

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



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

August 2019

The Association of Official Seed Certifying Agencies (AOSCA), Small Grain Variety Review Board (SGVRB), reviewed the following varieties on August 19, 2019. 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,

Abed Anouti, Acting Chairman
Small Grains Variety Review Board

2019 AOSCA SMALL GRAIN VARIETY REVIEW BOARD

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Wheat

WB4269

H4N12-0038 (Exp)

(Amended – Description Change)

Variety Name WB4269

Experimental Designation(s) H4N12-0038

Date SGVRB first recommended this variety 2017

Date(s) any previous amendments were recommended

Date this amendment was submitted June 7, 2019

1. H4N12-0038 is a Hard Red Winter wheat developed by the Monsanto LLC.
2. In early generations of H4N12-0038, single spikes were selected based on agronomics and disease resistance. Later generations were selected based on yield, quality, and disease resistance.
3. H4N12-0038 is adapted to the Hard Red Winter wheat growing regions of the Central Plains.
4. No claims about disease resistance are made at this time.
5. Identifying characteristics:

1. Kind:	<u>Common, Hard Red Winter Wheat</u>		
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>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</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>Purple</u>	21. Shoulder Width:	<u>Narrow</u>
8. Day(s) to 50% Heading:	<u>146</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 (Glabrous)</u>
11. Plant Height (cm):	<u>73.7</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>M</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (g):	<u>36.4</u>

30. Physiological/Biochemical Traits:

Variants and Frequency: A variant that is similar to H4N12-0038 but has white seed occurs at a frequency of up to .25% (25 out 10,000 seeds). A variant that is similar to H4N12-0038 but is 15cm to 20cm taller occurs at a frequency of up to .2% (20/10,000). A bronze head variant may occur at a frequency of .1% (10/10,000). An awnless variant may occur at a frequency of .1% (10/10,000).

6. Recognized classes of H4N12-0038 are breeder, foundation, registered, and certified. Monsanto Company will maintain the variety by the head-row purification method to produce breeder seed as needed and all foundation seed. Royalty fees and/ or licensing agreements are anticipated.
7. Commercial seed of H4N12-0038 will likely be ready for commercial sale by the fall of 2018.
8. Application for a Utility Patent and PVP is anticipated for H4N12-0038 and the option for Title V will not be taken.
9. Certified seed production acreage is not to be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jun 07, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

WB4792 XB4711 (Exp) (Amended – Description Change)

Variety Name WB4792

Experimental Designation(s) XB4711

Date SGVRB first recommended this variety 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted June 7, 2019

1. WB4792 (XB4711) is a hard red winter wheat developed by Bayer Crop Science.
2. In early generations of WB4792, single spikes were selected based on agronomics and disease resistance. Later generations were selected based on yield, quality, and disease resistance.
3. WB4792 is adapted to the hard red winter wheat growing regions of the Central Plains.
4. No claims about disease resistance are made at this time.
5. Identifying characteristics:

1. Kind:	<u>Common, Hard Red Winter Wheat</u>	
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>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, Twisted, Wax Present</u>	20. Shoulder Shape: <u>Elevated</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width: <u>Medium</u>
8. Day(s) 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>Short</u>
10. Anthoncyanin:	<u>Absent</u>	24. Glume Pubescence: <u>Absent (Glabrous)</u>
11. Plant Height (cm):	<u>86</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>Mid Dense</u>	28. Brush Size (S,M,L.): <u>Short</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (grams): <u>48.5</u>

30. Physiological/Biochemical Traits:

Variants and Frequency: A variant that is similar to WB4792 but has white seed occurs at a frequency of up to 0.50% (50 out 10,000 seeds). A variant that is similar to WB4792 but is 15cm to 20cm taller occurs at a frequency of up to 0.2% (20/10,000). A bronze head variant may occur at a frequency of 0.1% (10/10,000). An awnless variant may occur at a frequency of 0.1% (10/10,000).

6. Recognized classes of WB4792 are breeder, foundation, registered, and certified. Bayer Crop Science will maintain the variety by the head-row purification method to produce breeder seed as needed and all foundation seed. Royalty fees and/ or licensing agreements are anticipated.
7. Commercial seed will likely be ready for sale by the fall of 2020.
8. Application for PVP is anticipated with the option that WB4792 can be sold by variety name only as a class of certified seed.
9. Certified seed production acreage is not to be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jun 07, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

WB9699

XB9511 (Exp)

(Amended – Description Change)

Variety Name WB9699

Experimental Designation(s) XB9511

Date SGVRB first recommended this variety 2019

Date(s) any previous amendments were recommended

Date this amendment was submitted June 3, 2019

1. WB9699 (XB9511) is a hard red spring wheat developed by Bayer Crop Science.
2. In early generations of WB9699, single spikes were selected based on agronomics and disease resistance. Later generations were selected based on yield, quality, and disease resistance.
3. WB9699 is adapted to the hard red spring wheat growing regions of California.
4. No claims about disease resistance are made at this time.
5. Identifying characteristics:

1. Kind:	<u>Common, Hard Red Spring Wheat</u>		
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>Blue-Green</u>	19. Glume Length:	<u>Long</u>
6. Flag Leaf at Boot:	<u>Recurved, Twisted, Wax Present</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>Purple</u>	21. Shoulder Width:	<u>Narrow</u>
8. Day(s) to 50% Heading:	<u>86</u>	22. Beak Shape:	<u>Acuminate</u>
9. Anther Color:	<u>Yellow</u>	23. Beak Length (S,M,L,VL):	<u>Long</u>
10. Anthoncyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Present</u>
11. Plant Height (cm):	<u>91</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Semi-solid</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>Erect</u>	29. Avg 1,000 Kernel Wt (grams):	<u>48.5</u>

30. Physiological/Biochemical Traits:

Variants and Frequency: A variant that is similar to WB9699 but has white seed occurs at a frequency of up to 0.50% (50 out 10,000 seeds). A variant that is similar to WB9699 but is 15cm to 20cm taller occurs at a frequency of up to 0.2% (20/10,000). A bronze head variant may occur at a frequency of 0.1% (10/10,000). An awnless variant may occur at a frequency of 0.10% (10/10,000). A glabrous glume variant may occur at a frequency of 2.00% (200 plants per 10,000).

6. Recognized classes of WB9699 are breeder, foundation, registered, and certified. Bayer Crop Science will maintain the variety by the head-row purification method to produce breeder seed as needed and all foundation seed. Royalty fees and/ or licensing agreements are anticipated.
7. Commercial seed will likely be ready for sale by the winter of 2020.
8. Application for PVP is anticipated with the option that WB9699 can be sold by variety name only as a class of certified seed.
9. Certified seed production acreage is not to be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jun 03, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

CO14A070 (Exp)

1. CO14A070 (not yet formally named) is a medium-short, medium-maturing semidwarf hard red winter wheat developed by Colorado State University (CSU). Ownership of CO14A070 has been transferred to the Colorado Wheat Research Foundation.
2. CO14A070 is a “CoAXium Wheat” that was developed using a modified pedigree breeding method. Selection criteria during development included general agronomic adaptation, grain yield and yield stability, test weight, milling and bread baking quality, and tolerance to Aggressor herbicide.
3. CO14A070 was tested throughout the U.S. hard winter wheat region. It is best adapted for dryland production conditions in eastern Colorado, western Kansas, western Nebraska, and Oklahoma.
4. No pest reaction claims are made.
5. Identifying characteristics:

1. Kind:	Common, Hard Red Winter Wheat		
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:	Green	19. Glume Length:	Medium
6. Flag Leaf at Boot:	Erect, Not Twisted, Wax Present	20. Shoulder Shape:	Rounded
7. Auricle Color:	White	21. Shoulder Width:	Narrow
8. Day(s) to 50% Heading:	141	22. Beak Shape:	Acuminate
9. Anther Color:	Yellow	23. Beak Length (S,M,L,VL):	Medium
10. Anthocyanin:	Absent	24. Glume Pubescence:	Absent
11. Plant Height (cm):	84	25. Seed Color:	Red
12. Internodes:	Hollow	26. Seed Shape:	Ovate
13. Spike Shape:	Tapering	27. Cheeks:	Rounded
14. Spike Density:	Mid dense	28. Brush Size (S,M,L.):	Medium
15. Spike Curvature:	Inclined	29. Avg 1,000 Kernel Wt (grams):	27

30. Physiological/
Biochemical Traits: The owner of the variety requests an Additional Certification Requirement as a condition of eligibility for final certification. All CoAXium™ Wheat Production System seedlots must be submitted to a CoAXium™ Wheat Production System certified seed testing lab and pass the AXigen™ Seed Assay prior to its sale and distribution as Foundation, Registered, or Certified seed to confirm the acceptable, minimum herbicide tolerance level of 92% to Aggressor™ herbicide.

Variants and Frequency: Variants are limited to: (1) extreme tall plants (head height greater than one head length above the main canopy) that occur at a frequency of fewer than 1 in 1,000 plants; (2) plants with brown glumes that occur at a frequency of fewer than 1 in 1,000 plants; (3) plants that produce heads that lack awns at a frequency of fewer than 1 in 1,000 plants; and (4) plants that produce seed with a white seed coat at a frequency of fewer than 1 in 200 plants.

6. Recognized classes of CO14A070 are breeder, foundation, registered, and certified. Either Colorado State University or their licensee will maintain the variety by manual removal of off-types as needed to produce breeder seed and foundation seed. Royalties for the variety and trait fees for the herbicide tolerance traits will be collected through the Colorado Wheat Research Foundation.
7. Certified seed of CO14A070 will likely be available for planting in fall of 2019.
8. Application for PVP is anticipated with the option that CO14A070 can be sold by variety name only as a class of certified seed.
9. Certified seed production acreage of CO14A070 may not be published by AOSCA and individual certifying agencies.

