

A REPORT OF THE
NATIONAL SMALL GRAIN VARIETY REVIEW BOARD



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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AUGUST 2014



NATIONAL SMALL GRAIN VARIETY REVIEW BOARD
ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
August 2014

The Association of Official Seed Certifying Agencies (AOSCA), National Small Grain Variety Review Board (NSGVRB), reviewed the following varieties on August 06, 2014. 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,

Abed Anouti, Chairman
National Small Grains Variety Review Board

Wheat

Mira

1. “Mira” (D2-97) is a spring durum developed by Arizona Plant Breeders (APB).
2. “Mira” was selected for high yield and pasta quality using a male sterile facilitated recurrent selection method.
3. “Mira” is adapted to the irrigated durum producing areas of the Southwest United States.
4. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

1. Kind:	<u>Durum</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>Semi Erect</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 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>80</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>M</u>
10. Stem Color:	<u>Green</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>87</u>	25. Seed Color:	<u>Amber</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>Dense</u>	28. Brush Size (S,M,L.):	<u>M</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>55</u>

30. Physiological/biochemical Traits: Low cadmium

Variants and frequency: 1 in 10,000 plants is taller than the rest.

5. Recognized classes of “Mira” are breeder, foundation, registered, and certified. APB will maintain the variety by the head row method to produce breeder seed as needed. “Mira” will have a royalty fee and a licensing agreement will be required
6. Certified seed will be offered in the fall of 2015.
7. Application for PVP is anticipated with Title V Certification Option.
8. The certified seed production acreage can be published by AOSCA and certifying agencies.

Date this application was submitted: May 30, 2014

Date recommended by the NVRB: Aug 29, 2014



Wheat

Chevelle

1. Chevelle is a hard red spring wheat developed by Limagrain Cereal Seeds. It was tested under the experimental number LNR10-0177.
2. Chevelle was developed by selecting for agronomic plant type, resistance to prevalent foliar diseases, and head scab mainly in Minnesota, with winter nursery selections made in Yuma, AZ.
3. Chevelle is adapted to the hard red spring wheat growing regions of North Dakota. The primary purpose of the variety will be for milling and baking of breads using processed and whole wheat flour.
4. No claims are made in this application for disease resistance or insect reactions in terms of varietal attributes.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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>Red</u>	17. Awn Color:	<u>White</u>
4. Juvenile Growth Habit:	<u>Semi-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, not twisted, wax absent</u>	20. Shoulder Shape:	<u>Elevated</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Medium</u>
8. Days to 50% Heading:	<u>179</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>84</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>Angular</u>
14. Spike Density:	<u>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>33</u>

30. Physiological/biochemical Traits:

Variants and frequency: Chevelle may contain up to 5 per 1000 taller plants, up to 8" greater than canopy height.

6. Recognized seed classes will be Breeder, Foundation, Registered, and Certified. Limagrain Cereal Seeds will maintain Breeder seedstocks; variety has been sub-licensed and sub-licensee is authorized to maintain Foundation seed and control production of Registered and Certified seed.
7. Registered seed will be available for planting in Spring 2015.
8. PVP will be applied for without the Title V option in Spring 2015.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.

Date this application was submitted: Jun 23, 2014

Date recommended by the NVRB: Aug 06, 2014



Wheat

LCS Nitro

1. LCS Nitro is a hard red spring wheat marketed by Limagrain Cereal Seeds. It was tested under the experimental number BIO 10125.
2. LCS Nitro was selected for grain yield, agronomic type, reaction to main diseases, and characteristics desirable to the wheat industry in Brazil using a pedigreed head to row breeding method. Following its development, it was tested for these same characteristics in North Dakota and surrounding states.
3. LCS Nitro is adapted to the hard red spring wheat growing regions of North Dakota. The primary purpose of the variety will be for milling and baking of breads using processed and whole wheat flour.
4. No claims are made in this application for disease resistance or insect reactions in terms of varietal attributes.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Common - Hard Red</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>Semi-erect</u>	18. Glume Color:	<u>White/amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Erect, twisted, wax absent</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>177</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>76</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Elliptical</u>
13. Spike Shape:	<u>Oblong</u>	27. Cheeks:	<u>Rounded</u>
14. Spike Density:	<u>Dense</u>	28. Brush Size (S,M,L):	<u>Long</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>38</u>

30. Physiological/biochemical Traits: None

Variants and frequency: LCS Nitro may contain up to 5 per 1000 taller plants up to 8" above canopy height, and up to 2 per 1000 plants with blue-green heads at flowering.

