No. 200000243

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pioneer Hi-Bred International, Inc.

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, CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN UCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY CTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'PH2EJ'

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 fifth day of February, in the year two thousand two.

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 DIVISION - 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: Pioneer Hi-Bred International, Inc.
2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER:
3. VARIETY NAME: PH2EJ
4. ADDRESS (*Street and No. or RFD No., City, State and Zip Code, and Country*): 7301 NW 62nd Avenue, P.O. Box 85, Johnston, IA 50131-0085
5. TELEPHONE (*Include area code*): 515/270-4051
6. FAX (*Include area code*): 515/253-2125

FOR OFFICIAL USE ONLY
PVPO NUMBER: 200000243
FILING DATE: 5/15/00

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): IOWA
9. DATE OF INCORPORATON: March 5, 1999

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION (FIRST PERSON LISTED WILL RECEIVE ALL PAPERS)

Steven R. Anderson
Research and Product Development
P.O. Box 85
Johnston, IA 50131-0085

FEES RECEIVED
FILING & EXAMINATION FEES: $ 2450.00 DATE 5/15/00
CERTIFICATION FEE: $ 320.00 DATE 1/10/02

11. TELEPHONE (*Include area code*): 515/270-4051
12. FAX (*Include area code*): 515/253-2125
13. E_MAIL: ANDERSONS@PHIBRED.COM
14. CROP KIND NAME (*Common name*): CORN
15. GENUS AND SPECIES NAME OF CROP: Zea Mays
16. FAMILY NAME (*Botanical*): Gramineae JRM 11/30/2000
17. IS THE VARIETY A FIRST GENERATION HYBRID? ☐ Yes ☒ No

18. 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 the 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 (*2500 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 ($2,450), made payable to "Treasurer of the United States" (*Mail to Plant Variety Protection Office*))

19. 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 20 and 21 below) ☒ NO (If "no", go to item 22)

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. 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*)

23. 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.*)

24. The owner(s) declare that a viable sample of basic seed of the variety will be 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 results in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER: Steven R Anderson	
NAME (*Please print or type*)		NAME (*Please print or type*): Steven R. Anderson	
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE: Senior Research Associate	DATE: 5/10/2000

S&T-470 (06-98DESIGNED BY THE Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete. (*See reverse for instructions and information collection burden statement*)

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 sy Irsdy 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 a approved public repository; (4) check drawn on a U.S. bank for $2,450 ($300 filing fee and $2,150 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 500, 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 $300 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/pvp.htm

ITEM

18a. 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.

18b. 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 of photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. 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 disease resistance, etc.

18e. Section 52(5) of the Act required applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. 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, applicant may change the choice. *(See Regulations and Rules of Practice, Section 7.103).*

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

23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

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22. 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.)*

Nov. 1, 1999, United States

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23. 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).*

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. There is no charge for filing a change of address. The fee for filing a change of 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 Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate of any other aspect of this collection of information, including suggestions for reducing this burden , to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (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 the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

Exhibit A. Origin and Breeding History

Pedigree: PHR03/PHN46)XAF811112X

Pioneer Line PH2EJ, *Zea mays L.*, a dent corn inbred, was developed by Pioneer Hi-Bred International, Inc. from the single cross hybrid PHR03 (Certificate No. 9100097) X PHN46 (PVP Certificate No. 9000249) using the pedigree method of plant breeding. Varieties PHR03 and PHN46 are proprietary inbred lines of Pioneer Hi-Bred International, Inc. Selfing was practiced from the above hybrid for 7 generations using pedigree selection. During line development, crosses were made to inbred testers for the purpose of estimating the line's combining ability. Yield trials were grown at Miami, Missouri as well as other Pioneer research locations. After initial testing, additional hybrid combinations have been evaluated and subsequent generations of the line have been grown and hand-pollinated with observations again made for uniformity.