Date this application was submitted: Apr 18, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat
Battle AX
CO15A018 (Exp)
(Amended – Name Change)

Variety Name Battle AX
 Experimental Designation(s) CO15A018
 Date SGVRB first recommended this variety Apr 22, 2019
 Date(s) any previous amendments were recommended _____
 Date this amendment was submitted Aug 13, 2019

1. Battle AX is a medium-short, medium-maturing semidwarf hard red winter wheat developed by Colorado State University (CSU). Ownership of Battle AX has been transferred to the Colorado Wheat Research Foundation.
2. Battle AX is a doubled haploid (DH) “CoAXium Wheat” developed using the wheat-maize hybridization method. Selection criteria during development included general agronomic adaptation, grain yield and yield stability, test weight, milling and bread baking quality, and tolerance to Aggressor herbicide.
3. Battle AX was tested throughout the U.S. hard winter wheat region. It is best adapted for dryland production conditions in eastern Colorado, western Kansas, western Nebraska, and the Panhandles of both Oklahoma and Texas.
4. No pest reaction claims are made.
5. Identifying characteristics:

1. Kind:	Common, Hard Red Winter Wheat	
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:	Green	19. Glume Length: Medium
6. Flag Leaf at Boot:	Erect, Not Twisted, Wax Present	20. Shoulder Shape: Rounded
7. Auricle Color:	White	21. Shoulder Width: Narrow
8. Day(s) to 50% Heading:	141	22. Beak Shape: Acuminate
9. Anther Color:	Yellow	23. Beak Length (S,M,L,VL): Medium
10. Anthocyanin:	Absent	24. Glume Pubescence: Absent
11. Plant Height (cm):	78	25. Seed Color: Red
12. Internodes:	Hollow	26. Seed Shape: Ovate
13. Spike Shape:	Tapering	27. Cheeks: Rounded
14. Spike Density:	Mid dense	28. Brush Size (S,M,L.): Medium
15. Spike Curvature:	Inclined	29. Avg 1,000 Kernel Wt (grams): 28

30. Physiological/
 Biochemical Traits: The owner of the variety requests an Additional Certification Requirement as a condition of eligibility for final certification. All CoAXium™ Wheat Production System seedlots must be submitted to a CoAXium™ Wheat Production System certified seed testing lab and pass the AXigen™ Seed Assay prior to its sale and distribution as Foundation, Registered, or Certified seed to confirm the acceptable, minimum herbicide tolerance level of 92% to Aggressor™ herbicide.

Variants and Frequency: Variants are limited to: (1) extreme tall plants (head height greater than one head length above the main canopy) that occur at a frequency of fewer than 1 in 1,000 plants; (2) plants with brown glumes that occur at a frequency of fewer than 1 in 1,000 plants; (3) plants that produce heads that lack awns at a frequency of fewer than 1 in 1,000 plants; and (4) plants that produce seed with a white seed coat at a frequency of fewer than 1 in 200 plants.

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Wheat
Battle AX
CO15A018 (Exp)
(Amended – Name Change)

Variety Name Battle AX

Experimental Designation(s) CO15A018

Date SGVRB first recommended this variety Apr 22, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted Aug 13, 2019

6. Recognized classes of Battle AX are breeder, foundation, registered, and certified. Colorado State University will maintain the variety by manual removal of off-types as needed to produce breeder seed and foundation seed. Royalties for the variety and trait fees for the herbicide tolerance traits will be collected through the Colorado Wheat Research Foundation.
7. Certified seed of Battle AX will likely be available for planting in fall of 2019.
8. Application for PVP is anticipated with the option that Battle AX can be sold by variety name only as a class of certified seed.
9. Certified seed production acreage of Battle AX may be published by AOSCA and individual certifying agencies.

Date this application was submitted: Aug 13, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

TCG-Heartland M14C1030 (Exp) (Amended – Description Change)

Variety Name TCG-Heartland
Experimental Designation(s) M14C1030
Date SGVRB first recommended this variety 8/29/18
Date(s) any previous amendments were recommended 9/17/18
Date this amendment was submitted 7/8/19

1. TCG-Heartland is a hard red spring wheat variety developed by 21st Century Genetics and Global Soy Genetics and owned by Global Soy Genetics.
2. TCG-Heartland was selected for yield, quality, disease tolerance and agronomic characteristics in growth chambers and in the field using modified single seed descent.
3. TCG-Heartland was tested in the Red River Valley of North Dakota/Minnesota and is well-adapted to be a quality hard red spring bread wheat in the wheat production areas of North Dakota and Minnesota.
4. No claims are being made as to the disease and insect resistance of TCG-Heartland.
5. Identifying characteristics:

1. Kind:	<u>Common, Hard Red Spring Wheat</u>		
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/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, Wax Present</u>	20. Shoulder Shape:	<u>Square</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Day(s) to 50% Heading:	<u>62 days after planting</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>75</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Oval</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>Medium</u>
15. Spike Curvature:	<u>Inclined</u>	29. Avg 1,000 Kernel Wt (grams):	<u>36</u>

30. Physiological/Biochemical Traits: None

Variants and Frequency: 1/1000 talls 12 cm above the canopy.