6. Recognized seed classes will be Breeder, Foundation, Registered, and Certified. Registered and Certified seed of LCS Nitro 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. Registered seed will be available for planting in Spring 2015.
8. PVP will be applied for without the Title V option in Spring 2015.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.

Date this application was submitted: Jun 23, 2014

Date recommended by the NVRB: Aug 06, 2014



Wheat

LCS Pro

1. LCS Pro is a hard red spring wheat marketed by Limagrain Cereal Seeds. It was tested under the experimental number LNR10-0493.
2. LCS Pro was selected for grain yield, grain protein, milling and baking quality, and reaction to main diseases in the Northern Plains using a modified bulk breeding method.
3. LCS Pro is adapted to the hard red spring wheat growing regions of Western North Dakota. The primary purpose of the variety will be for milling and baking of breads using processed and whole wheat flour.
4. No claims are made in this application for disease resistance or insect reactions in terms of varietal attributes.
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:	<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>White/amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Recurved, not twisted, wax absent</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Wide</u>
8. Days to 50% Heading:	<u>179</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S,M,L,VL):	<u>Very long</u>
10. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>94</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Oval</u>
13. Spike Shape:	<u>Tapering</u>	27. Cheeks:	<u>Angular</u>
14. Spike Density:	<u>Lax</u>	28. Brush Size (S,M,L):	<u>Short</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>40</u>
30. Physiological/biochemical Traits:	<u>none</u>		

Variants and frequency: LCS Pro may contain up to 5 per 1000 taller plants up to 8” above canopy height.

6. Recognized seed classes will be Breeder, Foundation, Registered, and Certified. Registered and Certified seed of LCS Pro 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. Registered seed will be available for planting in Spring 2015.
8. PVP will be applied for without the Title V option in Spring 2015.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.

Date this application was submitted: Jun 23, 2014

Date recommended by the NVRB: Aug 06, 2014



Wheat

Redstone

1. Redstone is a hard red spring wheat developed by Limagrain Cereal Seeds. It was tested under the experimental number BIO 10101.
2. Redstone was selected for grain yield, agronomic type, reaction to main diseases, and characteristics desirable to the wheat industry in Brazil using a pedigreed head to row breeding method. Following its development, it was tested for these same characteristics in North Dakota and surrounding states.
3. Redstone is adapted to the hard red spring wheat growing regions of North Dakota. The primary purpose of the variety will be for milling and baking of breads using processed and whole wheat flour.
4. No claims are made in this application for disease resistance or insect reactions in terms of varietal attributes.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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>Semi-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, not twisted, wax absent</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White and purple on same stem</u>	21. Shoulder Width:	<u>Medium</u>
8. Days to 50% Heading:	<u>184</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Long</u>
10. Stem Color:	<u>Absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>86</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>Medium</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>35</u>

30. Physiological/biochemical Traits:

Variants and frequency: Redstone may contain up to 5 per 1000 taller plants up to 8" above canopy height.

6. Recognized seed classes will be Breeder, Foundation, Registered, and Certified. Limagrain Cereal Seeds will maintain Breeder seedstocks; variety has been sub-licensed and sub-licensee is authorized to maintain Foundation seed and control production of Registered and Certified seed.
7. Registered seed will be available for planting in Spring 2015.
8. PVP will be applied for without the Title V option in Spring 2015.
9. Certified seed production and acreage may be published by AOSCA and official state seed certifying agencies.