Variety PH2EJ has shown uniformity and stability for all traits as described in Exhibit C - "Objective Description of Variety". It has been self-pollinated and ear-rowed 6 generations with careful attention paid to selection criteria and uniformity of plant type to assure genetic homozygousity and phenotypic stability. The line has been increased both by hand and in isolated fields with continued observations for uniformity and stability for 3 generations during the final stages of inbred development and seed multiplication. Very high standards for genetic purity have been established morphologically using field observations and electrophoretically using sound lab molecular marker methodology.

No variant traits have been observed or are expected in PH2EJ.

The criteria used in the selection of PH2EJ were yield, both per se and in hybrid combinations; late season plant health, grain quality, stalk lodging resistance, and kernel size, especially important in production. Other selection criteria include: ability to germinate in adverse conditions; number of tillers, especially important in production because having numerous tillers increases hybrid production costs spent on detasseling; disease and insect resistance; pollen yield and tassel size.

Exhibit A: Developmental history for PH2EJ

Season/Year Pedigree Grown	Inbreeding Level of Pedigree Grown
Summer, 1989 PHR03,PHN46	F0
Summer, 1990 PHR03/PHN46	F1
Summer, 1992 PHR03/PHN46)X	F2
Winter, 1992 PHR03/PHN46)XAF8	F3
Summer, 1993 PHR03/PHN46)XAF81	F4
Summer, 1994 PHR03/PHN46)XAF811	F5
Summer, 1995 PHR03/PHN46)XAF8111	F6
Winter, 1995 PHR03/PHN46)XAF81111	F7
Summer, 1996 PHR03/PHN46)XAF811112	F8
Winter, 1996, PHR03/PHN46)XAF811112X	F9

*PH2EJ was selfed and ear-rowed from F3 through F8 generation.
#Uniformity and stability were established from F5 through F8 generation and beyond when seed supplies were increased.

Exhibit B: Novelty Statement

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Variety PH2EJ mostly resembles Pioneer Hi-Bred International, Inc. proprietary inbred line PHR03 (PVP Certificate No. 9100097). The data in Tables 1A and 1B are from paired comparisons collected primarily in Johnston and Ankeny, IA. The data in Table 2 are from paired comparisons at multiple locations grown primarily in the adapted growing area of PH2EJ. The traits collectively show measurable differences between the two varieties.

Variety PH2EJ has less ear row number (12.8 vs 15.3) than variety PHR03 (Table 1A, 1B).

Variety PH2EJ has shorter husk length (21.5 cm vs 24.5 cm) than variety PHR03 (Table 1A, 1B).

Variety PH2EJ has shorter leaf length (65.9 cm vs 76.6 cm) than variety PHR03 (Table 1A, 1B).

Variety PH2EJ has narrower tassel branch angle (14.7° vs 24.9°) than variety PHR03 (Table 1A, 1B).

Variety PH2EJ has less tassel primary branch (# of primary branches) (1.5 vs 8.5) than variety PHR03 (Table 1A, 1B).

Variety PH2EJ has lower grain moisture at harvest (MST) (16.4 % vs 22.6%) than PHR03 (Table 2).

Variety PH2EJ has a smaller tassel size score (TASSZ) (3.2 vs 6.0) than PHR03 (Table 2).

JMS 12/17/01

A t-test was used to compare differences between means and the appropriate parameters have been included. It is difficult to collect standard deviations for table 2 due to the way the historical data was stored.

Exhibit B Novelty Statement Tables

Table 1A: Data from Johnston and Ankeny, IA at 3 different environments in 1999 are supporting evidence for differences between PH2EJ and PHR03. Locations had different environmental conditions. Environments had different planting dates and were in different fields.

