

A REPORT OF THE
NATIONAL SMALL GRAIN VARIETY REVIEW BOARD



ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES

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MAY 2010



NATIONAL SMALL GRAIN VARIETY REVIEW BOARD
ASSOCIATION OF OFFICIAL SEED CERTIFYING AGENCIES
May 2010

The Association of Official Seed Certifying Agencies (AOSCA), National Small Grain Variety Review Board (NSGVRB), reviewed the following varieties on March 18, 2010. The Board recommended the inclusion of these varieties for certification. Seed of these varieties may be certified, providing production meets all standards of the Seed Certifying Agency of the jurisdiction in which the seed is grown.

All variety information, including descriptions, claims, and research data to support any claim, was supplied to the National Small Grain Variety Review Board by the applicants. The National Small Grain Variety Review Board makes judgments regarding recommendation of varieties for inclusion into certification based on the data supplied. Beyond that, the National Small Grain Variety Review Board takes no position on the accuracy or truthfulness of any description or claim made by the applicants.

Further information on current procedures, application forms, and detail regarding the National Small Grain Variety Review Board can be obtained from:

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

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

Respectfully submitted,

Steve Sebesta, Chairman
National Small Grains Variety Review Board

2010 AOSCA SMALL GRAIN VARIETY REVIEW BOARD

TABLE OF CONTENTS

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

Company	Page	Variety Name	Experimental Designation
Wheat			
Pioneer Hi-Bred International, Inc.	1	25R32	XW07X
Pioneer Hi-Bred International, Inc.	2	26R20	XW07B
Syngenta Seeds, Inc.	3	CJ	BC01138-5
Syngenta Seeds, Inc.	4	Greer	AP06T3832
Syngenta Seeds, Inc.	5	AP Badger	Rem Pop 80-3
Syngenta Seeds, Inc.	6	SY Gold	00x0100-51
Syngenta Seeds, Inc.	7	Arcadia	D05*6441
Syngenta Seeds, Inc.	8	SY 9978	B040798
Syngenta Seeds, Inc.	9	SY605 CL	03S0409-16
University of Nebraska	10	NE01481	NE01481
University of Nebraska	11	NI04421	NI04421

25R32

1. 25R32 (Experimental number XW07X) is a soft red winter wheat developed by Pioneer Hi-Bred International, Inc.
2. The cultivar 25R32 was bred and selected using a modified pedigree selection method for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.
3. 25R32 has shown adaptation to the soft wheat region of North America based on tests conducted in Arkansas, Tennessee, Mississippi, Georgia, South Carolina, North Carolina, Virginia, Kentucky, Missouri, Illinois, Indiana, Ohio, Michigan, Maryland, Delaware, and Ontario, Canada.
4. 25R32 exhibits a high level of *Fusarium* head blight resistance along with excellent stripe rust and very good powdery mildew resistance. 25R32 has good resistance to spindle streak mosaic and soilborne mosaic virus. 25R32 has average resistance to leaf rust and the complex of fungal organisms that incite leaf blights. 25R32 is postulated to contain the H9, H10 genes for Hessian fly resistance.

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

- | | |
|--|---|
| 1. <u>Kind</u> : Common | 2. <u>Growth habit</u> : Winter |
| 3. <u>Coleoptile color</u> : Red | 4. <u>Juvenile growth habit</u> : Prostrate |
| 5. <u>Leaf color at boot</u> : Green | 6. <u>Flag leaf at boot</u> : Recurved, twisted, waxy |
| 7. <u>Auricle color</u> : White | 8. <u>Days to 50% heading</u> : 132 |
| 9. <u>Anther color</u> : Yellow | 10. <u>Stem color</u> : Absent |
| 11. <u>Plant height (cm)</u> : 93 | 12. <u>Internodes</u> : Hollow |
| 13. <u>Spike shape</u> : Tapering | 14. <u>Spike density</u> : Mid dense |
| 15. <u>Spike curvature</u> : Nodding | 16. <u>Awn type</u> : Awned |
| 17. <u>Awn color</u> : White | 18. <u>Glume color</u> : White/Amber |
| 19. <u>Glume length</u> : Medium | 20. <u>Shoulder shape</u> : Oblique |
| 21. <u>Shoulder width</u> : Medium | 22. <u>Beak shape</u> : Acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : S | 24. <u>Glume pubescence</u> : Glabrous |
| 25. <u>Seed color</u> : Red | 26. <u>Seed shape</u> : Ovate |
| 27. <u>Cheeks</u> : Rounded | 28. <u>Brush size (S, M, L)</u> : L |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 34 | 30. <u>Phenol reaction</u> : Dark Brown |
| 31. <u>Other</u> : Soft texture | |

