200500308

No.

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Michigan State University

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 [illegible]ORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE [illegible] PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE [illegible] OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT [illegible] BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) S[illegible] SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMB[illegible]NERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'MSU D8006'

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-ninth day of September, in the year two thousand and six.

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

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

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(instructions and information collection burden statement on reverse)

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.

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).

1. NAME OF OWNER: Michigan State University
2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME: D8006
3. VARIETY NAME: MSU D8006
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*: Director, Office of Intellectual Property, Michigan State University, 246 Administration Bldg., East Lansing, MI 48824
5. TELEPHONE *(include area code)*: (517) 355-2186
6. FAX *(include area code)*: (517) 432-3880
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*: Land Grant University
8. IF INCORPORATED, GIVE STATE OF INCORPORATION:
9. DATE OF INCORPORATION:

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PVPO NUMBER: 200500308
FILING DATE: AUGUST 1, 2005

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Michigan State University
Office of Intellectual Property
246 Administration Bldg.
East Lansing, MI 48824

FEES RECEIVED
FILING AND EXAMINATION FEES: $ 3,652.00 DATE 07/29/05
CERTIFICATION FEE: $ 768.00 DATE 8/14/2006

11. TELEPHONE *(include area code)*: (517) 355-2186
12. FAX *(include area code)*: (517) 432-3880
13. E-MAIL:
14. CROP KIND *(Common Name)*: soft white winter wheat
15. GENUS AND SPECIES NAME OF CROP: Triticum aestivum L.
16. FAMILY NAME *(Botanical)*: Gramineae
17. IS THE VARIETY A FIRST GENERATION HYBRID? ☐ YES ☑ NO
18. DOES THE VARIETY CONTAIN ANY TRANSGENES? ***(OPTIONAL)***
☐ YES ☑ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)
a. ☑ Exhibit A. Origin and Breeding History of the Variety
b. ☑ Exhibit B. Statement of Distinctness
c. ☑ Exhibit C. Objective Description of Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☐ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☐ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☑ YES *(If "yes", answer items 21 and 22 below)* ☐ NO *(If "no", go to item 23)*
21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☑ YES ☐ NO
IF YES, WHICH CLASSES? ☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED
22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☑ 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?
☑ YES ☐ 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)*?
☑ YES ☐ 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 of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and 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: Loraine J. Hudson	
NAME *(Please print or type)*: Loraine J. Hudson		NAME *(Please print or type)*: Loraine J. Hudson	
CAPACITY OR TITLE: Director	DATE	CAPACITY OR TITLE: Director	DATE: 6/28/05

(See reverse for instructions and information collection burden statement)

ST-470 (04-03) designed by the Plant Variety Protection Office using Word 2002.

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvpindex.htm

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To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

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

Generation of Foundation Seed from Foundation Seed shall be limited to four (4) generations.

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.)*

D8006 was transferred under a Line Option and Testing Agreement to Genesis Ag Ltd and to WG Thompsons for testing and registering the variety in Canada on approximately September 1999. Seed of D8006 was transferred to Michigan Crop Improvement for seed increase and testing approximately

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).)*

United States PVP 8700011, issued 07/29/1988 by Pioneer Hi-bred. United States PVP 9500040, issued 07/31/1996 by Michigan State University.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ST-470 (04-03) designed by the Plant Variety Protection Office using Word 2002.

Exhibit A. Origin and Breeding History

Breeding History of 'D8006'