Date this application was submitted: Jun 23, 2014

Date recommended by the NVRB: Aug 06, 2014



Wheat

AP08TS7124 (Exp)

1. AP08TS7124 is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. AP08TS7124 is the result of a cross made in 2001 at the AgriPro Wheat research facility near Lafayette, Indiana. AP08TS7124 was selected for height, heading and disease reaction.
3. AP08TS7124 is best adapted to central and north-central Texas.
4. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Soft Red Winter Wheat</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>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/Amber</u>
5. Leaf Color at Boot:	<u>Blue-green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Erect, twisted & wax present</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Days to 50% Heading:	<u>97</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Long</u>
10. Stem Color:	<u>Anthocyanin 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>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>45</u>

30. Physiological/biochemical Traits:

Variants and frequency: Up to 1.0% variant plants may be encountered in subsequent generations. Variants recorded were taller than the average canopy height of the variety.

5. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
6. Certified seed will be available in the 2015.
7. Plant Variety Protection is anticipated in 2014.
8. Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 30, 2014

Date recommended by the NVRB: Sep 05, 2014



Wheat

HRS 385-5

1. HRS 385-5 is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. HRS 385-5 is the result of a cross made in 2006 by Syngenta Seeds, Inc. in Berthoud, Colorado. HRS 385-5 was selected for height and leaf rust resistance.
3. HRS 385-5 is best adapted to the spring wheat growing areas of North Dakota and Minnesota.
4. HRS 385-5 is resistant to stem rust and moderately resistant to leaf rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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/Amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Short</u>
6. Flag Leaf at Boot:	<u>Re-curved, twisted, wax absent</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Days to 50% Heading:	<u>57.7</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>77</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>Lax</u>	28. Brush Size (S,M,L.):	<u>Medium</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>31.7</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than 0.8% of the plants were rogued from the Breeder seed increase in Yuma, Arizona. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm). Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in 2016.
8. Plant Variety Protection is anticipated in 2014.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 30, 2014

Date recommended by the NVRB: Aug 06, 2014



Wheat
HRS 3361
(Amended – Correction to Description in Original Application)

1. HRS 3361 is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. HRS 3361 is the result of a cross made in 2005 by Syngenta Seeds, Inc. in Berthoud, Colorado. HRS 3361 was selected for height and leaf rust.
3. HRS 3361 is best adapted to the spring wheat growing areas of North Dakota and Minnesota.
4. HRS 3361 has moderately resistance to leaf rust. Protection to leaf spotting diseases has been good. HRS 3361 tolerance to FHB has been intermediate.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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/amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Medium</u>
6. Flag Leaf at Boot:	<u>Twisted, wax absent, re-curved</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Wide</u>
8. Days to 50% Heading:	<u>57.7</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>79</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>Medium</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>27.6</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than 0.8% of the plants were rogued from the Breeder seed increase in Eaton, CO. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm). Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the spring of 2014.
8. Plant Variety Protection is anticipated in 2014.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name HRS 3361

Experimental Designation(s) 05S0261-10

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Wheat
HRS 3378
(Amended – Correction to Description in Original Application)

1. HRS 3378 is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. HRS 3378 is the result of a cross made in 2002 by Syngenta Seeds, Inc. in Berthoud, Colorado. HRS 3378 was selected for height, and leaf rust.
3. HRS 3378 is best adapted to the spring wheat growing areas of North Dakota and Minnesota.
4. HRS 3378 is moderately resistant to leaf rust. Protection to leaf spotting diseases has been good. HRS 3378 tolerance to FHB has been intermediate.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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/amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Medium</u>
6. Flag Leaf at Boot:	<u>Recurved, wax absent & twisted</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>57.5</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>77</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>M</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>26.7</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than 0.8% of the plants were rogued from the Breeder seed increase in Eaton, CO. Approximately 95% of the rogued variant plants were taller height wheat plants (8 to 15 cm). Up to 1.0% variant plants may be encountered in subsequent generations..