Physiological/biochemical traits:

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

Variants and frequency: 25R32 has shown no variants other than what would normally be expected due to environment.

6. Breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Hi-Bred International, Inc. Parent Seed Operations and Production department. Foundation seed will be initially produced from breeders seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeding department. Registered seed will be grown from foundation or breeder seed, and maintained at a purity level satisfactory to Pioneer Parent Seed Operations, Production department, or the appropriate certifying agency. Production of certified seed by licensed producer/distributors will be controlled by the Pioneer Production department.
7. Certified seed of 25R32 will potentially first be offered for sale in the fall of 2010.
8. Application for Plant Variety Protection has been made and allowed and the certification option was not elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



26R20

1. 26R20 (Experimental number XW07B) is a soft red winter wheat developed by Pioneer Hi-Bred International, Inc.
2. The cultivar 26R20 was bred and selected using a modified pedigree selection method for any and all of the following characteristics in the field environment: disease resistance, plant type, plant height, head type, straw strength, maturity, grain yield, test weight, and milling and baking characteristics.
3. 26R20 has shown adaptation to the soft red winter wheat growing regions of the southeastern and mid-southern U.S., approximately south of the Ohio River based on tests conducted in Arkansas, Kentucky, Indiana, Illinois, Missouri, Tennessee, Virginia, North Carolina, South Carolina, and Georgia.
4. 26R20 has shown very good resistance to leaf rust, stripe rust, and powdery mildew resistance. 26R20 has average resistance to spindle streak mosaic, soilborne mosaic virus and the complex of fungal organisms that incite leaf blights. 26R20 has below average *Fusarium* head blight resistance.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|---|
| 1. <u>Kind</u> : Common | 2. <u>Growth habit</u> : Winter |
| 3. <u>Coleoptile color</u> : White | 4. <u>Juvenile growth habit</u> : Semi-erect |
| 5. <u>Leaf color at boot</u> : Green | 6. <u>Flag leaf at boot</u> : Recurved, twisted, waxy |
| 7. <u>Auricle color</u> : Purple | 8. <u>Days to 50% heading</u> : 129 |
| 9. <u>Anther color</u> : Yellow | 10. <u>Stem color</u> : Absent |
| 11. <u>Plant height (cm)</u> : 96 | 12. <u>Internodes</u> : Hollow |
| 13. <u>Spike shape</u> : Oblong | 14. <u>Spike density</u> : Mid Dense |
| 15. <u>Spike curvature</u> : Inclined | 16. <u>Awn type</u> : Awned |
| 17. <u>Awn color</u> : White | 18. <u>Glume color</u> : White/Amber |
| 19. <u>Glume length</u> : Long | 20. <u>Shoulder shape</u> : Rounded |
| 21. <u>Shoulder width</u> : Medium | 22. <u>Beak shape</u> : Acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : Glabrous |
| 25. <u>Seed color</u> : Red | 26. <u>Seed shape</u> : Ovate |
| 27. <u>Cheeks</u> : Rounded | 28. <u>Brush size (S, M, L)</u> : M |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 32 | 30. <u>Phenol reaction</u> : Dark brown |
| 31. <u>Other</u> : Soft texture | |
- Physiological/biochemical traits:
Other characteristics (e.g., herbicide tolerance):
Variants and frequency: 26R20 has shown no variants other than what would normally be expected due to environment.