Station	Loc	Year	Traits	variety-1	variety-2	Count-1	Count-2	Mean-1	Mean-2	Mean Diff	StdDeviation-1	StdDeviation-2	StdError-1	StdError-2	DF Pooled	t-Value Pooled	Prob (2-tail) Pooled
IT	NF	1999	ear row number	PH2EJ	PHR03	5	5	12.4	14.4	-2.0	0.894	1.673	0.400	0.748	8	-2.36	0.046
AD	20N	1999	ear row number	PH2EJ	PHR03	5	5	12.8	16.0	-3.2	1.095	1.414	0.490	0.632	8	-4.00	0.004
JH	Y212	1999	ear row number	PH2EJ	PHR03	5	5	13.2	15.6	-2.4	1.095	1.673	0.490	0.748	8	-2.68	0.028
IT	NF	1999	husk length (cm)	PH2EJ	PHR03	5	5	22.0	24.8	-2.8	1.225	1.483	0.548	0.663	8	-3.25	0.012
AD	20N	1999	husk length (cm)	PH2EJ	PHR03	5	5	20.6	24.2	-3.6	0.548	0.447	0.245	0.200	8	-11.38	0.000
JH	Y212	1999	husk length (cm)	PH2EJ	PHR03	5	5	21.8	24.4	-2.6	0.837	0.548	0.374	0.245	8	-5.81	0.000
AD	20N	1999	leaf length (cm)	PH2EJ	PHR03	5	5	68.4	79.4	-11.0	1.949	1.517	0.872	0.678	8	-9.96	0.000
JH	Y212	1999	leaf length (cm)	PH2EJ	PHR03	5	5	66.8	77.2	-10.4	4.494	0.837	2.010	0.374	8	-5.09	0.001
IT	NF	1999	leaf length (cm)	PH2EJ	PHR03	5	5	62.4	73.2	-10.8	4.450	0.447	1.990	0.200	8	-5.40	0.001
JH	Y212	1999	tassel branch angle (degrees)	PH2EJ	PHR03	5	5	9.2	21.0	-11.8	1.304	8.916	0.583	3.987	8	-2.93	0.019
IT	NF	1999	tassel branch angle (degrees)	PH2EJ	PHR03	5	5	15.6	23.2	-7.6	3.782	3.962	1.691	1.772	8	-3.10	0.015
AD	20N	1999	tassel branch angle (degrees)	PH2EJ	PHR03	5	5	19.4	30.4	-11.0	3.847	6.693	1.720	2.993	8	-3.19	0.013
AD	20N	1999	tassel primary branch (# of primary branches)	PH2EJ	PHR03	5	5	0.8	7.2	-6.4	0.447	1.924	0.200	0.860	8	-7.25	0.000
IT	NF	1999	tassel primary branch (# of primary branches)	PH2EJ	PHR03	5	5	2.2	10.4	-8.2	0.447	1.140	0.200	0.510	8	-14.97	0.000
JH	Y212	1999	tassel primary branch (# of primary branches)	PH2EJ	PHR03	5	5	1.4	7.8	-6.4	0.548	1.789	0.245	0.800	8	-7.65	0.000

Table 1B: Summary data from Johnston and Ankeny, IA across environments in 1999 are supporting evidence for differences between PH2EJ and PHR03. Locations had different environmental conditions. Environments had different planting dates and were in different fields. Tables below show means broken out across environments.

Year	Traits	Variety-1	Variety-2	Count-1	Count-2	Mean-1	Mean-2	Mean Diff	StdDeviation-1	StdDeviation-2	StdError-1	StdError-2	DF Pooled	t-Value Pooled	Prob (2-tail) Pooled
1999	ear row number	PH2EJ	PHR03	15	15	12.8	15.3	-2.5	1.014	1.633	0.262	0.422	28	-5.10	0.000
1999	husk length (cm)	PH2EJ	PHR03	15	15	21.5	24.5	-3.0	1.060	0.915	0.274	0.236	28	-8.30	0.000
1999	leaf length (cm)	PH2EJ	PHR03	15	15	65.9	76.6	-10.7	4.406	2.823	1.138	0.729	28	-7.94	0.000
1999	tassel branch angle (degrees)	PH2EJ	PHR03	15	15	14.7	24.9	-10.1	5.271	7.567	1.361	1.954	28	-4.26	0.000
1999	tassel primary branch (# of primary branches)	PH2EJ	PHR03	15	15	1.5	8.5	-7.0	0.743	2.100	0.192	0.542	28	-12.17	0.000

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Exhibit B. Novelty Statement Tables

Table 2. These data indicate differences between varieties PH2EJ and PHR03. Data are from multiple locations and years grown primarily in the adapted growing area.