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the Spring 2014.
8. Plant Variety Protection is anticipated in 2014.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name HRS 3378

Experimental Designation(s) 02S0178-1

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Wheat

SY Basalt

(Amended – Correction to Description in Original Application)

1. SY Basalt is a hard red spring wheat bred and developed by Syngenta Seeds, Inc
2. SY Basalt is the result of a cross made in 2001 by Syngenta Seeds, Inc. in Woodland, CA. SY Basalt was selected for height, good yield performance and absence of stripe rust.
3. SY Basalt is best adapted to the spring wheat growing areas in the Basin of Washington.
4. SY Basalt has medium maturity.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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/amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Erect, twisted, wax absent</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>163</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>M</u>
10. Stem Color:	<u>Anthocyanin absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>84</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>M</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (g):	<u>38</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than 0.1% of the plants were rogued from the Breeder and Foundation seed increases. Fifty percent of the variant plants were taller height wheat plants (5 to 10 cm). Twenty-five percent of the variants were later maturity (2 to 3 days) and a white seeded variant of approximately 0.5% has also been identified in the Foundation seed production. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the spring of 2015.
8. Plant Variety Protection is anticipated in 2014 and SY Basalt may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name SY Basalt

Experimental Designation(s) 04W40240R

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Wheat

SY Llano

(Amended – Correction to Description in Original Application)

1. SY Llano is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY Llano is the result of a cross made in 2006-by Syngenta Seeds, Inc. in Vernon, Texas. SY Llano was selected for its early maturity and resistance to endemic races of leaf rust.
3. SY Llano is best adapted to the High Plains of Texas and north central Oklahoma.
4. SY Llano is resistant to stripe rust, moderately resistant to moderately susceptible to leaf rust, resistant to soil borne mosaic virus, susceptible to powdery mildew, and tolerant of acid soils.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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/Amber</u>
5. Leaf Color at Boot:	<u>Blue-Green</u>	19. Glume Length:	<u>Medium</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>Narrow</u>
8. Days to 50% Heading:	<u>91</u>	22. Beak Shape:	<u>Acute</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Medium</u>
10. Stem Color:	<u>Anthocyanin absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>69.9</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Elliptical</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>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>27.3</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than .06% of the plants were rogued from the Breeder seed increase. Approximately 95% of the rogued variant plans were taller height and the other variants were awnless. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the fall of 2015.
8. Plant Variety Protection is anticipated in 2014 and SY Llano may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name SY Llano

Experimental Designation(s) AP09T9614

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Wheat
SY Monument
(Amended – Correction to Description in Original Application)

1. SY Monument is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY Monument is the result of a cross made in 2003 by Syngenta Seeds, Inc. in Junction City, KS. SY Monument was selected for height, straw strength, yield, bread making quality and resistance to leaf and stripe rust.
3. SY Monument is best adapted to the winter wheat growing areas of the High Plains.
4. SY Monument has a high level of tolerance to low Ph soils.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>Hard Red</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/Amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Medium</u>
6. Flag Leaf at Boot:	<u>Erect, non-twisted, waxy</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Wide</u>
8. Days to 50% Heading:	<u>127</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Medium</u>
10. Stem Color:	<u>Anthocyanin absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>84</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>Medium</u>
15. Spike Curvature:	<u>Nodding</u>	29. Avg 1,000 Kernel Wt (g):	<u>36</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than 1% of the plants were rogued from the breeder seed increase in Eaton, CO. Approximately 97% of the rogued variant plants were taller height wheat plants (8 to 15cm). The other variants were heads with different chaff color (red). Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the fall of 2015.
8. Plant Variety Protection is anticipated in 2014 and SY Monument may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name SY Monument

Experimental Designation(s) 04BC574-2

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Wheat

SY Soren

(Amended – Variants Change)

1. SY Soren (Experimental designation – (01S0263-28) is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. SY Soren originated from the cross “Norpro/Kelby” and was developed using a modified single seed descent breeding method. SY Soren was selected for high yield, good agronomics, general disease resistance and good overall bread making characteristics.
3. SY Soren has been primarily tested across North Dakota and surrounding states since 2005. It has yielded very well across the region relative to popular checks. It has good bread making quality is intended for grain production.
4. SY Soren has moderate resistance to the prevalent races of leaf rust It has shown good tolerance to leaf spotting diseases such as tan spot and septoria.