6. Breeder, foundation, and registered seed classes will be maintained and controlled by the Pioneer Hi-Bred International, Inc. Parent Seed Operations and Production department. Foundation seed will be initially produced from breeders seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeding department. Registered seed will be grown from foundation or breeder seed, and maintained at a purity level satisfactory to Pioneer Parent Seed Operations, Production department, or the appropriate certifying agency. Production of certified seed by licensed producer/distributors will be controlled by the Pioneer Production department.
7. Certified seed of 26R20 will potentially first be offered for sale in the fall of 2010.
8. Application for Plant Variety Protection has been made and allowed and the certification option was not elected.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



CJ (BC01138-5)

1. CJ is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. CJ was developed from the cross W99-188\$/-1/BC950814-1-1. BC01138-5 was selected in the spring of 2005 based upon spring vigor, maturity, plant height and disease resistance
3. CJ is best adapted to north central Oklahoma, and central and eastern Kansas.
4. CJ has resistance to leaf rust, stripe rust and stem rust. CJ has tolerates the prevailing leaf diseases present in Oklahoma and Kansas.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : red | 4. <u>Juvenile growth habit</u> : semierect |
| 5. <u>Leaf color at boot</u> : green with, lighter green head | 6. <u>Flag leaf at boot</u> : erect, twisted, waxey |
| 7. <u>Auricle color</u> : purple | 8. <u>Days to 50% heading</u> : 120 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : white |
| 11. <u>Plant height (cm)</u> : 85 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white |
| 19. <u>Glume length</u> : midlong | 20. <u>Shoulder shape</u> : square |
| 21. <u>Shoulder width</u> : medium | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S, M, L)</u> M |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 36 | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> : | |

Physiological/biochemical traits:

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

Variants and frequency: CJ has been uniform and stable since 2008. Less than 0.8% of the plants were rogued from the breeder and foundation seed increases. Ninety percent of the variant plants were taller height wheat plants (8 to 15 cm), and 5% were awnletted and 5% were bronze chaffed wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of CJ are Breeders, Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. CJ may only be sold as a class of Certified seed and all seed sales are royalty bearing.
7. Limited quantities of Foundation seed will be available in the fall of 2010. Certified seed sales of CJ will be available in the fall of 2011
8. Plant Variety Protection will be submitted in 2010 and CJ may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



Greer (AP06T3832)

1. Greer is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. Greer is the result of a cross made at Kansas State University in 1997 by Dr. Rollin Sears. The initial cross between the Pioneer breeding line HBK0935-29-15 and an advanced line from Kansas State University, KS90W077-2-1 was made in the fall of 1997. Greer was selected for resistance to leaf rust and acceptable plant type and maturity.
3. Greer is best adapted to Texas and Oklahoma.
4. Greer has tolerance to leaf rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|--|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : white | 4. <u>Juvenile growth habit</u> : semierect |
| 5. <u>Leaf color at boot</u> : green | 6. <u>Flag leaf at boot</u> : erect, twisted and waxey |
| 7. <u>Auricle color</u> : purple | 8. <u>Days to 50% heading</u> : 100 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem anthocyanin</u> : absent |
| 11. <u>Plant height (cm)</u> : 93 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : brown | 18. <u>Glume color</u> : brown |
| 19. <u>Glume length</u> : midlong | 20. <u>Shoulder shape</u> : oblique |
| 21. <u>Shoulder width</u> : medium | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S, M, L)</u> : long & large area |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 37 | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> : | |

Physiological/biochemical traits:

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

Variants and frequency: Greer has been uniform and stable since 2008. Less than 0.8% of the plants were rogued from the breeder and foundation seed increases. Ninety five percent of the variant plants were taller height wheat plants (8 to 15 cm), and 5% were awnletted wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