'D8006' is a soft white winter wheat line derived from a single F5 plant descending from the cross 'Pioneer 2555'/'Lowell'. That cross was designated 910009 and was made under the direction of Richard Ward at Michigan State University in 1991. The F2 through F4 generations of that population were subjected to bulk selection for reduced plant height in field-grown plots planted at commercial densities. The F5 population was field-grown in a space-planted nursery to enable single plant selection. Visual selection was practiced on the F5 through the F8 generations for plant height, lodging, wheat spindle streak mosaic virus, powdery mildew, and winter survival. Individual heads of selected F5 plants were planted as F5 derived F6 (F5:F6) head rows. Selected F5:F6 head rows were bulk harvested and subsequently planted in 1997 as distinct F5:F7 "drill plots" in the MSU wheat nursery designated "98-MP054". Entry 14 of that nursery was bulk harvested in 1998 and given the line designation "D8006". D8006 was subsequently tested in MSU's internal yield tests for two years, after which it was included in the MSU State Variety Trials (harvest years 2001 through 2004). Seed production of D8006 was managed in a process parallel but separate from the yield testing program. All harvesting and threshing of plants in the seed production path of D8006 was conducted by hand with Vogel threshers until the harvest year 2003 when a clean combine was used to bulk the seed transferred to Michigan Crop Improvement Association as "pre-breeders" seed.

D8006 has been observed for four generations of increase and is stable and uniform. Variants appear in D8006 at a frequency of less than 1 in 200. Variants exhibit one or more of the following characteristics: yellow anthers, bronze chaff, and awnless spikes. These variant plants are otherwise very similar to the variety as described in Exhibit C. These variants are commercially acceptable and predictable.

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EXHIBIT B: Statement of Distinctness:

- MSU D8006 has purple anthers whereas Pioneer Brand 25W60 has yellow anthers.
- MSU D8006 is generally 2.5cm taller than Pioneer Brand 25W60.
- MSU D8006 is less susceptible to powdery mildew than Pioneer Brand 25W60.
- MSU D8006 flowers the same time as Pioneer Brand 25W60

'D8006' is most similar to Pioneer variety 25W60;

REPRODUCE LOCALLY. Include form number and date on all reproductions. Form Approved OMB NO 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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Exhibit C

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

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

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION	VARIETY NAME
Michigan State University	D8006	MSU D8006

ADDRESS *(Street and No. or RD No., City, State, Zip Code and Country)*

Michigan State University
246 Administration Bldg.
East Lansing, MI 48824

FOR OFFICIAL USE ONLY

PVPO NUMBER

20050308

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) _____

3. COLEOPTILE ANTHOCYANIN:

[ ] 1 = Absent 2 = Present

4. JUVENILE PLANT GROWTH:

[2] 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)

[2] 1 = Erect 2 = Recurved
[1] 1 = Not Twisted 2 = Twisted
[1] 1 = Wax Absent 2 = Wax Present

7. EAR EMERGENCE:

[1][5][5] Number of Days (Average)
[0][2] Number of Days Earlier Than * MSU D6234
Same As * _____
[ ][ ] Number of Days Later Than * _____

**Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial*

8. ANTHER COLOR:

[2] 1 = Yellow 2 = Purple

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

[0][4][0] cm (Average) 87.6

[ ][ ] cm Taller Than 2.5cm taller than '25W60' *

Same As _____ *

[0][1] cm Shorter Than MSU D6234 2.3 cm shorter than *

MAH 7/26/2006

10. STEM:

A. ANTHOCYANIN

[2] 1 = Absent 2 = Present

B. WAXY BLOOM

[2] 1 = Absent 2 = Present

C. HAIRINESS (last internode of rachis)

[2] 1 = Absent 2 = Present

D. INTERNODE

[2] 1 = Hollow 2 = Semi-solid 3 = Solid

[4] Number of Nodes

E. PEDUNCLE

[2] 1 = Erect 2 = Recurved 3 = Semi-erect

[ ][ ] cm Length

F. AURICLE

[1] Anthocyanin: 1 = Absent 2 = Present

[2] Hair: 1 = Absent 2 = Present

11. HEAD: (At Maturity)

A. DENSITY

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

B. SHAPE

[4] 1 = Tapering
2 = Strap
3 = Clavate
4 = Other (Specify) Oblong

C. CURVATURE

[1] 1 = Erect
2 = Inclined
3 = Recurved

D. AWNEDNESS

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

12. GLUMES: (At Maturity)

A. COLOR

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

B. SHOULDER

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

C. SHOULDER WIDTH

[2] 1 = Narrow
2 = Medium
3 = Wide

D. BEAK

[3] 1 = Obtuse
2 = Acute
3 = Acuminate

E. BEAK WIDTH

[ ] 1 = Narrow
2 = Medium
3 = Wide

F. GLUME LENGTH

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

G. WIDTH

[2] 1 = Narrow (ca. 3mm)
2 = Medium (ca. 3.5mm)
3 = Long (ca. 4mm)