6. Recognized classes of TCG-Heartland are breeder, foundation, registered and certified. Global Soy Genetics will maintain the variety by head-row purification method to produce breeder seed as needed.
7. Certified Seed will be offered for sale in 2019.
8. Application will be made for PVP (Title V) protection.
9. Seed production acreage of TCG-Heartland is not to be published by AOSCA or other seed certifying agencies.

Date this application was submitted: Jul 08, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

122013W 10S0012-16 (Exp)

- 122013W is a Hard red spring wheat developed by Syngenta Crop Protection, AG.
- 122013W was selected for yield, height, lodging resistance, disease resistance and quality.
- 122013W was tested in and is broadly adapted in the spring wheat production areas of the Northern Plains.
- 122013W has moderate resistance to stem rust, fusarium head blight and intermediate resistance to foliar diseases.

5. Identifying characteristics

1. Kind:	Common, Hard Red Spring Wheat		
2. Seasonal Growth Habit:	Spring	16. Awn Type:	Awed
3. Coleoptile Color:	White	17. Awn Color:	White
4. Juvenile Growth Habit:	Erect	18. Glume Color:	White/Amber
5. Leaf Color at Boot:	Green	19. Glume Length:	Long
6. Flag Leaf at Boot:	Re-Curved, Twisted, Wax Absent	20. Shoulder Shape:	Oblique
7. Auricle Color:	White	21. Shoulder Width:	Medium
8. Day(s) to 50% Heading:	56	22. Beak Shape:	Acuminate
9. Anther Color:	Yellow	23. Beak Length (S,M,L,VL):	Medium
10. Anthocyanin:	Absent	24. Glume Pubescence:	Present
11. Plant Height (cm):	79	25. Seed Color:	Red
12. Internodes:	Hollow	26. Seed Shape:	Ovate
13. Spike Shape:	Tapering	27. Cheeks:	Rounded
14. Spike Density:	Mid Dense	28. Brush Size (S,M,L.):	Medium
15. Spike Curvature:	Erect	29. Avg 1,000 Kernel Wt (grams):	37

30. Physiological/Biochemical Traits:

Variants and Frequency: Less than 0.8% of the plants were rogued from the breeder seed increase at Berthoud, 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.

- 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 seed as needed.
- Certified seed of 122013W will likely be available for planting in spring of 2021.
- Application for PVP is anticipated, and 122013W 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: Jul 05, 2019 Date recommended by the VRB: Sep 19, 2019



Wheat

122014W 10S0158-15 (Exp)

1. 122014W is a Hard red spring wheat developed by Syngenta Crop Protection, LLC.
2. 122014W was selected for yield, height, lodging resistance, disease resistance and quality.
3. 122014W was tested in and is broadly adapted in the spring wheat production areas of the Northern Plains.
4. 122014W has resistance to stem rust, and intermediate resistance to fusarium head blight and foliar diseases.
5. Identifying characteristics:

1. Kind:	Common, Hard Red Spring Wheat		
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>Square</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Medium</u>
8. Day(s) 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. Anthocyanin:	<u>Absent</u>	24. Glume Pubescence:	<u>Present</u>
11. Plant Height (cm):	<u>80</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>Long</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (grams):	<u>33</u>

30. Physiological/Biochemical Traits:

Variants and Frequency: Less than 0.8% of the plants were rogued from the breeder seed increase at Berthoud, 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/progeny method to produce seed as needed.
7. Certified seed of 122014W will likely be available for planting in spring of 2021.
8. Application for PVP is anticipated without the option for Title 5.
9. Certified acreage is not to be published by AOSCA and certifying agencies.

Date this application was submitted: Jul 05, 2019 Date recommended by the VRB: Sep 19, 2019



Wheat

AP Murdock NP11100273-23 (Exp)

1. AP Murdock is a Hard red spring wheat developed by Syngenta Crop Protection, AG.
2. AP Murdock was selected for yield, height, lodging resistance, disease resistance and quality.
3. AP Murdock was tested in and is broadly adapted in the spring wheat production areas of the Northern Plains.
4. AP Murdock has intermediate tolerance to FHB and foliar diseases.
5. Identifying characteristics:

1. Kind:	Common, Hard Red Spring Wheat		
2. Seasonal Growth Habit:	Spring	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:	Green	19. Glume Length:	Medium
6. Flag Leaf at Boot:	Re-curved, Twisted, Wax-Present	20. Shoulder Shape:	Elevated
7. Auricle Color:	White	21. Shoulder Width:	Medium
8. Day(s) to 50% Heading:	56	22. Beak Shape:	Acuminate
9. Anther Color:	Yellow	23. Beak Length (S,M,L,VL):	“L” Long
10. Anthocyanin:	Absent	24. Glume Pubescence:	Present
11. Plant Height (cm):	74 cm	25. Seed Color:	Red
12. Internodes:	Hollow	26. Seed Shape:	Ovate
13. Spike Shape:	Tapering	27. Cheeks:	Rounded
14. Spike Density:	Mid-Dense	28. Brush Size (S,M,L.):	Medium
15. Spike Curvature:	Erect	29. Avg 1,000 Kernel Wt (grams):	34

30. Physiological/Biochemical Traits:

Variants and Frequency: Less than 0.8% of the plants were rogued from the breeder seed increase at Berthoud, 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/progeny method to produce seed as needed.
7. Certified seed of AP Murdock will likely be available for planting in spring of 2021.
8. Application for PVP is anticipated, and AP Murdock 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: Jul 05, 2019

Date recommended by the VRB: Sep 19, 2019



Wheat

AP Octane USW11200024-1-4 (Exp) (Amended – Description Change)

Variety Name AP Octane

Experimental Designation(s) USW11200024-1-4

Date SGVRB first recommended this variety Apr 26, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted Aug 15, 2019

1. AP Octane (USW11200024-1-4) is a hard red spring wheat developed by Syngenta Participations AG.
2. AP Octane (USW11200024-1-4) was selected for height, maturity, appearance, kernel color, kernel soundness, disease reaction and end use quality that originated with a single cross made in January of 2010.
3. AP Octane (USW11200024-1-4) is primarily adapted to the Sacramento and San Joaquin Valleys. It appears well suited to irrigated and high rainfall production areas of Southern Idaho and the Columbia Basin in Washington as well.
4. AP Octane (USW11200024-1-4) has shown above average tolerance to current races of stripe rust.
5. Identifying characteristics:

1. Kind:	<u>Common, Hard Red Spring Wheat</u>		
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>Recurved, Twisted, Wax Absent</u>	20. Shoulder Shape:	<u>Oblique</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Day(s) to 50% Heading:	<u>89</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>Present</u>
11. Plant Height (cm):	<u>101</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Oval</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>Medium</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (grams):	<u>41.2</u>

30. Physiological/Biochemical Traits: None

Variants and Frequency: Variants and frequency: Up to 1.5% taller variant plants (8-12cm) may be encountered in subsequent generations. Also, up to 1.8% white seed variant may be encountered.

6. Syngenta Seeds, LLC. maintains seed stock and certified classes of Foundation, Registered, and Certified. Syngenta Seeds, LLC. will maintain the variety by the head row/progeny method to produce breeder seed as needed. Royalty fees are anticipated.
7. Certified seed stocks of AP Octane (USW11200024-1-4) will be available in the fall of 2019.
8. Plant Variety Protection is anticipated in 2019 and AP Octane (USW11200024-1-4) 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: Aug 15, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

AP Venom USW11200083-1-3 (Exp) (Amended – Description Change)

Variety Name AP Venom

Experimental Designation(s) USW11200083-1-3

Date SGVRB first recommended this variety Apr 26, 2019

Date(s) any previous amendments were recommended _____

Date this amendment was submitted Aug 15, 2019

1. AP Venom (USW11200083-1-3) is a hard red spring wheat developed by Syngenta Participations AG.
2. AP Venom (USW11200083-1-3) was selected for height, maturity, appearance, kernel color, kernel soundness, disease reaction and end use quality that originated with a single cross made in January of 2010.
3. AP Venom (USW11200083-1-3) is primarily adapted to the Sacramento and San Joaquin Valleys.
4. AP Venom (USW11200083-1-3) has shown above average tolerance to current races of stripe rust. It has shown average milling and baking characteristics.
5. Identifying characteristics:

1. Kind: Common, Hard Red Spring Wheat

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>Recurved, Twisted, Wax Absent</u>	20. Shoulder Shape:	<u>Elevated</u>
7. Auricle Color:	<u>White</u>	21. Shoulder Width:	<u>Narrow</u>
8. Day(s) to 50% Heading:	<u>89</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>Present</u>
11. Plant Height (cm):	<u>110</u>	25. Seed Color:	<u>Red</u>
12. Internodes:	<u>Hollow</u>	26. Seed Shape:	<u>Oval</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>Medium</u>
15. Spike Curvature:	<u>Erect</u>	29. Avg 1,000 Kernel Wt (grams):	<u>38</u>

30. Physiological/Biochemical Traits: None

Variants and Frequency: Up to 1.5% taller variant plants (8-12cm) may be encountered in subsequent generations. Also, up to 1.8% white seed variant may be encountered.