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



AP Badger (Rem Pop 80-3)

1. AP Badger (Rem Pop 80-3) is a soft white winter wheat bred and developed by Syngenta Seeds, Inc.
2. AP Badger is the result of a cross made in 2000 by Syngenta Seeds, Inc. in Walla Walla, Washington. AP Badger was selected for plant height, standability, fertility and the absence of stripe rust.
3. AP Badger is best adapted to higher rainfall dryland production in Eastern Washington, West-central Idaho and Northeastern Oregon and dryland production along the Highway 2 corridor of Washington.
4. It has moderate resistance to moderate susceptibility to prevalent races of stripe rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|--|--|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : white | 4. <u>Juvenile growth habit</u> : semi-erect |
| 5. <u>Leaf color at boot</u> : green | 6. <u>Flag leaf at boot</u> : recurved, twisted, waxey |
| 7. <u>Auricle color</u> : dark purple | 8. <u>Days to 50% heading</u> : 159 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : white |
| 11. <u>Plant height (cm)</u> : 84 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : strap or oblong | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white |
| 19. <u>Glume length</u> : long | 20. <u>Shoulder shape</u> : wanting |
| 21. <u>Shoulder width</u> : narrow | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : white | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S,M, L)</u> : L |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 35 | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> : | |

Physiological/biochemical traits:

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

Variants and frequency:

AP Badger has been uniform and stable since 2007. Less than 0.7% of the plants were rogued from the Breeder seed increase in 2009. Approximately 96% of the variant plants were taller height wheat plants and approximately 4% were awnleted wheat plants. Up to 0.5% red seeds may be encountered in subsequent generations. 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. Plant Variety Protection is anticipated in the fall of 2009 and AP Badger may only be sold as a class of Certified seed and all seed sales are royalty bearing.
7. Limited quantities of Foundation seed stocks of AP Badger were available in the fall of 2009.
8. Plant Variety Protection is anticipated in the fall of 2009 and AP Badger may only be sold as a class of certified seed and all seed sales are royalty bearing.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY Gold (00x0100-51)

1. SY Gold is a hard red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY Gold was developed from the cross W95-301/W98-151. Approximately 50 F2 heads were selected from individual space planted plants based upon plant height, maturity and green leaf duration and combined together to form an F3 bulk.
3. SY Gold is best adapted to western Kansas, eastern Colorado and western Nebraska.
4. SY Gold has resistance to leaf rust, stripe rust and stem rust. SY Gold is resistant to Soil Borne Wheat Mosaic Virus. SY Gold has an intermediate reaction to Powdery mildew and is moderately resistant to Tan Spot and Speckled leaf blotch.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : white | 4. <u>Juvenile growth habit</u> : semierect |
| 5. <u>Leaf color at boot</u> : dark green | 6. <u>Flag leaf at boot</u> : recurved, twisted waxey |
| 7. <u>Auricle color</u> : purple | 8. <u>Days to 50% heading</u> : 122 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : brown |
| 11. <u>Plant height (cm)</u> : 80 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : strap(oblong) | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : brown | 18. <u>Glume color</u> : brown |
| 19. <u>Glume length</u> : midlong | 20. <u>Shoulder shape</u> : square |
| 21. <u>Shoulder width</u> : medium | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S,M,L)</u> midlong |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 37 | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> : | |

Physiological/biochemical traits:

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

SY Gold has been uniform and stable since 2008. Less than 0.8% of the plants were rogued from the Breeders seed increase in 2009. Ninety five percent of the variant plants were taller height wheat plants (8 to 15 cm), and 5% were awnletted wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of SY Gold are Breeders, Foundation, Registered and Certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. SY Gold may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Limited quantities of Foundations seed will be available in the fall of 2010. Certified seed sales of SY Gold will be available in the fall of 2011.
8. Plant Variety Protection will be submitted in 2010 and SY Gold may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



Arcadia (D05*6441)