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13. SEED:

A. SHAPE

[3] 1 = Ovate
2 = Oval
3 = Elliptical

B. CHEEK

[ ] 1 = Rounded
2 = Angular

C. BRUSH

[2] 1 = Short
2 = Medium
3 = Long

1 = Not Collared
2 = Collared

D. CREASE

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

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

E. COLOR

[1] 1 = White
2 = Amber
3 = Red
4 = Other (Specify) _____

F. TEXTURE

[2] 1 = Hard
2 = Soft
3 = Other (Specify) _____

G. PHENOL REACTION (See Instructions)

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

H. SEED WEIGHT

[3][9] g/1000 Seed (Whole number only)

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*)
[1] Stripe Rust (*Puccinia striiformis*)
[0] Tan Spot (*Pyrenophora tritici-repentis*)
[0] Halo Spot (*Selenophoma donacis*)
[3] *Septoria nodorum* (Glume Blotch)
[0] *Septoria avenae* (Speckled Leaf Disease)
[3] *Septoria tritici* (Speckled Leaf Blotch)
[1] Scab (*Fusarium* spp.)
[3] "Black Point" (Kernel Smudge)
[0] Barley Yellow Dwarf Virus (BYDV)
[0] Soilborne Mosaic Virus (SBMV)
[2] Wheat Yellow (Spindle Streak) Mosaic Virus
[3] Wheat Streak Mosaic Virus (WSMV)
[ ] Other (Specify) _____
[ ] Other (Specify) _____
[ ] Other (Specify) _____

[3] Leaf Rust (*Puccinia recondita* f. sp. *tritici*)
[0] Loose Smut (*Ustilago tritici*)
[0] Flag Smut (*Urocystis agropyri*)
[0] Common Bunt (*Tilletia tritici* or T. *laevis*)
[0] Dwarf Bunt (*Tilletia controversa*)
[0] Karnal Bunt (*Tilletia indica*)
[3] Powdery Mildew (*Erysiphe graminis* f. sp. *tritici*)
[0] "Snow Molds"
[0] Common Root Rot (*Fusarium*, *Cochliobolus* and *Bipolaris* spp.)
[0] Rhizoctonia Root Rot (*Rhizoctonia solani*)
[0] Black Chaff (*Xanthomonas campestris* pv. *translucens*).
[0] Bacterial Leaf Blight (*Pseudomonas syringae* pv. *syringae*)
[ ] Other (Specify) _____
[ ] Other (Specify) _____
[ ] Other (Specify) _____
[ ] Other (Specify) _____

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

PLEASE SPECIFY BIOTYPE (where needed)

[0] Hessian Fly (*Mayetiola destructor*)
[0] Stem Sawfly (*Cephus* spp.)
[0] Cereal Leaf Beetle (*Oulema melanopa*)
[ ] Other (Specify) _____
[ ] Other (Specify) _____
[ ] Other (Specify) _____

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

PLEASE SPECIFY BIOTYPE (Where Needed)

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0	Russian Aphid (*Diuraphis noxia*)		Other (Specify) _____
0	Greenbug (*Schizaphis graminum*)		Other (Specify) _____
0	Aphids		Other (Specify) _____

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

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WHEAT DESCRIPTOR ILLUSTRATIONS

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

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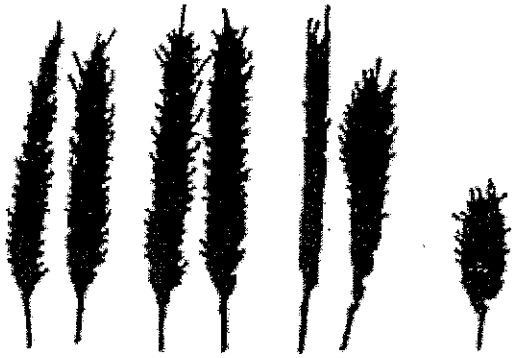
4. EARLY PLANT GROWTH HABIT:

1 Prostrate | 2 Intermediate | 3 Erect

10. STEM INTERNODE X-SECTION:

1 Hollow | 2 Semi-solid | 3 Solid

11. SPIKE SHAPE:

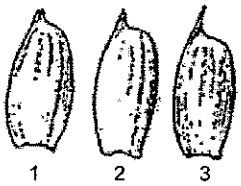


1 Tapering | 2 Oblong | 3 Clavate | 4 Elliptical

11. AWNEDNESS:

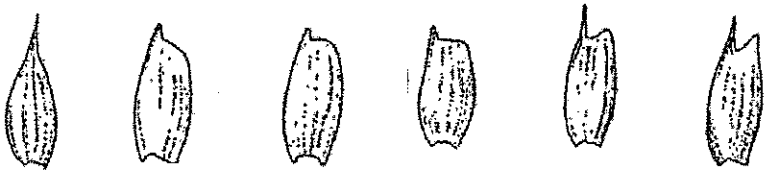
1 Awnless | 2 Apically Awnleted | 3 Awnleted | 4 Awned

12. BEAK SHAPE:



1 Obtuse | 2 Acute | 3 Acuminate

12. SHOULDER SHAPE:

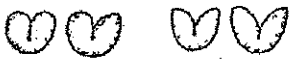


1 Wanting | 2 Oblique | 3 Rounded | 4 Square | 5 Elevated | 6 Apiculate

13. SEED SHAPE:

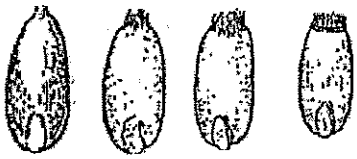
1 Ovate | 2 Oval | 3 Elliptical

13. CHEEK SHAPE:



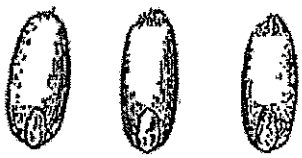
1 Rounded | 2 AngulaR

13. BRUSH SIZE



1 Small | 2 Midsized | 3 Large | 4 Collared

13. BRUSH HAIR LENGTH:



1 Short | 2 Medium | 3 Long

13. GERM (EMBRYO) SIZE:

1 Small | 2 Midsized | 3 Large

13. SEED CREASE WIDTH:

1 Narrow | 2 Mid-wide | 3 Wide

13. SEED CREASE DEPTH:

1 Shallow | 2 Mid-Deep | 3 Deep

DATA FROM MICHIGAN STATE UNIVERSITY WHEAT PERFORMANCE STATE TRIALS (2002 - 2005 SINGLE YEAR DATA)