6. Syngenta Seeds, LLC. maintains seed stock and certified classes of Foundation, Registered, and Certified. Syngenta Seeds, LLC. will maintain the variety by the head row/progeny method to produce breeder seed as needed. Royalty fees are anticipated.
7. Certified seed stocks of AP Venom (USW11200083-1-3) will be available in the fall of 2019.
8. Plant Variety Protection is anticipated in 2019 and AP Venom (USW11200083-1-3) 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: Aug 15, 2019 Date recommended by the VRB: Aug 19, 2019



Wheat

SY McCloud 10S0059-28 (Exp) (Amended – Description Change)

Variety Name SY McCloud

Experimental Designation(s) 10S0059-28

Date SGVRB first recommended this variety Aug 27, 2018

Date(s) any previous amendments were recommended _____

Date this amendment was submitted July 30, 2019

1. SY McCloud is a hard red spring wheat bred and developed by Syngenta Participations AG.
2. SY McCloud was selected for height, straw strength, maturity, foliar diseases, scab, leaf and stem rust.
3. SY McCloud is primarily adapted for the Northern Plains of the USA.
4. SY McCloud is moderately susceptible to Fusarium Head Blight.
5. Identifying characteristics:

1. Kind:	<u>Common, Hard Red Spring Wheat</u>	16. Awn Type:	<u>Awed</u>
2. Seasonal Growth Habit:	<u>Spring</u>	17. Awn Color:	<u>White</u>
3. Coleoptile Color:	<u>White</u>	18. Glume Color:	<u>White/Amber</u>
4. Juvenile Growth Habit:	<u>Erect</u>	19. Glume Length:	<u>Medium</u>
5. Leaf Color at Boot:	<u>Green</u>	20. Shoulder Shape:	<u>Oblique</u>
6. Flag Leaf at Boot:	<u>Erect, Not Twisted, Wax Absent</u>	21. Shoulder Width:	<u>Narrow</u>
7. Auricle Color:	<u>White</u>	22. Beak Shape:	<u>Acute</u>
8. Day(s) to 50% Heading:	<u>57</u>	23. Beak Length (S,M,L,VL):	<u>Medium</u>
9. Anther Color:	<u>Yellow</u>	24. Glume Pubescence:	<u>Absent</u>
10. Anthocyanin:	<u>Absent</u>	25. Seed Color:	<u>Red</u>
11. Plant Height (cm):	<u>78</u>	26. Seed Shape:	<u>Ovate</u>
12. Internodes:	<u>Hollow</u>	27. Cheeks:	<u>Rounded</u>
13. Spike Shape:	<u>Tapering</u>	28. Brush Size (S,M,L.):	<u>Medium</u>
14. Spike Density:	<u>Middense</u>	29. Avg 1,000 Kernel Wt (grams):	<u>38</u>
15. Spike Curvature:	<u>Inclined</u>		

30. Physiological/Biochemical Traits:

Variants and Frequency: Variant plants are taller in height by 8 to 15 cm. Up to 1% taller variant plants may be encountered in subsequent generations.

6. Syngenta Seeds, LLC. maintains seed stock and certified classes of Foundation, Registered and Certified. Syngenta Seeds, LLC. will maintain the variety by the head row/progeny method to produce breeder seed as needed.
7. Certified seed will likely be available in the Spring of 2019.
8. Plant Variety Protection is anticipated in 2018 and SY McCloud 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: Jul 30, 2019 Date recommended by the VRB: Aug 19, 2019



Barley
Charger
BZ512-319 (Exp)

1. Charger, BZ512-319 two-rowed spring feed barley, was developed by WestBred/a Unit of Monsanto. Ownership of all barley germplasm was transferred to Highland Specialty Grains Inc.
2. Charger, BZ512-319 was selected for plant height, tillering, seed size, and resistance to lodging.
3. Charger has shown good adaptation to the barley growing regions of the Pacific Northwest.
4. Charger is resistant or moderately resistant to the net form of net blotch. See table 12 & 13.
5. Identifying characteristics:

1. Growth Habit:	<u>Spring</u>	16. Plant Height (see below):	<u></u>
2. Spike:	<u>Two-row</u>	17. Spike Shape:	<u>Oblong</u>
3. Coleoptile Color:	<u>Green</u>	18. Spike Density:	<u>Dense</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>Covered</u>
6. Leaf Color at Boot:	<u>Yellow-Green</u>	21. Rachilla Hair Length:	<u>Long</u>
7. Flag Leaf at Boot:	<u>Erect, Not-twisted, No Waxy Bloom</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>Middle Only</u>
11.Heading Date (see below):	<u></u>	26. Glume Awn Surface:	<u>Rough</u>
12. Stem Color:	<u>White</u>	27. Glume/Lemma Adherence:	<u>Covered</u>
13. Neck Shape:	<u>Straight</u>	28. Texture (if covered):	<u>Semi-Wrinkled</u>
14. Collar Shape:	<u>Closed</u>	29. Aleurone Color:	<u>Colorless</u>
15. Spike Exsertion:	<u>Intermediate</u>	30. Avg 1,000 Kernel Wt (grams):	<u>47.6</u>

Heading date: 176.1 which is: The same as: Champion

Plant height: 87.4 cm, which is 6 cm SHORTER than: Champion

Physiological or Biochemical traits:

Variants and Frequency: CHARGER, BZ512-319 is stable in appearance and performance, however a tall off type approximately 2-4 inches taller can be observed at frequencies of 4/10000 plants (.04%). No other variants are known to occur.