1. Arcadia is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. Arcadia is the result of a cross made in 1999 by Syngenta Seeds, Inc. in Brookston, IN. Arcadia was selected for height, appearance, maturity, and kernel soundness.
3. Arcadia has been tested regionally since 2006 by Syngenta in Arkansas, Mississippi, Louisiana, Georgia, South Carolina, Missouri, North Carolina, Virginia, and Tennessee. It appears to be best adapted to Southern Arkansas, Louisiana, Mississippi, South Carolina and Georgia.
4. It has moderate resistance to moderate susceptibility to prevalent races of leaf rust and stripe rusts. Arcadia is susceptible to powdery mildew and Hessian Fly. Arcadia is moderately susceptible to *Septoria tritici*.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|--|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : white | 4. <u>Juvenile growth habit</u> : semierect |
| 5. <u>Leaf color at boot</u> : dark green | 6. <u>Flag leaf at boot</u> : erect & twisted and waxy |
| 7. <u>Auricle color</u> : purple | 8. <u>Days to 50% heading</u> : 102 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : white |
| 11. <u>Plant height (cm)</u> : 88 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white |
| 19. <u>Glume length</u> : long | 20. <u>Shoulder shape</u> : wanting |
| 21. <u>Shoulder width</u> : narrow | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S,M,L)</u> : long & large area |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 38 | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> : | |

Physiological/biochemical traits:

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

Variants and frequency: Arcadia has been uniform and stable since 2008. Less than 0.8% of the plants were rogued from the breeder and foundation seed increases. Ninety five percent of the variant plants were taller height wheat plants (8 to 15 cm), and 5% were awnletted wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of Arcadia are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. Arcadia may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed sales of Arcadia will be available in the fall of 2011.
8. Plant Variety Protection will be submitted in 2010 and Arcadia may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies



SY 9978 (B040798*)

1. SY 9978 is a soft red winter wheat bred and developed by Syngenta Seeds, Inc.
2. SY 9978 is the result of a cross made in 1997 by Syngenta Seeds, Inc. in Bay, AR. SY 9978 was selected for height, maturity, kernel soundness, resistance to current field races of powdery mildew and stripe rust and Hessian fly.
3. SY 9978 has been tested regionally since 2005 by Syngenta in Arkansas, Missouri, Tennessee, Kentucky, North Carolina and Virginia. It appears to be best adapted to Arkansas, Missouri, Tennessee, North Carolina, and Virginia.
4. It has moderate resistance to susceptibility to leaf rust and resistant to the prevalent races of stripe rusts and powdery mildew. SY 9978 is resistant to biotype L of Hessian fly.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : red | 4. <u>Juvenile growth habit</u> : semierect |
| 5. <u>Leaf color at boot</u> : blue green | 6. <u>Flag leaf at boot</u> : erect & twisted and waxey |
| 7. <u>Auricle color</u> : purple | 8. <u>Days to 50% heading</u> : 112 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : white |
| 11. <u>Plant height (cm)</u> : 95 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white |
| 19. <u>Glume length</u> : long | 20. <u>Shoulder shape</u> : oblique |
| 21. <u>Shoulder width</u> : wide | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S,M, L)</u> M |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 38g | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> : | |

Physiological/biochemical traits:

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

Variants and frequency: SY 9978 has been uniform and stable since 2008. Less than 0.8% of the plants were rogued from the breeder and foundation seed increases. Ninety five percent of the variant plants were taller height wheat plants (8 to 15 cm), and 5% were awnletted wheat plants. Up to 1.0% variant plants may be encountered in subsequent generations.