1. Kind: 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>White</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>Short</u>
6. Flag Leaf at Boot:	<u>Waxy, Recurved, Twisted</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Midwide</u>
8. Days to 50% Heading:	<u>57</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L.VL):	<u>Medium</u>
10. Stem Color:	<u>Anthocyanin absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>74</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>Angular</u>
14. Spike Density:	<u>Mid-dense</u>	28. Brush Size (S,M,L):	<u>Medium</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>34</u>

30. Physiological/biochemical Traits:

Variants and frequency: About 0.8% of the plants were rogued from the Breeder seed increase in 2009. Approximately 95% of the variant plants were taller height wheat plants (8 to 30 cm.) and 5% were awnless wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

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

Variety Name SY Soren

Experimental Designation(s) 01S0263-28

Date NA&MLVRB first accepted this variety April 22, 2011

Date(s) previous amendments were accepted N/A

Date amendment submitted April 7, 2014

Date recommended by the NVRB August 06, 2014



Wheat

SY Sky

(Amended – Correction to Description in Original Application)

1. SY Sky is a hard white winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY Sky is the result of a cross made by Kansas State University and the F2 population shared in 1999. SY Sky was selected for yield, disease, quality and resistance to leaf rust.
3. SY Sky is best adapted to the winter wheat growing areas of Kansas.
4. SY Sky has moderate resistance to leaf rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description (pages 3-5) except where indicated:

1. Kind:	<u>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>Awne</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>White/amber</u>
5. Leaf Color at Boot:	<u>Green</u>	19. Glume Length:	<u>Short</u>
6. Flag Leaf at Boot:	<u>Erect, twisted, wax present</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Wide</u>
8. Days to 50% Heading:	<u>123</u>	22. Beak Shape:	<u>Acute</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S.M.L. VL):	<u>Medium</u>
10. Stem Color:	<u>Anthocyanin absent</u>	24. Glume Pubescence:	<u>Absent</u>
11. Plant Height (cm):	<u>77</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>Mid-dense</u>	28. Brush Size (S,M,L):	<u>Medium</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>36</u>

30. Physiological/biochemical Traits:

Variants and frequency: Less than .8% of the plants were rogued from the breeder seed increase in Eaton, CO. Approximately 98% of the rogued variant plants were taller height wheat plants (more than 8cm). Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Certified seed will be available in the fall of 2015.
8. Plant Variety Protection is anticipated in 2014 and SY Sky may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name SY Sky

Experimental Designation(s) BC98331-03\$-11W

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Triticale
SY TF 131
(Amended – Correction to Description in Original Application)

1. SY TF 131 is a tall semi-dwarf cultivar of winter triticale developed by Syngenta Seeds, Inc.
2. SY TF 131 was selected for its shorter stature, earlier maturity, substantially higher grain yields and vegetative biomass production ability.
3. SY TF 131 is best adapted to Southwest Oklahoma, the Rolling Plains of Texas and the Texas Cross Timbers Regions.
4. SY TF 131 possesses leaf rust tolerance, is moderately susceptible to stripe rust, and moderately resistant to stem rust.
5. Identifying characteristics – insert the appropriate descriptive term from the Objective Description

1. Ploidy	<u>Hexaploid</u>	15. Awn Color:	<u>Yellow</u>
2. Growth Habit:	<u>Winter</u>	16. Glume Pubescence:	<u>Glabrous</u>
3. Photoperiod Reaction:	<u>(no data)</u>	17. Glume Color:	<u>White</u>
4. Winterhardiness:	<u>Medium</u>	18. Glume Length:	<u>Long</u>
5. Maturity:	<u>Early</u>	19. Glume Width:	<u>Narrow</u>
6. Height:	<u>Tall Semi-Dwarf</u>	20. Glume Shoulder Shape:	<u>Wanting</u>
7. Plant Color at Boot Stage:	<u>Blue-Green</u>	21. Glume Beak Shape:	<u>Acute</u>
8. Stem Anthocyanin:	<u>Absent</u>	22. Coleoptile Color:	<u>Purple</u>
9. Neck Hairiness:	<u>None</u>	23. Seed Shape:	<u>Elliptical</u>
10. Neck Shape:	<u>Wavy</u>	24. Seed Smoothness:	<u>Slightly Wrinkled</u>
11. Flag Leaf at Boot:	<u>Twisted</u>	25. Seed Brush Area:	<u>Mid-Size</u>
12. Spike Density:	<u>Mid-Dense</u>	26. Seed Brush Length:	<u>Mid-Long</u>
13. Spike Shape:	<u>Clavate</u>	27. Seed Color:	<u>Red</u>
14. Spike Awnedness:	<u>Apically Awnletted</u>	28. Seed Relative Size:	<u>Medium</u>

