

No.

201900271



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Syngenta Participations AG

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

An application requesting a certificate of protection for an alleged novel variety of sexually reproduced, asexually reproduced, or tuber propagated plant, the name and description of which are contained in the application and exhibits, a copy of which is hereunto annexed and made a part hereof, and the various requirements of law in such cases made and provided have been complied with, and the title thereto is, from the records of the PLANT VARIETY PROTECTION OFFICE, in the applicant(s) indicated in the said copy, and whereas, upon due examination made, the said applicant(s) is (are) adjudged to be entitled to a certificate of plant variety protection under the law.

Now, therefore, this certificate of plant variety protection is to grant unto the said applicant(s) and the successors, heirs or assigns of the said applicant(s) for the term of TWENTY years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable germplasm material of the variety in a public repository as provided by law, the right to exclude others from selling the variety, or offering it for sale, or reproducing it, or importing it, or exporting it, or conditioning it for propagation, or stocking it for any of the above purposes, or using it in producing a hybrid or different variety there from, to the extent provided by the PLANT VARIETY PROTECTION ACT. In the United States seed of this variety (1) shall be sold by variety name only as a class of certified seed and (2) shall conform to the number of generations specified by the owner of the rights. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'SY Wolverine'



In Testimony Whereof, *I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fourth day of June, in the year two thousand and twenty.*

Attest:

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE		<i>The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.</i>	
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE <i>(Instructions and information collection burden statement on reverse)</i>		<i>Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).</i>	
1. NAME OF OWNER Syngenta Crop Protection AG		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 08BC379-40-1	3. VARIETY NAME SY Wolverine
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Rosentalstrasse 67 Basel, Switzerland 4058		5. TELEPHONE (include area code) +41 61 323 11 11	FOR OFFICIAL USE ONLY
		6. FAX (include area code) +41 61 323 12 12	PVPO NUMBER 201900271
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Swiss	9. DATE OF INCORPORATION December 3, 1996
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Attn: Leah Houg PVP Specialist Syngenta Seeds LLC 2369 330th Street Slater, IA 50244		11. TELEPHONE (Include area code) 515-685-5258	FILING AND EXAMINATION FEES: \$ 4382.00 7/17/2019
		12. FAX (Include area code) 515-685-5080	CERTIFICATION FEE: \$ DATE
13. E-MAIL PVP_MA.NA@syngenta.com; leah.houg@syngenta.com			
14. CROP KIND (Common Name) Wheat, common		15. GENUS AND SPECIES NAME OF CROP Triticum aestivum	
		16. FAMILY NAME (Botanical) Gramineae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. DOES THE VARIETY CONTAIN ANY BIOTECHNOLOGY EVENTS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO A biotechnology event is defined as a single insertion of a nucleic acid construct into a specific site in a plant's chromosome that is regulated under the U.S. Coordinated Framework for the Regulation of Biotechnology.	
		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23) <input type="checkbox"/> UNDECIDED	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382). <input checked="" type="checkbox"/> Make checks and money orders payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office) <input checked="" type="checkbox"/> Credit Card Payments (See instructions on Page 2 of 11)		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. _____ FOUNDATION _____ REGISTERED _____ CERTIFIED (If additional explanation is necessary, please use the space indicated on next page.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on next page.)		IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on next page.)	
25. The owners declare that a viable sample of basic seed will be furnished directly to an acceptable depository in support of the variety within three months of filing. Seed will be replenished upon request in accordance with such regulations as may be applicable. For a tuber propagated variety or vegetative propagated parent of the variety, a tissue culture or vegetative sample will be deposited in a public repository within three months of the date of the certificate fee request letter. These will be maintained for the duration of the certificate.			
The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER 		SIGNATURE OF OWNER _____	
NAME (Please print or type) Leah Houg		NAME (Please print or type) _____	
CAPACITY OR TITLE PVP & Registration Specialist	DATE 7/11/2019	CAPACITY OR TITLE _____	DATE _____

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

201900271

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE EXHIBIT A – ORIGIN AND BREEDING HISTORY

1. NAME OF OWNER Syngenta Crop Protection AG	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 08BC379-40-1	3. VARIETY NAME SY Wolverine
------------------------------------------------------------	--------------------------------------------------------------------------	--------------------------------------------

1. Describe the genealogy (back to and including public and commercial varieties, lines, or clones used) and the breeding method(s).

