may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 30, 2015

Date recommended by the VRB: Sep 29, 2015



Barley

P14Y8709 (Exp)

1. P14Y8709 is a two-row, spring, waxy, hullless barley developed by Phoenix Seed, Inc. for the specialty food market.
2. P14Y8709 was selected from a cross “Wanubet/Rasmusson” made in the summer of 2012. Single F3 heads were selected for head, hull and starch type. F4 rows were selected for height, standability and uniformity.
3. P14Y8709 is adapted to North Dakota.
4. P14Y8709 has not been tested for disease or insect resistance. P14Y8709 has a beta-glucan content of 7.3% based on an analysis performed at the Northern Crops Institute in Fargo, ND.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Growth Habit:	<u>Spring</u>	16. Plant Height (see below):	<u>77 cm</u>
2. Spike:	<u>Two-row</u>	17. Spike Shape:	<u>Oblong</u>
3. Coleoptile Color:	<u>Green</u>	18. Spike Density:	<u>Lax</u>
4. Juvenile Growth Habit:	<u>Erect</u>	19. Spike Position at Maturity:	<u>Inclined</u>
5. Plant Tillering:	<u>High</u>	20. Hairiness of Rachis Edge:	<u>Few</u>
6. Leaf Color at Boot:	<u>Yellow-green</u>	21. Rachilla Hair Length:	<u>Long</u>
7. Flag Leaf at Boot:	<u>Recurved, Not Twisted, Waxy</u>	22. Lemma Awns:	<u>Straight</u>
8. Pubescence on Leaf Blade:	<u>No</u>	23. Length of Lemma Awns:	<u>Long</u>
9. Pubescence on Leaf Sheath:	<u>No</u>	24. Lemma Awn Surface:	<u>Rough</u>
10.: Auricle Color:	<u>White</u>	25. Glume Hairiness:	<u>Banded</u>
11. Heading Date (see below):	<u>58 days after planting</u>	26. Glume Awn Surface:	<u>Rough</u>
12. Stem Color:	<u>White</u>	27. Glume/Lemma Adherence:	<u>naked</u>
13. Neck Shape:	<u>Straight</u>	28. Texture (if covered):	
14. Collar Shape:	<u>V-shaped</u>	29. Aleurone Color:	<u>Colorless</u>
15. Spike Exsertion:	<u>Slight</u>	30. Avg 1,000 Kernel Wt (g):	<u>49</u>

Heading date: 58 which is: 1 days EARLIER than: Wanubet

Plant height: 77 cm, which is 9.4 cm SHORTER than: Wanubet

Physiological or biochemical traits: P14Y8709 starch is waxy which stains red using a Potassium Iodide solution (IKI₂). Non-waxy starch (normal) stains dark purple with this solution. The waxy starch also results in the kernel being opaque rather than vitreous. P14Y8709 has deficiens laterals.

Variants and their frequency: P14Y8709 may contain up to 0.25% of any of the following variants in subsequent generations: covered seed, medium talls, non-deficiens laterals or hooded awns.

6. Recognized classes are breeder, foundation, registered, and certified seed. Phoenix Seed, Inc. will maintain its purity by the head-row method to produce breeder seed as needed.
7. Certified seed may be available in summer of 2016.
8. Application for PVP is anticipated for P14Y870. Title V option will likely not be taken.
9. Certified seed production acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 27, 2015

Date recommended by the VRB: Sep 22, 2015