Variety 1 = PH2EJ
Variety 2 = PHR03

Variety 1	PH2EJ		
Variety 2	PHR03		
		MST	TAS
	VAR		SZ
YEAR	#	ABS	ABS
---	---	---	---
1996	1	18.3	3.2
	2	23.9	6.1
	LOCS	13	10
	PROB	.000#	.000#
1997	1	15.9	3.0
	2	22.0	6.5
	LOCS	13	4
	PROB	.000#	.012+
1998	1	22.3	3.4
	2	25.5	6.1
	LOCS	2	14
	PROB	0.107	.000#
1999	1	14.4	3.1
	2	21.5	5.8
	LOCS	14	32
	PROB	.000#	.000#
TOTAL SUM	1	16.4	3.2
	2	22.6	6.0
	LOCS	42	60
	DIFF	6.2	2.8
t-test	PROB	.000#	.000#

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DEFINITIONS

In the description and examples, a number of terms are used herein. In order to provide a clear and consistent understanding of the specification and claims, including the scope to be given such terms, the following definitions are provided:

ANT ROT = **ANTHRACNOSE STALK ROT** (*Colletotrichum graminicola*).
A 1 to 9 visual rating indicating the resistance to Anthracnose Stalk Rot. A higher score indicates a higher resistance.

BAR PLT = **BARREN PLANTS.**
The percent of plants per plot that were not barren (lack ears).

BRT STK = **BRITTLE STALKS.**
This is a measure of the stalk breakage near the time of pollination, and is an indication of whether a hybrid or inbred would snap or break near the time of flowering under severe winds. Data are presented as percentage of plants that did not snap.

BU ACR = **YIELD (BUSHELS/ACRE).**
Yield of the grain at harvest in bushels per acre adjusted to 15.5% moisture.

CLD TST = **COLD TEST.**
The percent of plants that germinate under cold test conditions.

CLN = **CORN LETHAL NECROSIS.**
Synergistic interaction of maize chlorotic mottle virus (MCMV) in combination with either maize dwarf mosaic virus (MDMV-A or MDMV-B) or wheat streak mosaic virus (WSMV). A 1 to 9 visual rating indicating the resistance to Corn Lethal Necrosis. A higher score indicates a higher resistance.

COM RST = **COMMON RUST** (*Puccinia sorghi*).
A 1 to 9 visual rating indicating the resistance to Common Rust. A higher score indicates a higher resistance.

DIP ERS = **DIPLODIA EAR MOLD SCORES** (*Diplodia maydis and Diplodia macrospora*).
A 1 to 9 visual rating indicating the resistance to Diplodia Ear Mold. A higher score indicates a higher resistance.

DRP EAR = **DROPPED EARS.**
A measure of the number of dropped ears per plot and represents the percentage of plants that did not drop ears prior to harvest.

EAR HT = **EAR HEIGHT.**
The ear height is a measure from the ground to the highest placed developed ear node attachment and is measured in cm.

EAR MLD = **GENERAL EAR MOLD.**
Visual rating (1-9 score) where a "1" is very susceptible and a "9" is very resistant. This is based on overall rating for ear mold of mature ears without determining the specific mold organism, and may not be predictive for a specific ear mold.

EAR SZ = **EAR SIZE.**
A 1 to 9 visual rating of ear size. The higher the rating the larger the ear size.

