

No.



201400230

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Monsanto Technology LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

An application requesting a certificate of protection for an alleged distinct variety of sexually 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 basic seed 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 therefrom, to the extent provided by the PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'WB1529'

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 thirtieth day of March, in the year two thousand and fifteen.*

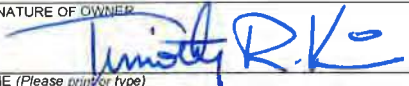
Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved - OMB No. 0581-0055

<p align="center">U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE</p> <p align="center">APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE <i>(Instructions and information collection burden statement on reverse)</i></p>		<p><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></p> <p><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></p>	
1 NAME OF OWNER		2 TEMPORARY DESIGNATION OR EXPERIMENTAL NAME	3 VARIETY NAME
Monsanto Technology LLC		BZ6W07-436	WB1529
4 ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)		5 TELEPHONE (include area code)	FOR OFFICIAL USE ONLY PVPO NUMBER 201400230 FILING DATE 3/11/2014
800 N. Lindbergh Blvd. St. Louis, MO 63167 USA		815-758-9281	
6 FAX (include area code)		815-758-3117	
7 IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)	8 IF INCORPORATED, GIVE STATE OF INCORPORATION	9 DATE OF INCORPORATION	
Limited Liability Corporation	Delaware	March 2, 2000	
10 NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION (First person listed will receive all papers)		11 TELEPHONE (include area code)	F E E S R E C D FILING AND EXAMINATION FEES: \$ 4,382 DATE 3/11/2014 CERTIFICATION FEE: \$ DATE
Timothy R. Kain 8350 Minnegan Rd, Waterman, IL 60556 Chunping Li 800 North Lindbergh Blvd., St. Louis, MO 63167		815-758-9281	
		12 FAX (include area code)	
		815-758-3117	
13 E-MAIL trkain@monsanto.com			
14 CROP KIND (Common Name)	15 GENUS AND SPECIES NAME OF CROP	16 FAMILY NAME (Botanical)	
Common Wheat	Triticum aestivum	Poaceae	
17 IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	18 DOES THE VARIETY CONTAIN ANY TRANSGENES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION	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 type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" 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 10)		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 the reverse)	
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 checked="" type="checkbox"/> YES <input 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 reverse.)		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, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
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) Timothy R. Kain		NAME (Please print or type)	
CAPACITY OR TITLE Patent Scientist	DATE 3/7/2014	CAPACITY OR TITLE	DATE

Continuation Page from ST - 470 (Application for Plant Variety Protection Certificate)

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.)*

September 2013

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).)*

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE EXHIBIT A – ORIGIN AND BREEDING HISTORY <small>** Use additional pages as needed</small>	FOR OFFICIAL USE ONLY PVPO NUMBER
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1. Name of Owner Monsanto Technology LLC	2. Temporary Designation or Experimental Name BZ6W07-436	3. Variety Name WB1529
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4. Describe the genealogy (back to and including public and commercial varieties, lines, or clones used) and the breeding method(s) **

WB1529 (BZ6W07-436) is a soft white winter wheat that originated from the cross 'WestBred 470/WestBred 470/CASHUP' made by WestBred, a unit of Monsanto Company near Bozeman, MT in July of 2002. 'WestBred 470' is a proprietary soft white winter wheat developed by WestBred/Monsanto. 'Cashup' is soft white winter wheat developed by Columbia Basin Seeds in Moses Lake, Washington.

5. Give the details of subsequent stages of selection and multiplication. **

Year	Detail of Stage	Selection Criteria
	See attached Breeding History	WB1529 was selected for yield, plant height, protein quantity/quality and Stripe rust resistance prior to the F5 plot selection in 2007. Yield trials, along with quality analyses were conducted on the F5 through F10 generations in WestBred trials in the Pacific Northwest.

6. Is the variety uniform? Yes No

How did you test for uniformity?

WB1529 is a stable and uniform variety in appearance and performance across several generations (F6-F8) and growing conditions.

7. Is the variety stable? Yes No

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

WB1529 is a stable and uniform variety in appearance and performance across several generations (F6-F8) and growing conditions.

8. 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.

A variant that is similar to WB1529 but is one to two heads taller than WB1529 can occur at a frequency of up to 0.1 %. A red seed variant may be found at a frequency of up to ~~20/10,000 seed (0.2%)~~. Otherwise, WB1529 is a stable and uniform variety in appearance and performance across several generations (F6-F10) and growing conditions.