SY Wolverine was developed from the cross - (EVEREST/PLATTE//SY WOLF): The single cross EVEREST/PLATTE was made in the Spring of 2008, with the top cross to SY Wolf being made in the Fall of 2008. Everest (PVP 201000387), released in 2009, was developed by Kansas State University and is a cross between Pioneer experimentals and Betty. Platte is a variety developed by AgriPro from the cross N84-1104/Abilene. SY Wolf (PVP 201100390) is a PVP variety developed by Syngenta from the cross W99-331/97x0906-8 and released in 2012.

2. Give the details of subsequent stages of selection and multiplication.

Year	Detail of Stage	Selection Criteria
2008	Single cross made in the Spring at Junction City, KS.	
2008-2009	Top cross made in Junction City, KS and multiplied 1 generation.	
2009-2010	F2 row grown in field at Junction City, KS. Selection 40 chosen and bulked to make F3 population.	Disease pressure, maturity, green leaf duration, height.
2010-2011	F3 population in field at Junction City, KS	Disease pressure, maturity, green leaf duration, height.
2011-2012	F4 population in field at Junction City, KS	Disease pressure, maturity, green leaf duration, height.
2012-2013	Y1 or first year non-replicated observation yield trial in 2 locations in KS.	Advancement based on type, disease, greenleaf duration, testweight, yield and quality.
2013-2014	Y2 or first year of replicated trials at 8 locations across central plains.	Advancement based on type, disease, greenleaf duration, testweight, yield and quality.
2014-2015	Y3-second year of replicated trials at 15 locations across the Great Plains. 80 heads selected from bulk increase for purification	Advancement based on type, disease, greenleaf duration, testweight, yield and quality.
2015-2016	Commercial (elite) yield trial at 28 locations across the Great Plains. 21 out of 80 rows were selected for progeny increase plots grown from selected head rows grown in Junction City, KS.	Advancement based on type, disease, greenleaf duration, testweight, yield and quality.
2016-2017	Commercial (elite) yield trial for second year at 40 locations across the central plains. 21 progeny increase plots grown from selected head rows grown in Eaton Co., Colorado. 19 were bulked together for a breeder seed increase.	Advancement based on type, disease, greenleaf duration, testweight, yield and quality.
2017-2018	Commercial (elite) yield trial for third year at 43 locations across the central plains. A 5.0 ac Breeders seed was grown in Eaton, CO producing 19,100 lbs of Foundation Seed.	Advancement based on type, disease, greenleaf duration, testweight, yield and quality.

3. Is the variety uniform? Yes No

How did you test for uniformity?

Visual observation and roguing data.

4. Is the variety stable? Yes No

How did you test for stability? Over how many generations?

Yield testing from 2012-2018 with successive generations of original seed lot. Determined stable for 6 years.

5. Are genetic variants observed or expected during reproduction and multiplication? Yes No

If yes, state how these variants may be identified, their type and frequency.

We could expect to see up to 1.8% white seed variant.

****Continue on additional pages if necessary.**

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE
 APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

FOR OFFICIAL USE ONLY
PVPO NUMBER

EXHIBIT B – STATEMENT OF DISTINCTNESS
**** Use additional tables to present clear differences for additional comparison varieties.**
Use additional pages to present supporting evidence.