6. The certified classes of seed shall be: Select, Foundation, Registered and Certified. Highland Specialty Grains will produce breeder seed by planting head rows as necessary.
7. Foundation seed will first be produced in the spring of 2020.
8. Application of PVP will be made without the Title V option. Plant Breeders right will also be pursued in Canada.
9. Certified seed acreage is not to be published by AOSCA.

Date this application was submitted: Jul 08, 2019 Date recommended by the VRB: Aug 22, 2019



Triticale
APB114
470,114 (Exp)

1. APB114 (470,114) is a Triticale developed by Arizona Plant Breeders, Inc.
2. APB114 was selected for high forage yield.
3. APB114 has been tested and found to be well adapted to the forage triticale producing regions of the San Joaquin Valley of California.
4. APB114 has demonstrated excellent forage yield and good forage quality.
5. Identifying characteristics:

1. Ploidy:	Hexaploid	15. Awn Color:	Yellow
2. Growth Habit:	Spring	16. Glume Pubescence:	Pubescent
3. Photoperiod Reaction:	Insensitive	17. Glume Color:	Yellow
4. Winterhardiness:	Low	18. Glume Length:	Mid-long
5. Maturity:	Mid-season	19. Glume Width:	Mid-long
6. Height:	Mid-Tall	20. Glume Shoulder Shape:	Wanting
7. Plant Color at Boot Stage:	Green	21. Glume Beak Shape:	Acuminate
8. Stem Anthocyanin:	Absent	22. Coleoptile Color:	White
9. Neck Hairiness:	Slight	23. Seed Shape:	Elliptical
10. Neck Shape:	Wavy	24. Seed Smoothness:	Slightly wrinkled
11. Flag Leaf at Boot:	Twisted, Re-curved, Waxy Bloom	25. Seed Brush Area:	Mid-size
12. Spike Density:	Mid-dense	26. Seed Brush Length:	Mid-long
13. Spike Shape:	Fusiform	27. Seed Color:	Red
14. Spike Awedness:	Awned	28. Seed Relative Size:	Medium-small

Unique Physiological/Biochemical Traits: NA

Variants and Frequency: Plants six inches and taller occur at a rate of one in every 1,000 plants.

6. Recognized classes of APB114 are breeder, foundation, registered, and certified. Arizona Plant Breeders will maintain the variety by the spike-row method to produce breeder seed as needed. APB114 will have a royalty fee and licensing agreement required.
7. Certified seed of APB114 will most likely be available for sale in the fall of 2021.
8. Application for PVP is anticipated.
9. Certified seed acreage may be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jul 01, 2019 Date recommended by the VRB: Aug 23, 2019



Triticale
APB118
470,118 (Exp)

1. APB118 (470,118) is a Triticale developed by Arizona Plant Breeders, Inc.
2. APB118 was selected for high forage yield and excellent forage quality.
3. APB118 has been tested and found to be well adapted to the triticale producing regions of the San Joaquin Valley of California.
4. APB118 has demonstrated excellent forage yield and good forage quality.
5. Identifying characteristics:

1. Ploidy:	Hexaploid	15. Awn Color:	Yellow
2. Growth Habit:	Spring	16. Glume Pubescence:	Pubescent
3. Photoperiod Reaction:	Insensitive	17. Glume Color:	Yellow
4. Winterhardiness:	Low	18. Glume Length:	Mid-Long
5. Maturity:	Mid-season	19. Glume Width:	Mid-wide
6. Height:	Tall	20. Glume Shoulder Shape:	Square
7. Plant Color at Boot Stage:	Green	21. Glume Beak Shape:	Acuminate
8. Stem Anthocyanin:	Absent	22. Coleoptile Color:	White
9. Neck Hairiness:	Moderate	23. Seed Shape:	Elliptical
10. Neck Shape:	Wavy	24. Seed Smoothness:	Smooth
11. Flag Leaf at Boot:	Twisted, Re-curved, Waxy Bloom	25. Seed Brush Area:	Mid-Wide
12. Spike Density:	Mid-dense	26. Seed Brush Length:	Mid-Long
13. Spike Shape:	Fusiform	27. Seed Color:	Red
14. Spike Awedness:	Awned	28. Seed Relative Size:	Medium

Unique Physiological/Biochemical Traits: NA

Variants and Frequency: Plants six inches and taller occur at a rate of one in every 1,000 plants.