ECB 1LF = **EUROPEAN CORN BORER FIRST GENERATION LEAF FEEDING** (*Ostrinia nubilalis*).
A 1 to 9 visual rating indicating the resistance to preflowering leaf feeding by first generation European Corn Borer. A higher score indicates a higher resistance.

ECB 2IT = **EUROPEAN CORN BORER SECOND GENERATION INCHES OF TUNNELING** (*Ostrinia nubilalis*).
Average inches of tunneling per plant in the stalk.

ECB 2SC = **EUROPEAN CORN BORER SECOND GENERATION** (*Ostrinia nubilalis*).
A 1 to 9 visual rating indicating post flowering degree of stalk breakage and other evidence of feeding by European Corn Borer, Second Generation. A higher score indicates a higher resistance.

ECB DPE = **EUROPEAN CORN BORER DROPPED EARS** (*Ostrinia nubilalis*).
Dropped ears due to European Corn Borer. Percentage of plants that did not drop ears under second generation corn borer infestation.

EGRWTH = **EARLY GROWTH.**
This is the visual rating (1 to 9) of the amount of vegetative growth after emergence at the seedling stage (approximately five leaves). A higher score indicates better vigor or early season growth.

EST CNT = **EARLY STAND COUNT.**
This is a measure of the stand establishment in the spring and represents the number of plants that emerge on per plot basis for the inbred or hybrid.

EYE SPT = **EYE SPOT** (*Kabatiella zeae or Aureobasidium zeae*).
A 1 to 9 visual rating indicating the resistance to Eye Spot. A higher score indicates a higher resistance.

FUS ERS = **FUSARIUM EAR ROT SCORE.** (*Fusarium moniliforme or Fusarium subglutinans*).
A 1 to 9 visual rating indicating the resistance to Fusarium ear rot. A higher score indicates a higher resistance.

GDU = **GROWING DEGREE UNITS.**
Using the Barger Heat Unit Theory, which assumes that maize growth occurs in the temperature range 50°F - 86°F and that temperatures outside this range slow down growth; the maximum daily heat unit accumulation is 36 and the minimum daily heat unit accumulation is 0. The seasonal accumulation of GDU is a major factor in determining maturity zones.

GDU SHD = **GDU TO SHED.**
The number of growing degree units (GDUs) or heat units required for an inbred line or hybrid to have approximately 50 percent of the plants shedding pollen and is measured from the time of planting. Growing degree units are calculated by the Barger Method, where the heat units for a 24-hour period are:

$$GDU = \frac{(\text{Max. Temp.} + \text{Min. temp.})}{} - 50/2$$

The highest maximum temperature used is 86° F. and the lowest minimum temperature used is 50°F. For each inbred or hybrid it takes a certain number of GDUs to reach various stages of plant development.

GDU SLK = **GDU TO SILK.**
The number of growing degree units required for an inbred line or hybrid to have approximately 50 percent of the plants with silk emergence from time of planting. Growing degree units are calculated by the Barger Method as given in GDU SHD definition.

GIBERS = **GIBBERELLA EAR ROT (PINK MOLD)** (*Gibberella zeae*).
A 1 to 9 visual rating indicating the resistance to Gibberella Ear Rot. A higher score indicates a higher resistance.

GLF SPT = **GRAY LEAF SPOT** (*Cercospora zeae-maydis*).
A 1 to 9 visual rating indicating the resistance to Gray Leaf Spot. A higher score indicates a higher resistance.

GOS WLT = **GOSS' WILT** (*Corynebacterium nebraskense*).
A 1 to 9 visual rating indicating the resistance to Goss' Wilt. A higher score indicates a higher resistance.

GRN APP = **GRAIN APPEARANCE.**
This is a 1 to 9 rating for the general appearance of the shelled grain as it is harvested based on such factors as the color of harvested grain, any mold on the grain, and any cracked grain. High scores indicate good grain quality.