50/10.000 seed (0.5%)

8-20-2015 MAH

Exhibit A. Origin and Breeding History
(revised)

WB1529 (BZ6W07-436) is a soft white winter wheat that originated from the cross ‘WestBred 470//WestBred 470/CASHUP’ made by WestBred, a unit of Monsanto Company near Bozeman, MT in July of 2002. ‘WestBred 470’ is a proprietary soft white winter wheat developed by WestBred/Monsanto. ‘Cashup’ is soft white winter wheat developed by Columbia Basin Seeds in Moses Lake, Washington. The breeding history of WB1529 is described below.

Year	Generation	Location	Harvest Method
2002	Cross	Bozeman, MT	Bulk
2003	F1	Bozeman, MT	Bulk
2004	F2	Bozeman, MT	Bulk
2005	F3	Bozeman, MT	Selected spikes
2006	F4	Bozeman, MT	Selected rows
2007	F5	Pacific Northwest	Yield Trials
2008	F6	Pacific Northwest	Yield trials
2009	F7	Pacific Northwest	Yield trials and head selections
2010	F8	Pacific Northwest	Yield trials and Head row purification
2011	F9	Pacific Northwest	Yield trials and initial breeder seed production
2012	F10	Pacific Northwest	Yield trials and seed production

WB1529 was selected for yield, plant height, protein quantity/quality and Stripe rust resistance prior to the F5 plot selection in 2007. Yield trials, along with quality analyses were conducted on the F5 through F10 generations in WestBred trials in the Pacific Northwest.

Thirty spikes were selected from an F7 plot in the spring of 2009 and planted as spike rows near Bozeman, MT in fall 2009. Identical and uniform phenotype rows were selected and planted as individual F9 spike row plots near Bozeman, MT in 2011. All of the spike row plots were determined to have identical phenotypes and were bulk harvested. This production was used to produce breeder seed in 2012.

A variant that is similar to WB1529 but is one to two heads taller than WB1529 can occur at a frequency of up to 0.1 %. A red seed variant may be found at a frequency of up to 50/10,000 seed (0.5%). Otherwise, WB1529 is a stable and uniform variety in appearance and performance across several generations (F6-F10) and growing conditions.

<p>U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE</p> <p>EXHIBIT B – STATEMENT OF DISTINCTNESS ** Use additional tables to present clear differences for additional comparison varieties. Use additional pages to present supporting evidence.</p>	<p>FOR OFFICIAL USE ONLY</p> <p>PVPO NUMBER</p>
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1. Name of Owner Monsanto Technology LLC	2. Temporary Designation or Experimental Name BZ6W07-436	3. Variety Name WB1529
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Based on overall morphology, WB1529 is most similar to WB528 WB1529 most clearly
Applicant's new variety *Most similar comparison variety(ies)* *Applicant's new variety*

differs from WB528 in the following traits Name the specific trait Then list the value of that trait for each variety in the comparison Submit
Most similar comparison variety(ies)

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	WB1529 heads 2 days earlier		WB1529 is 6cm shorter	WB1529 shows an increased resistance to stripe rust and an increased test weight.
Comparison Variety 1				
Comparison Variety 2				
Comparison Variety 3				

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

EXHIBIT B**Statement of Distinctness**

WB1529 is most similar to WB528, except WB1529 is 6cm shorter and heads 2 days earlier than WB528. Also, WB1529 shows an increased resistance to stripe rust and an increased test weight.

Table 1. Yield, agronomic, disease and quality characteristics of WB1529 and commercial soft white winter wheat varieties grown in the Pacific Northwest at 6 locations in 2011 and at 7 locations in 2012.

Variety	2011 Yield	20 12 Yield	Yield Average	2012 Plant Height	2012 Heading Date	2012 Lodging	2012 Stripe Rust	2012 Test Weight	2012 Protein	2012 Sedimentation
	bu/a			cm	Julian	1-9*	1-9*	lb/bu	%	mm
WB1529	134	124	129	87.6	171	1	1	62.3	11.2	48.7
WB-528	139	134	137	93.5	173	2	3	60.9	11.3	43.6
WB 456	136	128	132	87.1	171	1	1	62.9	11.8	33.0
WestBred 470	97	109	103	90.6	172	1	9	58.2	11.3	51.6
WB 523	136	131	134	92.5	175	1	1	60.8	11.1	26.1
WB-Junction	142	134	138	89.5	173	3	3	61.2	10.9	22.9
Trial Mean		127.3		90.0	174			60.9	11.5	38.1
LSD 0.05		12.5		2.8				2.4	0.49	6.7
CV		5.7		3.3				3.2	3.9	16.4
Observations	18	21	39	19	3	9	3	21	7	7

*Rating 1-9: 1 is lowest level of lodging or disease and 9 is greatest level of lodging or disease.