6. Recognized classes of SY 9978 are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. SY 9978 may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed sales of SY 9978 will be available in the fall of 2011.
8. Plant Variety Protection will be submitted in 2010 and SY 9978 may only be sold as a class of Certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



SY605 CL (03S0409-16)

1. SY605 CL (Experimental designation - 03S0409-16) is a hard red spring wheat bred and developed by Syngenta Seeds, Inc.
2. SY605 CL originated from the cross “AP601 CL/AP602 CL//Briggs” and was developed using a modified single seed descent breeding method. SY605 CL was selected for high yield, good agronomics, general disease resistance and tolerance to BASF herbicide “Beyond”.
3. SY605 CL has been primarily tested across North Dakota and eastern Montana since 2006. It has yielded very well across the region relative to popular checks. It will primarily be used in “Clearfield” production systems.
4. SY605 CL has moderate resistance to the prevalent races of leaf rust.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : common | 2. <u>Growth habit</u> : spring |
| 3. <u>Coleoptile color</u> : white | 4. <u>Juvenile growth habit</u> : erect |
| 5. <u>Leaf color at boot</u> : green | 6. <u>Flag leaf at boot</u> : erect, twisted and waxy |
| 7. <u>Auricle color</u> : purple | 8. <u>Days to 50% heading</u> : 55 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : white |
| 11. <u>Plant height (cm)</u> : 84 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : middense |
| 15. <u>Spike curvature</u> : inclined | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white |
| 19. <u>Glume length</u> : short | 20. <u>Shoulder shape</u> : rounded |
| 21. <u>Shoulder width</u> : wide | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : M | 24. <u>Glume pubescence</u> : absent |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : angular | 28. <u>Brush size (S,M,L)</u> : short & large area |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 37 | 30. <u>Phenol reaction</u> : not tested |
| 31. <u>Other</u> :
Physiological/biochemical traits: | |

Other characteristics (*e.g.*, herbicide tolerance): Tolerant to BASF herbicide “Beyond” (active ingredient – imazamox).
Variants: Less than 0.8% of the plants were rogued from the breeder seed increase. All 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. Recognized classes of SY605 CL are breeder, foundation, registered and certified. Syngenta Seeds, Inc. will maintain the variety by the headrow method. SY605 CL may only be sold as a class of certified seed and all seed sales are royalty bearing.
7. Certified seed sales of SY605 CL will be available in the spring of 2011.
8. Plant Variety Protection will be submitted in 2010 and SY605 CL may only be sold as a class of certified seed.
9. Certified acreage is not to be published by AOSCA and certifying agencies.



NE01481

1. NE01481 (EXP NE01481) is a hard red winter wheat that was developed by the University of Nebraska and intended for grain production. The USDA-ARS is a co-developer of this line.
2. NE01481 was selected from the cross NE92458/Ike and developed using a modified bulk breeding method.
3. Based upon accumulated data, NE01481 is best adapted to southeastern and southwestern Nebraska rainfed environments and will be grown as a bread wheat.
4. NE01481 is moderately resistant to moderate susceptible to stem rust. NE01481 is resistant to soilborne wheat mosaic virus. It is moderately resistant to moderately susceptible to leaf rust, and moderately susceptible to susceptible to stripe rust. NE01481 is susceptible to Hessian fly and wheat streak mosaic virus.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|---|
| 1. <u>Kind</u> : Common | 2. <u>Growth habit</u> : winter |
| 3. <u>Coleoptile color</u> : white | 4. <u>Juvenile growth habit</u> : prostrate |
| 5. <u>Leaf color at boot</u> : green | 6. <u>Flag leaf at boot</u> : re-curved, * |
| 7. <u>Auricle color</u> : white | 8. <u>Days to 50% heading</u> : 142 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : green |
| 11. <u>Plant height (cm)</u> : 87 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : mid dense |
| 15. <u>Spike curvature</u> : nodding | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white/amber |
| 19. <u>Glume length</u> : long | 20. <u>Shoulder shape</u> : square |
| 21. <u>Shoulder width</u> : medium | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : L | 24. <u>Glume pubescence</u> : glabrous |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S,M,L)</u> L |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 26.2 | 30. <u>Phenol reaction</u> : Not tested |
| 31. <u>Other</u> : | |

*Not twisted, wax absent

Physiological/biochemical traits: Does not have the molecular marker for ALMT1.