HC BLT = **HELMINTHOSPORIUM CARBONUM LEAF BLIGHT** (*Helminthosporium carbonum*).
A 1 to 9 visual rating indicating the resistance to Helminthosporium infection. A higher score indicates a higher resistance.

HD SMT = **HEAD SMUT** (*Sphacelotheca reiliana*).
This score indicates the percentage of plants not infected.

KER KG = **KERNELS PER KILOGRAM.**
The number of kernels per 1 kilogram of seed after discard is removed.

KSZ DCD = **KERNEL SIZE DISCARD.**
The percent of discard seed; calculated as the sum of discarded tip kernels and extra large kernels.

MDM CPX = **MAIZE DWARF MOSAIC COMPLEX** (MDMV = Maize Dwarf Mosaic Virus and MCDV = Maize Chlorotic Dwarf Virus).
A 1 to 9 visual rating indicating the resistance to Maize Dwarf Mosaic Complex. A higher score indicates a higher resistance.

MST = **HARVEST MOISTURE.**
The moisture is the actual percentage moisture of the grain at harvest.

NLF BLT = **NORTHERN LEAF BLIGHT** (*Helminthosporium turcicum* or *Exserohilum turcicum*).
A 1 to 9 visual rating indicating the resistance to Northern Leaf Blight. A higher score indicates a higher resistance.

PLT HT = **PLANT HEIGHT.**
This is a measure of the height of the plant from the ground to the tip of the tassel in cm.

POL SC = **POLLEN SCORE.**
A 1 to 9 visual rating indicating the amount of pollen shed. The higher the score the more pollen shed.

POL WT = **POLLEN WEIGHT.**
This is calculated by dry weight of tassels collected as shedding commences minus dry weight from similar tassels harvested after shedding is complete.

PRM = **PREDICTED RELATIVE MATURITY.**
This trait, predicted relative maturity, is based on the harvest moisture of the grain. The relative maturity rating is based on a known set of checks and utilizes standard linear regression analyses and is also referred to as the Comparative Relative Maturity Rating System that is similar to the Minnesota Relative Maturity Rating System.

PRM SHD = **PREDICTED RELATIVE MATURITY GDU TO SHED.**
A relative measure of the growing degree units (GDU) required to reach 50% pollen shed. Relative values are predicted values from the linear regression of observed GDU's on relative maturity of commercial checks.

RT LDG = **ROOT LODGING.**
Root lodging is the percentage of plants that do not root lodge; plants that lean from the vertical axis at an approximately 30° angle or greater would be counted as root lodged.

SCT GRN = **SCATTER GRAIN.**
A 1 to 9 visual rating indicating the amount of scatter grain (lack of pollination or kernel abortion) on the ear. The higher the score the less scatter grain.

SEL IND = **SELECTION INDEX.**
The selection index gives a single measure of the hybrid's worth based on information for up to five traits. A maize breeder may utilize his or her own set of traits for the selection index. One of the traits that is almost always included is yield. When selection index data is presented, the tables represent the mean value averaged across testing stations.

SLF BLT = **SOUTHERN LEAF BLIGHT** (*Helminthosporium maydis* or *Bipolaris maydis*).
A 1 to 9 visual rating indicating the resistance to Southern Leaf Blight. A higher score indicates a higher resistance.

SOU RST = **SOUTHERN RUST** (*Puccinia polysora*).
A 1 to 9 visual rating indicating the resistance to Southern Rust. A higher score indicates a higher resistance.

STAGRN = **STAYGREEN.**
Staygreen is the measure of plant health near the time of black layer formation (physiological maturity). A high score indicates better late-season plant health.

STK CNT = **NUMBER OF PLANTS.**
This is the final stand or number of plants per plot.

STK LDG. = **STALK LODGING.**
This is the percentage of plants that did not stalk lodge (stalk breakage) as measured by either natural lodging or pushing the stalks and determining the percentage of plants that break below the ear.

STW WLT = **STEWART'S WILT** (*Erwinia stewartii*).
A 1 to 9 visual rating indicating the resistance to Stewart's Wilt. A higher score indicates a higher resistance.