1. Name of Owner Syngenta Crop Protection AG	2. Temporary Designation or Experimental Name 08BC379-40-1	3. Variety Name SY Wolverine
--------------------------------------------------------	---------------------------------------------------------------	----------------------------------------

Based on overall morphology, SY Wolverine is most similar to WB-Cedar most clearly
Applicant's new variety *Most similar comparison variety(ies)* *Applicant's new variety*

differs from WB-Cedar in the following traits Name the specific trait. Then list the value of that trait for each variety in the comparison. Submit appropriate supporting evidence (see the Guidelines for Presenting Evidence in Support of Variety Distinctness in the instructions):

	<i>Eg. Leaf Pubescence</i> <i>Eg. Leaf Color</i> <i>Eg. Plant Height</i>	<i>heavy pubescence</i> <i>Dark Green (5GY 3/4)</i> <i>200 cm +/- 10 cm (N=25)</i>	<i>glabrous</i> <i>Light Green (2.5GY 8/10)</i> <i>250 cm +/- 15 cm (N=25)</i>	<i>photograph attached</i> <i>Munsell Color Chart</i> <i>statistics attached</i>
	1. Qualitative traits:	2. Color traits:	3. Quantitative traits:	4. Other traits:
Application Variety	Flag Leaf: Wax Absent Glume Shoulder: Oblique			
Comparison Variety 1	WB-Cedar			
	Flag Leaf: Wax Present Glume Shoulder: Square			
Comparison Variety 2				
Comparison Variety 3				

**** Use additional tables to present clear differences for additional comparison varieties. Use additional pages to present supporting evidence.**

REPRODUCE LOCALLY. Include form number and date on all reproductions.

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE**

Exhibit C

**OBJECTIVE DESCRIPTION OF VARIETY
Wheat (*Triticum* spp.)**

NAME OF APPLICANT (S) Syngenta Crop Protection AG	TEMPORARY OR EXPERIMENTAL DESIGNATION 08BC379-40-1	VARIETY NAME SY Wolverine
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country) Rosentalstrasse 67 Basel, Switzerland 4058		FOR OFFICIAL USE ONLY
		PVPO NUMBER

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., 0 9 9 or 0 9) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ . Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND: 1

- 1 = Common
- 2 = Durum
- 3 = Club
- 4 = Other (Specify) _____

2. VERNALIZATION: 2

- 1 = Spring
- 2 = Winter
- 3 = Other (Specify) _____

1a. COMMON WHEAT MARKET CLASSES:

- HRW (Hard Red Winter)
- HRS (Hard Red Spring)
- HW (Hard White)
- SRW (Soft Red Winter)
- SW (Soft White)

3. COLEOPTILE ANTHOCYANIN: 1

- 1 = Absent
- 2 = Present

4. JUVENILE PLANT GROWTH: 3

- 1 = Prostrate
- 2 = Semi-Erect
- 3 = Erect

5. PLANT COLOR: (boot stage) 2

- 1 = Yellow-Green
- 2 = Green
- 3 = Blue-Green

6. FLAG LEAF: (boot stage)

- 1 1 = Erect 2 = Recurved
- 2 1 = Not Twisted 2 = Twisted
- 1 1 = Wax Absent 2 = Wax Present

7. EAR EMERGENCE:

- 131 Number of Days (Average)
 - _____ Number of Days Earlier Than * _____
 - Same As * _____
 - 3 Number of Days Later Than * WB-Cedar _____
- *Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

8. ANTHOR COLOR: 1 1 = Yellow 2 = Purple

9. PLANT HEIGHT: (from soil to top of head, excluding awns)

81 cm (Average)

4.5 cm Taller Than WB-Cedar *

Same As _____ *

_____ cm Shorter Than _____ *

10. STEM:

A. ANTHOCYANIN 1 1 = Absent 2 = Present

D. INTERNODE 1 1 = Hollow 2 = Semi-Solid 3 = Solid

_____ Number of Nodes

B. WAXY BLOOM 2 1 = Absent 2 = Present

E. PEDUNCLE 1 1 = Erect 2 = Recurved 3 = Semi-Erect

3 cm Length

C. HAIRINESS (last internode of rachis) 1 1 = Absent 2 = Present

F. AURICLE

1 Anthocyanin: 1 = Absent 2 = Present

1 Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)