Unique physiological/biochemical traits:

Variants and frequency: Less than 0.07% of the plants were rogued from the Breeder seed. Approximately 91% of the rogued variant plants were taller height and the other variants were awned. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Limited amounts of certified seed may be available in the fall of 2015.
8. Plant Variety Protection is anticipated in 2014.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name SY TF 131

Experimental Designation(s) 05tf131d

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Triticale

SY TF 813

(Amended – Correction to Description in Original Application)

1. SY TF 813 is a tall semi-dwarf cultivar of winter triticale developed by Syngenta Seeds, Inc.
2. SY TF 813 was selected for its earlier maturity, productivity, substantially higher grain yields, vegetative biomass production ability and silage harvests.
3. SY TF 813 is best adapted to silage and grazing production systems in the Texas Rolling Plains and the Texas Panhandle. SY TF 813 is sufficiently winter hardy to withstand the cold temperatures characteristic of the Texas Panhandle and western Kansas.
4. SY TF 813 possesses leaf rust tolerance and is moderately resistant to stripe rust.

5. Identifying characteristics – insert the appropriate descriptive term from the Objective Description

1. Ploidy	<u>Hexaploid</u>	15. Awn Color:	<u>White</u>
2. Growth Habit:	<u>Winter</u>	16. Glume Pubescence:	<u>Slight Pubescent</u>
3. Photoperiod Reaction:	<u>(no data)</u>	17. Glume Color:	<u>White</u>
4. Winterhardiness:	<u>Medium High</u>	18. Glume Length:	<u>Long</u>
5. Maturity:	<u>Early</u>	19. Glume Width:	<u>Narrow</u>
6. Height:	<u>Semi-Dwarf</u>	20. Glume Shoulder Shape:	<u>Wanting</u>
7. Plant Color at Boot Stage:	<u>Green</u>	21. Glume Beak Shape:	<u>Acute</u>
8. Stem Anthocyanin:	<u>Absent</u>	22. Coleoptile Color:	<u>White</u>
9. Neck Hairiness:	<u>Moderate</u>	23. Seed Shape:	<u>Elliptical</u>
10. Neck Shape:	<u>Wavy</u>	24. Seed Smoothness:	<u>Slightly Wrinkled</u>
11. Flag Leaf at Boot:	<u>Twisted, Waxy Bloom</u>	25. Seed Brush Area:	<u>Mid-Size</u>
12. Spike Density:	<u>Mid-Dense</u>	26. Seed Brush Length:	<u>Mid-Long</u>
13. Spike Shape:	<u>Clavate</u>	27. Seed Color:	<u>Red</u>
14. Spike Awnedness:	<u>Awnletted</u>	28. Seed Relative Size:	<u>Medium-Large</u>

Unique physiological/biochemical traits:

Variants and frequency: Less than 0.2% of the plants were rogued from the Breeder seed. Approximately 50% of the rogued variant plants were taller height and the other variants were awned. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, Inc. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the head row method to produce breeder seed if needed.
7. Limited amounts of certified seed may be available in the fall of 2015.
8. Plant Variety Protection is anticipated in 2014.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Variety Name SY TF 813

Experimental Designation(s) 08TF13

Date NA&MLVRB first accepted this variety April 04, 2014

Date(s) previous amendments were accepted N/A

Date amendment submitted June 30, 2014

Date recommended by the NVRB August 06, 2014



Barley

BG 104

1. “BG 104” (FA5S09-00104, F5N09-0104), six-rowed spring barley, was developed by WestBred/a Unit of Monsanto, (Ownership of all barley germplasm has been transferred from WestBred/Monsanto to Highland Specialty Grain).
2. BG 104 was selected for hullless and shrunken endosperm, waxy starch content, yield, and standability following the initial cross and subsequent pedigree breeding procedures.
3. BG 104 was tested against established check varieties in the irrigated areas of Idaho Falls, ID, Bozeman, MT, and the dryland area of Belfield, ND and has shown good adaptation those areas.
4. BG 104 is moderately resistant to powdery mildew and leaf rust. BG 104 is resistant to stem rust.
5. Identifying characteristics:

1. Growth Habit:	Spring	16. Plant Height (see below):	
2. Spike:	Six-row	17. Spike Shape:	Oblong
3. Coleoptile Color:	Green	18. Spike Density:	Mid-Dense
4. Juvenile Growth Habit:	Semi-erect	19. Spike Position at Maturity:	Inclined
5. Plant Tillering:	Intermediate	20. Hairiness of Rachis Edge:	Covered
6. Leaf Color at Boot:	Green	21. Rachilla Hair Length:	Long
7. Flag Leaf at Boot:	Erect straight n/waxy	22. Lemma Awns:	Straight
8. Pubescence on Leaf Blade:	No	23. Length of Lemma Awns:	Short
9. Pubescence on Leaf Sheath:	No	24. Lemma Awn Surface:	Rough
10.:Auricle Color:	White	25. Glume Hairiness:	Covered
11.Heading Date (see below):		26. Glume Awn Surface:	Rough
12. Stem Color:	White	27. Glume/Lemma Adherence:	Naked
13. Neck Shape:	Straight	28. Texture (if covered):	N/A
14. Collar Shape:	Open	29. Aleurone Color:	Colorless
15. Spike Exsertion:	Full	30. Avg 1,000 Kernel Wt (g):	25.6 gm

NOTE: The sheath of the flag leaf is waxy while the blade is not waxy.

NOTE: Having a shrunken endosperm greatly reduces the 1000-Kernel weight.

Heading date: 61 days which is: 2 days LATER than: BG 006

Plant height: 53.4 cm, which is 2.5 cm Shorter than BG 006

Physiological or biochemical traits: This is a naked, shrunken endosperm barley with high beta-glucan content.

Variants and frequency: BG 104 may contain a hulled or long awned variant at frequencies of up to 18/10000 seed (0.18%). No other variants are known to occur and BG 104 is a stable and uniform variety.

6. Highland Specialty Grains will maintain Breeder seed by planting head rows when necessary. The certified classes of seed shall be: Foundation Registered, and Certified.
7. Certified seed will be contracted for sale in spring of 2016.
8. Application for PVP is anticipated with the option that BG 104 can be sold by variety name only.
9. Certified seed production acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 23, 2014

Date recommended by the NVRB: Aug 06, 2014



Barley

BG 203

- 1. 'BG 203' (FA5S09-00203, F5N09-0203), two-rowed spring barley, was developed by WestBred/a Unit of Monsanto...
2. BG 203 was selected for hullless and shrunken endosperm, waxy starch content, yield, and standability...
3. BG 203 was tested against established check varieties in the irrigated area of Idaho Falls, ID and dryland area of Rosali, WA...
4. BG 203 has not been extensively tested enough for disease or pests to make claims of its resistance.
5. Identifying characteristics -

Table with 2 columns and 30 rows of characteristics such as Growth Habit, Spike, Coleoptile Color, Juvenile Growth Habit, etc., with corresponding values like Spring, Two-Row, Green, Semi-erect, etc.

Heading date: 6/18 which is 5 days EARLIER than: Champion

Plant height: 87.8 cm, which is 21.4 cm SHORTER than: Champion

Physiological or biochemical traits: BG 203 is a naked, shrunken endosperm barley with high beta-glucan content.

Variants and frequency: BG 203 may contain a hulled variant at frequencies of up to 18/10000 seed (0.18%). No other variants are known to occur and BG 203 is a stable and uniform variety in appearance and performance.

- 6. Highland Specialty Grains will maintain Breeder seed by planting head rows when necessary. The certified classes of seed shall be: Foundation Registered, and Certified.
7. Certified seed will be contracted for sale in spring of 2015.
8. Application for PVP is anticipated with the option that BG 203 can be sold by variety name only.
9. Certified seed production acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jun 23, 2014

Date recommended by the NVRB: Aug 27, 2014