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

Variants and frequency: Up to 1% and may be taller, awnless, with red chaff

6. The breeder and foundation seed of NE01481 will be maintained and controlled by the Nebraska Foundation Seed Division. Foundation seed will be initially produced from breeder seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeder. Registered and certified seed will be grown from foundation seed and maintained by approved licensees who are members of Crop Improvement Associations.
7. Certified seed will first be offered for sale in August, 2011.
8. Application for Plant Variety Protection is anticipated and the Title V certification option will be elected.
9. Certified acreage may be published by AOSCA or the certifying agencies.



NI04421

1. NI04421 (EXP NI04421) is a hard red winter wheat that was developed by the University of Nebraska and intended for grain production. The USDA-ARS is a co-developer of this line.
2. NI04421 was selected from the cross NE96644/Wahoo (sib) where the pedigree of NE96644 is Odesskaya P/ Cody//Pavon 76/*3 Scout 66 using a modified bulk breeding method.
3. Based upon accumulated data, NI04421 is best adapted to western rainfed (west of North Platte, where drought is common, and irrigated production sites to many currently grown cultivars.
4. NI04421 is moderately resistant to stripe rust and moderately resistant to moderately susceptible to stem rust. It is moderately susceptible to leaf rust. NI04421 is susceptible to Hessian fly, wheat streak mosaic virus. It is susceptible to common bunt.
5. Identifying characteristics – insert the descriptive term from the Objective Description except where indicated:

- | | |
|---|--|
| 1. <u>Kind</u> : Common | 2. <u>Growth habit</u> : Winter |
| 3. <u>Coleoptile color</u> : White | 4. <u>Juvenile growth habit</u> : Prostrate |
| 5. <u>Leaf color at boot</u> : green | 6. <u>Flag leaf at boot</u> : re-curved, twisted,* |
| 7. <u>Auricle color</u> : white | 8. <u>Days to 50% heading</u> : 143 |
| 9. <u>Anther color</u> : yellow | 10. <u>Stem color</u> : absent |
| 11. <u>Plant height (cm)</u> : 85 | 12. <u>Internodes</u> : hollow |
| 13. <u>Spike shape</u> : tapering | 14. <u>Spike density</u> : mid dense |
| 15. <u>Spike curvature</u> : nodding | 16. <u>Awn type</u> : awned |
| 17. <u>Awn color</u> : white | 18. <u>Glume color</u> : white/amber |
| 19. <u>Glume length</u> : long | 20. <u>Shoulder shape</u> : wanting |
| 21. <u>Shoulder width</u> : narrow | 22. <u>Beak shape</u> : acuminate |
| 23. <u>Beak length (S, M, L, VL)</u> : L | 24. <u>Glume pubescence</u> : glabrous |
| 25. <u>Seed color</u> : red | 26. <u>Seed shape</u> : ovate |
| 27. <u>Cheeks</u> : rounded | 28. <u>Brush size (S,M,L)</u> M |
| 29. <u>Avg 1,000 kernel wt (g)</u> : 27.5 | 30. <u>Phenol reaction</u> : Not tested |
| 31. <u>Other</u> : | |

*wax absent

Physiological/biochemical traits: NI04421 has the null alleles for ALMT1 and GDM125

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

Variants and frequency: Up to 2% variant plants (taller, larger beak, and bronze chaff) may be encountered in subsequent generations.

6. The breeder and foundation seed of NI04421 will be maintained and controlled by the Nebraska Foundation Seed Division. Foundation seed will be initially produced from breeder seed, and thereafter foundation seed will be produced from foundation seed: maintaining the specific identity and purity of the variety as released by the breeder. Registered and certified seed will be grown from foundation seed and maintained by approved licensees who are members of Crop Improvement Associations.
7. Certified seed will first be offered for sale in August, 2011.
8. Application for Plant Variety Protection is anticipated and the Title V certification option will be elected.
9. Certified acreage may be published by AOSCA or the certifying agencies.