YEAR	ENTRY	MILLING QUALITY SCORE		BAKING QUALITY SCORE		TEST WT. SCORE		SOFT. EQUIV. SCORE		MICRO T.W. LB/BU		SOFT. EQUIV. %		FLOUR YIELD %	
2005	Caledonia (AVG. OF 3 ENTRIES)	78.3	B	80.7	A	56.7	D	73.4	B	63.8		55.4		73.1	
2005	MSU D6234	68.9	C	81.7	A	58.7	D	68.2	C	64.0		53.6		71.2	Q
2005	MSU D8006	81.9	A	76.4	B	52.2	D	74.8	B	63.2		55.9		73.8	
2005	Pearl	76.0	B	79.0	B	59.4	D	77.7	B	64.1		56.9		72.6	
2004	Caledonia	78.3	B	69.3	C	56.3	D	71.4	B	61.4		61.0		72.1	
2004	MSU D6234	70.8	B	65.8	C	74.0	B	57.4	D	63.5		54.8	*	70.6	*
2004	MSU D8006	82.4	A	63.6	C	55.6	D	67.1	C	61.3		59.1		73.0	
2004	Pearl	66.6	C	60.1	C	72.3	B	65.0	C	63.3		58.2		69.8	Q
2004	Pioneer Brand 25W60	75.1	B	49.6	E	64.2	C	64.1	C	62.4		57.0	*	71.4	
2003	Caledonia	78.0	B	69.7	C	55.7	D	71.2	B	59.9		61.7		72.2	
2003	MSU D6234	69.0	C	53.2	D	77.2	B	55.4	D	62.5		54.6	Q	70.4	Q
2003	MSU D8006	84.0	A	65.2	C	74.1	B	61.9	C	62.1		57.5	*	73.4	
2003	Pearl	73.2	B	57.0	D	71.3	B	65.2	C	61.8		59.0		71.2	*
2003	Pioneer Brand 25W60	75.6	B	65.2	C	71.4	B	58.9	D	61.8		56.2	*	71.7	
2002	Caledonia	100.0	A	100.1	A					61.5		56.6		73.4	
2002	MSU D6234	93.2	C	88.8	D					62.8		53.7		72.0	*
2002	MSU D8006	101.2	A	83.0	E					61.2		56.1		73.8	
2002	Pearl	97.0	B	89.3	D					61.8		55.8		72.7	
2002	Pioneer Brand 25W60	96.2	B	91.9	C					61.7		54.5		72.8	

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DATA FROM MICHIGAN STATE UNIVERSITY WHEAT PERFORMANCE STATE TRIALS (2002 - 2005 SINGLE YEAR DATA)

YEAR	ENTRY	FLOUR PROT. %		LACTIC ACID RET'N		COOKIE DIAM. CM.		TOP GR.		MICRO AWRC %		COMBINED QUALITY SCORE	
2005	Caledonia (AVG. OF 3 ENTRIES)	9.1		92.4		18.1		5.0					
2005	MSU D6234	9.0		78.6		18.1		6.0					
2005	MSU D8006	9.3		112.2		18.0		5.0					
2005	Pearl	9.1		107.0		18.0		6.0					
2004	Caledonia	6.6		100.2		19.1		7.0					
2004	MSU D6234	7.0		84.7		19.0		8.0					
2004	MSU D8006	6.6		118.2		18.9		6.0					
2004	Pearl	6.5		114.1		18.8	*	7.0					
2004	Pioneer Brand 25W60	6.9	*	86.4		18.4	Q	5.0					
2003	Caledonia	8.5		111.1		18.5		5.0					
2003	MSU D6234	9.0		86.3		17.8	Q	3.0					
2003	MSU D8006	9.2		114.7		18.3		6.0					
2003	Pearl	9.4	*	121.4		18.0	Q	2.0					
2003	Pioneer Brand 25W60	8.4		84.4		18.3		4.0					
2002	Caledonia	8.2		95.5		18.6		3.0		53.5		100.0	A
2002	MSU D6234	8.4		76.2		18.4	*	4.0		54.7		88.8	D
2002	MSU D8006	8.6		106.0		18.0	Q	3.0		54.7		83.0	E
2002	Pearl	8.6		100.5		18.4		5.0		55.5	*	89.3	D
2002	Pioneer Brand 25W60	8.1		75.0		18.6		4.0		55.4	*	91.9	C

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Michigan State University	D8006	MSU D8006
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(Include area code)*	6. FAX *(Include area code)*
Michigan State University Office of Intellectual Property 246 Administration Bldg. East Lansing, MI 48824	(517) 355-2186	(517) 432-3880
	7. PVPO NUMBER 20050308	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** ☑ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** ☑ YES ☐ NO

10. 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**

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

"D8006" is an inbred line of common wheat selected from a single F5 plant descending from the cross of Pioneer 2555 and 'Lowell'. This cross was made by Dr. Richard Ward at Michigan State University. All selection and testing was conducted by Michigan State University personnel with Michigan State University resources. Michigan State University is therefore the originating breeder and owner of "D8006". No other party has ownership rights to this variety.

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.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.