6. Recognized classes of APB118 are breeder, foundation, registered, and certified. Arizona Plant Breeders will maintain the variety by the spike-row method to produce breeder seed as needed. APB118 will have a royalty fee and licensing agreement required.
7. Certified seed of APB118 will most likely be available for sale in the fall of 2021.
8. Application for PVP is anticipated.
9. Certified seed acreage may be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jul 01, 2019 Date recommended by the VRB: Aug 23, 2019



Triticale
APB298
470,298 (Exp)

1. APB28 (470,298) is a Triticale developed by Arizona Plant Breeders, Inc.
2. APB298 was selected for high forage yield and excellent forage quality.
3. APB298 has been tested and found to be well adapted to the triticale producing regions of the San Joaquin Valley of California.
4. APB298 has demonstrated excellent forage yield and good forage quality.
5. Identifying characteristics:

1. Ploidy:	Hexaploid	15. Awn Color:	Yellow
2. Growth Habit:	Spring	16. Glume Pubescence:	Glabrous
3. Photoperiod Reaction:	Insensitive	17. Glume Color:	Yellow
4. Winterhardiness:	Low	18. Glume Length:	Mid-long
5. Maturity:	Mid-season	19. Glume Width:	Mid-wide
6. Height:	Mid-Tall	20. Glume Shoulder Shape:	Wanting
7. Plant Color at Boot Stage:	Blue-Green	21. Glume Beak Shape:	Acuminate
8. Stem Anthocyanin:	Absent	22. Coleoptile Color:	White
9. Neck Hairiness:	Slight	23. Seed Shape:	Elliptical
10. Neck Shape:	Wavy	24. Seed Smoothness:	Slightly wrinkled
11. Flag Leaf at Boot:	Twisted, Re-curved, Waxy Bloom	25. Seed Brush Area:	Large
12. Spike Density:	Mid-dense	26. Seed Brush Length:	Mid-long
13. Spike Shape:	Fusiform	27. Seed Color:	Red
14. Spike Awedness:	Awned	28. Seed Relative Size:	Medium

Unique Physiological/Biochemical Traits: NA

Variants and Frequency: Plants six inches and taller occur at a rate of one in every 1,000 plants.

6. Recognized classes of APB298 are breeder, foundation, registered, and certified. Arizona Plant Breeders will maintain the variety by the spike-row method to produce breeder seed as needed. APB298 will have a royalty fee and licensing agreement required.
7. Certified seed of APB298 will most likely be available for sale in the fall of 2021.
8. Application for PVP is anticipated.
9. Certified seed acreage may be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jul 01, 2019 Date recommended by the VRB: Aug 23, 2019



Triticale
APB308
470,308 (Exp)

1. APB308 (470,308) is a Triticale developed by Arizona Plant Breeders, Inc.
2. APB308 was selected for high forage yield and good forage quality.
3. APB308 has been tested and found to be well adapted to the triticale producing regions of the San Joaquin Valley of California.
4. APB308 has demonstrated excellent forage yield and good forage quality.
5. Identifying characteristics:

1. Ploidy:	<u>Hexaploid</u>	15. Awn Color:	<u>Yellow</u>
2. Growth Habit:	<u>Spring</u>	16. Glume Pubescence:	<u>Glabrous</u>
3. Photoperiod Reaction:	<u>Insensitive</u>	17. Glume Color:	<u>Yellow</u>
4. Winterhardiness:	<u>Low</u>	18. Glume Length:	<u>Mid-long</u>
5. Maturity:	<u>Mid-season</u>	19. Glume Width:	<u>Mid-wide</u>
6. Height:	<u>Mid-Tall</u>	20. Glume Shoulder Shape:	<u>Wanting</u>
7. Plant Color at Boot Stage:	<u>Blue-Green</u>	21. Glume Beak Shape:	<u>Acuminate</u>
8. Stem Anthocyanin:	<u>Absent</u>	22. Coleoptile Color:	<u>White</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, Re-curved, 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>Fusiform</u>	27. Seed Color:	<u>Red</u>
14. Spike Awnedness:	<u>Awned</u>	28. Seed Relative Size:	<u>Medium</u>

Unique Physiological/Biochemical Traits: NA

Variants and Frequency: Plants six inches and taller occur at a rate of one in every 1,000 plants.

6. Recognized classes of APB308 are breeder, foundation, registered, and certified. Arizona Plant Breeders will maintain the variety by the spike-row method to produce breeder seed as needed. APB308 will have a royalty fee and licensing agreement required.
7. Certified seed of APB308 will most likely be available for sale in the fall of 2021.
8. Application for PVP is anticipated.
9. Certified seed acreage may be published by AOSCA and individual certifying agencies.

Date this application was submitted: Jul 01, 2019 Date recommended by the VRB: Aug 23, 2019