A. DENSITY 2

1 = Lax
2 = Middense (Laxidense)
3 = Dense

C. CURVATURE 2

1 = Erect
2 = Inclined
3 = Recurved

B. SHAPE 1

1 = Tapering
2 = Strap
3 = Clavate
4 = Other (Specify) _____

D. AWNEDNESS 4

1 = Awnless
2 = Apically Awnletted
3 = Awnletted
4 = Awned

12. GLUMES: (At Maturity)

A. COLOR 1

1 = White
2 = Tan
3 = Other (Specify) _____

E. BEAK WIDTH 2

1 = Narrow
2 = Medium
3 = Wide

B. SHOULDER 2

1 = Wanting 2 = Oblique
3 = Rounded 4 = Square
5 = Elevated 6 = Apiculate
7 = Other (Specify) _____

F. GLUME LENGTH 3

1 = Short (ca. 7 mm)
2 = Medium (ca. 8 mm)
3 = Long (ca. 9 mm)

C. SHOULDER WIDTH 1

1 = Narrow
2 = Medium
3 = Wide

G. WIDTH 2

1 = Narrow (ca. 3 mm)
2 = Medium (ca. 3.5 mm)
3 = Wide (ca. 4 mm)

D. BEAK 3

1 = Obtuse
2 = Acute
3 = Acuminate

H. PUBESCENCE 1

1 = Not Present
2 = Present

13. SEED:

A. SHAPE 1 1 = Ovate 2 = Oval 3 = Elliptical

E. COLOR 3 1 = White 2 = Amber 3 = Red
4 = Other (Specify) _____

B. CHEEK 1 1 = Rounded 2 = Angular

F. TEXTURE 1 1 = Hard 2 = Soft 3 = Other (Specify) _____

C. BRUSH

1 1 = Short 2 = Medium 3 = Long
1 1 = Not Collared 2 = Collared

G. PHENOL REACTION (See Instructions) NA

1 = Ivory 4 = Dark Brown
2 = Fawn 5 = Black
3 = Light Brown

D. CREASE

1 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

H. SEED WEIGHT

33 g/1000 Seed (whole number only)

2 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

I. GERM SIZE 2

1 = Small
2 = Midsize
3 = Large

14. DISEASE: PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

0 Stem Rust (*Puccinia graminis* f. sp. *tritici*)

Race: _____

4 Leaf Rust (*Puccinia recondita* f. sp. *tritici*)

Race: Current Races

3 Stripe Rust (*Puccinia striiformis*)

Race: Current Races

0 Loose Smut (*Ustilago tritici*)

Race: _____

4 Powdery Mildew (*Erysiphe graminis* f. sp. *tritici*)

Race: Current Races

0 Common Bunt (*Tilletia tritici* or *T. laevis*)

Race: _____

0 Dwarf Bunt (*Tilletia controversa*)

Race: _____

0 Karnal Bunt (*Tilletia indica*)

Race: _____

0 Flag Smut (*Urocystis agropyri*)

Race: _____

0 Tan Spot (*Pyrenophora tritici-repentis*)

Race: _____

0 Halo Spot (*Selenophoma donacis*)

Race: _____

0 Septoria spp.

Race: _____

0 *Septoria nodorum* (Glume Blotch)

Race: _____

0 *Septoria avenae* (Speckled Leaf Disease)

Race: _____

0 *Septoria tritici* (Speckled Leaf Blotch)

Race: _____

1 Scab (*Fusarium* spp.)

Race: Current Races

0 "Snow Molds"