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Form Approved OMB NO 0581-0055

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

Exhibit C

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

NAME OF APPLICANT (S) Monsanto Technology, LLC	TEMPORARY OR EXPERIMENTAL DESIGNATION BZ6W07-436	VARIETY NAME WB1529
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country) 800 N. Lindbergh Blvd. St. Louis MO 63167		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: <u>1</u> 1 = Common 2 = Durum 3 = Club 4 = Other (Specify) _____	2. VERNALIZATION: <u>2</u> 1 = Spring 2 = Winter 3 = Other (Specify) _____
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3. COLEOPTILE ANTHOCYANIN: <u>1</u> 1 = Absent 2 = Present	4. JUVENILE PLANT GROWTH: <u>1</u> 1 = Prostrate 2 = Semi-Erect 3 = Erect
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5. PLANT COLOR: (Boot Stage) <u>2</u> 1 = Yellow-Green 2 = Green 3 = Blue-Green	6. FLAG LEAF: (Boot Stage) <u>2</u> 1 = Erect 2 = Reurved <u>2</u> 1 = Not Twisted 2 = Twisted <u>2</u> 1 = Wax Absent 2 = Wax Present
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7. EAR EMERGENCE:

171 Number of Days (Average)

2 Number of Days Earlier Than * WB-528

Same As * _____

_____ Number of Days Later Than * _____

*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)

87.6 cm (Average)
 _____ cm Taller Than _____ *
 Same As _____ *
 6 cm Shorter Than WB528 *

10. STEM:

1 A. ANTHOCYANIN 1 = Absent 2 = Present
1 D. INTERNODE 1 = Hollow 2 = Semi-Solid 3 = Solid
 _____ Number of Nodes
2 B. WAXY BLOOM 1 = Absent 2 = Present
1 E. PEDUNCLE 1 = Erect 2 = Recurved 3 = Semi-Erect
7.1 cm Length
2 C. HAIRINESS (last internode of rachis) 1 = Absent 2 = Present
 _____ F. AURICLE
2 Anthocyanin: 1 = Absent 2 = Present
2 Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)

3 A. DENSITY
 1 = Lax
 2 = Middense (Laxidense)
 3 = Dense
2 B. SHAPE
 1 = Tapering
 2 = Strap
 3 = Clavate
 4 = Other (Specify) _____
2 C. CURVATURE
 1 = Erect
 2 = Inclined
 3 = Recurved
4 D. AWNEDNESS
 1 = Awnless
 2 = Apically Awnletted
 3 = Awnletted
 4 = Awned

12. GLUMES: (At Maturity)

7-07-2014 (MAH)

1 A. COLOR
 1 = White
 2 = Tan
 3 = Other (Specify) _____
4 B. SHOULDER
 1 = Wanting 2 = Oblique
 3 = Rounded 4 = Square
 5 = Elevated 6 = Apiculate
 7 = Other (Specify) _____
2 C. SHOULDER WIDTH
 1 = Narrow
 2 = Medium
 3 = Wide
3 D. BEAK
 1 = Obtuse
 2 = Acute
 3 = Acuminate
2 E. BEAK WIDTH
 1 = Narrow
 2 = Medium
 3 = Wide
2 F. GLUME LENGTH
 1 = Short (ca. 7 mm)
 2 = Medium (ca. 8 mm)
 3 = Long (ca. 9 mm)
1 G. WIDTH
 1 = Narrow (ca. 3 mm)
 2 = Medium (ca. 3.5 mm)
 3 = Wide (ca. 4 mm)
1 H. PUBESCENCE
 1 = Not Present
 2 = Present

13. SEED:

- 1 A. SHAPE
 - 1 = Ovate
 - 2 = Oval
 - 3 = Elliptical
- 2 B. CHEEK
 - 1 = Rounded
 - 2 = Angular
- 2 C. BRUSH
 - 1 = Short
 - 2 = Medium
 - 3 = Long
- 1 D. CREASE
 - 1 = Not Collared
 - 2 = Collared
- 2 E. CREASE
 - 1 = Width 60% or less of Kernel
 - 2 = Width 80% or less of Kernel
 - 3 = Width Nearly as Wide as Kernel
- 2 F. CREASE
 - 1 = Depth 20% or less of Kernel
 - 2 = Depth 35% or less of Kernel
 - 3 = Depth 50% or less of Kernel