TASBRN = **TASSEL BRANCHES.**
This is the number of primary tassel branches.

TAS SZ = **TASSEL SIZE.**
A 1 to 9 visual rating was used to indicate the relative size of the tassel. The higher the rating the larger the tassel.

TAS WT = **TASSEL WEIGHT.**
This is the average weight of a tassel (grams) just prior to pollen shed.

TEX EAR = **EAR TEXTURE.**
A 1 to 9 visual rating was used to indicate the relative hardness (smoothness of crown) of mature grain. A 1 would be very soft (extreme dent) while a 9 would be very hard (flinty or very smooth crown).

TILLER = **TILLERS.**
A count of the number of tillers per plot that could possibly shed pollen was taken. Data are given as a percentage of tillers: number of tillers per plot divided by number of plants per plot.

TST WT = **TEST WEIGHT (UNADJUSTED).**
The measure of the weight of the grain in pounds for a given volume (bushel).

YLD SC = **YIELD SCORE.**
A 1 to 9 visual rating was used to give a relative rating for yield based on plot ear piles. The higher the rating the greater visual yield appearance.

Exhibit C
(Corn Maize)

United States Department of Agriculture, Agricultural Marketing Service
Science Division, Plant Variety Protection Office
National Agricultural Library Building, Room 500
Beltsville, MD 20705

200000243

Objective Description of Variety
Corn (Zea mays L.)

Name of Applicant (s)	Variety Seed Source	Variety Name or Temporary Designation
Pioneer Hi-Bred International, Inc.		PH2EJ
Address (Street & No., or RFD No., City, State, Zip Code and Country		FOR OFFICIAL USE
7301 NW 62nd Avenue, P.O. Box 85, Johnston, Iowa 50131-0085		PVP0 Number

Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding Leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by an '*' are considered Necessary for an adequate variety description and must be completed.

COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices: describe #25 and #26 in Comments section):

01=Light Green	06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff
02=Medium Green	07=Yellow	12=Light Red	17=Purple	22=Tan
03=Dark Green	08=Yellow Orange	13=Cherry Red	18=Colorless	23=Brown
04=Very Dark Green	09=Salmon	14=Red	19=White	24=Bronze
05=Green-Yellow	10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe)
				26=Other (Describe)

STANDARD INBRED CHOICES
(Use the most similar (in background and maturity) of these to make comparisons based on **grow-out trial data**):

Yellow Dent Families:		Yellow Dent (Unrelated):	Sweet Corn:
Family	Members	Co109, ND246,	C13, Iowa5125, P39, 2132
B14	CM105, A632, B64, B68	Oh7, T232,	
B37	B37, B76, H84	W117, W153R,	Popcorn:
B73	N192, A679, B73, NC268	W18BN	SG1533, 4722, HP301, HP7211
C103	Mo17, Va102, Va35, A682		
Oh43	A619, MS71, H99, Va26	White Dent:	Pipecorn:
WF9	W64A, A554, A654, Pa91	C166, H105, Ky228	Mo15W, Mo16W, Mo24W

Groups on Lynx/Osborn/Grunst/98-99PVP

EXHIBIT C: PH2EJ

1. TYPE: (describe intermediate types in Comments section):	Standard Variety Name
2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental	B73

2. REGION WHERE DEVELOPED IN THE U.S.A.:	Standard Seed Source
5 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other Central Northeast Southeast West	PI 550473

3. MATURITY (In Region of Best Adaptability; show Heat Unit formula in 'Comments' section)

DAYS	HEAT UNITS		DAYS	HEAT UNITS
077	1,511.7	From emergence to 50% of plants in silk	075	1,440.0
077	1,502.3	From emergence to 50% of plants in pollen	074	1,409.3
001	0,040.0	From 10% to 90% pollen shed	002	0,071.0
		From 50% silk to optimum edible quality		
		From 50% silk to harvest at 25% moisture		