Race: _____

0 Kernel Smudge ("Black Point")

Race: _____

0 Common Root Rot (*Fusarium*, *Cochliobolus* and *Bipolaris* spp.)

Race: _____

0 Barley Yellow Dwarf Virus (BYDV)

Race: _____

0 Rhizoctonia Root Rot (*Rhizoctonia solani*)

Race: _____

4 Soilborne Mosaic Virus (SBMV)

Race: Current Races

0 Black Chaff (*Xanthomonas campestris* pv. *translucens*)

Race: _____

14. DISEASE: (continued) (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

- 4 Wheat Yellow (Spindle Streak) Mosaic Virus Race: Current Races
- 0 Bacterial Leaf Blight (*Pseudomonas syringae* pv. *syringae*) Race: _____
- 3 Wheat Streak Mosaic Virus (WSMV) Race: Current Races
- ____ Other (Specify) _____ Race: _____
- ____ Other (Specify) _____ Race: _____
- ____ Other (Specify) _____ Race: _____
- ____ Other (Specify) _____ Race: _____

15. HOMOZYGOUS FOR SPECIFIC DISEASE RESISTANCE GENE

- ____ Stem rust _____
- ____ Leaf rust _____
- ____ Other _____

16. INSECT: PLEASE SPECIFY BIOTYPE (Where Needed) (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

- 0 Stem Sawfly (*Cephus* spp.) (Specify) _____
- 0 Cereal Leaf Beetle (*Oulema melanopa*) (Specify) _____
- 0 Russian Aphid 1 (*Diuraphis noxia*) _____
- 0 Russian Aphid 2 (*Diuraphis noxia*) _____
- 0 Greenbug (*Schizaphis graminum*) (General) _____
- 0 Greenbug (*Schizaphis graminum*) Biotype A _____
- 0 Greenbug (*Schizaphis graminum*) Biotype B _____
- 0 Greenbug (*Schizaphis graminum*) Biotype C _____
- 0 Greenbug (*Schizaphis graminum*) Biotype E _____
- 0 Greenbug (*Schizaphis graminum*) Other (Specify) _____
- 0 Aphids (Specify) _____
- 0 Other (Specify) _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype A _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype B _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype C _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype D _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype E _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype F _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype G _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype GP _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype H _____

16. INSECT: (continued) (0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Intermediate 4 = Tolerant)

- 0 Hessian Fly (*Mayetiola destructor*) Biotype I _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype J _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype L _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype M _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype N _____
- 0 Hessian Fly (*Mayetiola destructor*) Biotype O _____
- 0 Hessian Fly (*Mayetiola destructor*) (Specify) _____

17. HIGH MOLECULAR WEIGHT GLUTENIN SUBUNIT PROFILE (Check those that apply):

Glu-A1	Glu-B1	Glu-D1
___ 1	___ 6+8	___ 2+11
___ 2*	___ 7+8	___ 2+12
___ null	___ 7+9	___ 3+12
___ 1*	___ 13+16	___ 5+10
	___ 13+19	___ null
	___ 17+18	

18. TRANSLOCATIONS (1=Present 2=Absent 3=Heterogeneous 4= Not Tested):

___ 1BL/1RS ___ 1A/1R ___ 2NS/2AS ___ 4DL/4AgS

19. IMIDAZOLINONE HERBICIDE TOLERANCE (1=Present 2=Absent 3=Not Tested):

___ Als-1 ___ Als-2 ___ Als-3

20. END USE QUALITY:

Grain Protein _____

Flour Protein _____

SDS _____





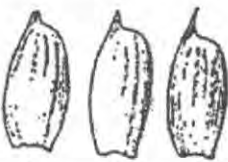
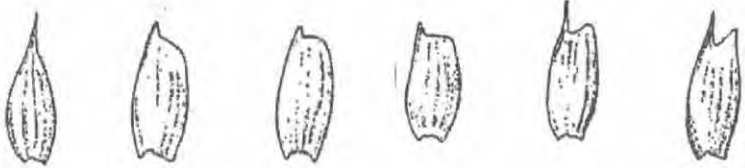


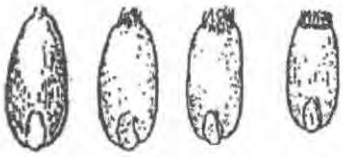
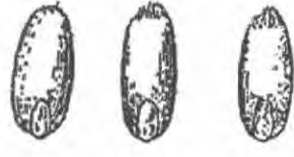