- 1 E. COLOR
 - 1 = White
 - 2 = Amber
 - 3 = Red
 - 4 = Other (Specify) _____
- 2 F. TEXTURE
 - 1 = Hard
 - 2 = Soft
 - 3 = Other (Specify) _____
- 1 G. PHENOL REACTION
 - 1 = Ivory
 - 2 = Fawn
 - 3 = Light Brown
 - 4 = Dark Brown
 - 5 = Black
- 41 H. SEED WEIGHT
 - g/1000 Seed (Whole Number Only)
- 2 I. GERM SIZE
 - 1 = Small
 - 2 = Midsize
 - 3 = Large

7-07-2014 (MAH)

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: _____
- 0 Leaf Rust (*Puccinia recondita* f. sp. *tritici*) Race: _____
- 0 Stripe Rust (*Puccinia striiformis*) Race: _____
- 0 Loose Smut (*Ustilago tritici*) Race: _____
- 0 Tan Spot (*Pyrenophora tritici-repentis*) Race: _____
- 0 Flag Smut (*Urocystis agropyri*) Race: _____
- 0 Halo Spot (*Selenophoma donacis*) Race: _____
- 0 Common Bunt (*Tilletia tritici* or *T. laevis*) Race: _____
- 0 *Septoria nodorum* (Glume Blotch) Race: _____
- 0 Dwarf Bunt (*Tilletia controversa*) Race: _____
- 0 *Septoria avenae* (Speckled Leaf Disease) Race: _____
- 0 Karnal Bunt (*Tilletia indica*) Race: _____
- 0 *Septoria tritici* (Speckled Leaf Blotch) Race: _____
- 0 Powdery Mildew (*Erysiphe graminis* f. sp. *tritici*) Race: _____
- 3 Scab (*Fusarium* spp.) Race: _____
- 0 "Snow Molds" Race: _____
- 0 "Black Point" (Kernel Smudge) 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: _____
- 0 Soilborne Mosaic Virus (SBMV) Race: _____
- 0 Black Chaff (*Xanthomonas campestris* pv. *translucens*). Race: _____
- 0 Wheat Yellow (Spindle Streak) Mosaic Virus Race: _____
- 0 Bacterial Leaf Blight (*Pseudomonas syringae* pv. *syringae*) Race: _____
- 0 Wheat Streak Mosaic Virus (WSMV) Race: _____
- ____ 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 Hessian Fly (*Mayetiola destructor*) General _____
- 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 H _____
- 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) _____
- 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) _____
- _____ Other (Specify) _____

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

<u>Glu-A1</u>	<u>Glu-B1</u>	<u>Glu-D1</u>
_____ 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):

- 4 1BL/1RS
- 4 1A/1R
- 4 2NS/2AS
- 4 4DL/4AgS
- _____ OTHER (explain) _____
- _____ OTHER (explain) _____





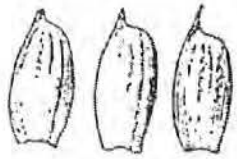
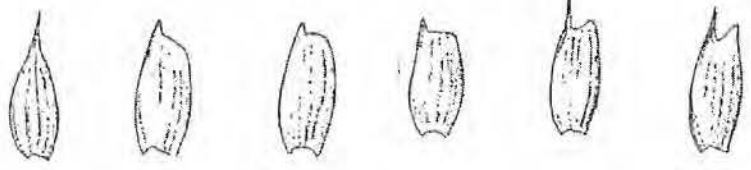
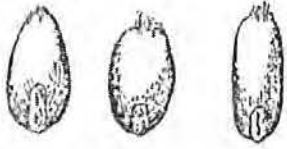

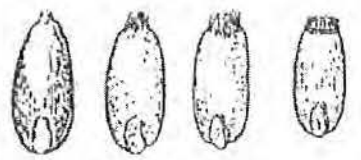




19. IMIDAZOLINONE HERBICIDE TOLERANCE (1=Present 2=Absent 3=Not Tested):3 1 AIs-13 1 AIs-23 2 AIs-3

7-07-2014 (MAH)

20. ADDITIONAL INFORMATION ON ANY ITEM ABOVE OR GENERAL COMMENTS:[Submit by Email](#)

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>	

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 Monsanto Technology LLC	2. Temporary Designation or Experimental Name BZ6W07-436	3. Variety Name WB1529
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4. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

YES NO

5. Is the applicant a U.S. national or a U.S. based entity? If no, give name of country.

YES NO

6. Is the applicant the original owner? YES NO If no, please answer one 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)?

YES 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?

YES NO If no, give name of country

7. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

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.