Farniograph _____

Other _____

21. ADDITIONAL INFORMATION ON ANY ITEM ABOVE OR GENERAL COMMENTS:

WHEAT DESCRIPTOR ILLUSTRATIONS

Section Numbers Correspond to the Numbers of the Sections on the Form

<p>4. EARLY PLANT GROWTH HABIT:</p>  <p>1 Prostrate 2 Intermediate 3 Erect</p>	<p>10. (D.) STEM INTERNODE X-SECTION:</p>  <p>1 Hollow 2 Semi-solid 3 Solid</p>	<p>11. (B.) SPIKE SHAPE:</p>  <p>1 Tapering 2 Oblong 3 Clavate 4 Elliptical</p>	
<p>11. (D.) AWNEDNESS:</p>  <p>1 Awnless 2 Apically Awnleted 3 Awnleted 4 Awned</p>	<p>12. (D.) BEAK SHAPE:</p>  <p>1 Obtuse 2 Acute 3 Acuminate</p>	<p>12. (C.) SHOULDER SHAPE:</p>  <p>1 Wanting 2 Oblique 3 Rounded 4 Square 5 Elevated 6 Apiculate</p>	
<p>13. (A.) SEED SHAPE:</p>  <p>1 Ovate 2 Oval 3 Elliptical</p>	<p>13. (B.) CHEEK SHAPE:</p>  <p>1 Rounded 2 Angular</p>	<p>13. (C.) BRUSH SIZE:</p>  <p>1 Small 2 Midsized 3 Large 4 Collared</p>	<p>13. (C.) BRUSH HAIR LENGTH:</p>  <p>1 Short 2 Medium 3 Long</p>
<p>13. (I.) GERM (EMBRYO) SIZE:</p>  <p>1 Small 2 Midsized 3 Large</p>	<p>13. (D.) SEED CREASE WIDTH:</p>  <p>1 Narrow 2 Mid-wide 3 Wide</p>	<p>13. (D.) SEED CREASE DEPTH:</p>  <p>1 Shallow 2 Mid-Deep 3 Deep</p>	

References:

- (a) L.W. Briggie and L.P. Reitz. 1963. Classification of Triticum Species and Wheat Varieties Grown in the United States. Technical Bulletin 1278. United States Department of Agriculture.
- (b) W.E. Walls. 1965. A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity. Contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE
 APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

FOR OFFICIAL USE ONLY

PVPO NUMBER

EXHIBIT E - STATEMENT OF THE BASIS OF OWNERSHIP

1. Name of Owner Syngenta Crop Protection AG	2. Temporary Designation or Experimental Name 08BC379-40-1	3. Variety Name SY Wolverine
4. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
5. Is the applicant a U.S. national or a U.S. based entity? If no, give name of country.		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Switzerland
6. Is the applicant the original owner? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If no, please answer <u>one</u> of the following:		
a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?		
<input type="checkbox"/> YES <input type="checkbox"/> NO If no, give name of country		
b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?		
<input type="checkbox"/> YES <input type="checkbox"/> NO If no, give name of country		
7. Additional explanation on ownership (Trace ownership from original breeder to current owner).		

The variety for which Plant Variety Protection is hereby sought was developed by Sarah Battenfield of Syngenta Seeds, LLC. By agreement between the employee and Syngenta Seeds, LLC all right to any invention, discovered or development made by the employee while employed by Syngenta Seeds, LLC. are assigned to Syngenta Crop Protection AG with no right of any kind retained by the employee.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

USDA's Nondiscrimination Statement.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs).

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To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by:

- 1) mail: U.S. Department of Agriculture Office of the Assistant Secretary for Civil Rights 1400 Independence Avenue, SW Washington, D.C. 20250-9410;
- 2) fax: (202) 690-7442; or
- 3) email: program.intake@usda.gov.

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