4. PLANT:

		Standard Deviation	Sample Size		Standard Deviation	Sample Size
219.0	cm Plant Height (to tassel tip)	20.81	03	211.0	24.02	03
082.3	cm Ear Height (to base of top ear node)	11.68	03	080.3	09.50	03
016.0	cm Length of Top Ear Internode	03.10	03	014.5	01.53	03
0.1	Average Number of Tillers	00.12	03	0.0	00.02	03
1.2	Average Number of Ears per Stalk	00.20	03	1.0	00.11	03
2	Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark			4		

5. LEAF:

		Standard Deviation	Sample Size		Standard Deviation	Sample Size
10.9	cm Width of Ear Node Leaf	01.40	03	09.0	00.00	03
65.9	cm Length of Ear Node Leaf	03.11	03	79.5	02.40	03
06	Number of leaves above top ear	00.23	03	06	00.31	03
22	Degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	03.23	03	14	05.79	03
03	Leaf Color (Munsell code) 5GY34			03	5GY34	
1	Leaf Sheath Pubescence (Rate on scale from 1=none to 9=like peach fuzz)			1		
	Marginal Waves (Rate on scale from 1=none to 9=many)					
	Longitudinal Creases (Rate on scale from 1=none to 9=many)					

6. TASSEL:

		Standard Deviation	Sample Size		Standard Deviation	Sample Size
01	Number of Primary Lateral Branches	00.70	03	08	00.20	03
15	Branch Angle from Central Spike	05.15	03	09	02.60	03
49.3	cm Tassel Length (from top leaf collar to tassel tip)	01.21	03	55.9	03.65	03
5	Pollen Shed (rate on scale from 0=male sterile to 9=heavy shed)			5		
07	Anther Color (Munsell code) 7.5Y88			07	5Y8.54	
01	Glume Color (Munsell code) 5GY68			01	5GY56	
1	Bar Glumes (Glume Bands): 1=Absent 2=Present			1		

7a. EAR (Unhusked Data):				
14	Silk Color (3 days after emergence) (Munsell code)	5R46	01	2.5GY94
01	Fresh Husk Color (25 days after 50% silking) (Munsell code)	5GY68	01	5GY78
21	Dry Husk Color (65 days after 50% silking) (Munsell code)	2.5Y92	21	2.5Y8.54
2	Position of Ear at Dry Husk Stage: 1= Upright 2= Horizontal 3= Pendant		1	
5	Husk Tightness (Rate of Scale from 1=very loose to 9=very tight)		8	
2	Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8 cm) 3=Long (8-10 cm beyond ear tip) 4=Very Long (>10 cm)		3	

7b. EAR (Husked Ear Data):		Standard Deviation	Sample Size	Standard Deviation		Sample Size
15.7	cm Ear Length	00.58	03	13.7	01.15	03
41.7	mm Ear Diameter at mid-point	02.08	03	43.7	01.53	03
100.3	gm Ear Weight	28.38	03	96.0	17.52	03
13	Number of Kernel Rows	00.58	03	18.0	01.00	03
2	Kernel Rows: 1=Indistinct 2=Distinct			2		
2	Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			1		
11.7	cm Shank Length	01.53	03	09.7	02.08	03
2	Ear Taper: 1=Slight 2= Average 3=Extreme			1		

8. KERNEL (Dried)		Standard Deviation	Sample Size	Standard Deviation		Sample Size
11.3	mm Kernel Length	00.58	03	10.7	00.58	03
08.7	mm Kernel Width	01.15	03	07.7	00.58	03
05.0	mm Kernel Thickness	01.00	03	04.7	00.58	03
36.0	% Round Kernels (Shape Grade)	18.19	03	45.3	06.43	03
1	Aleurone Color Pattern: 1-Homozygous 2=Segregating			1		
07	Aluerone Color (Munsell code)	10YR712		07	2.5Y812	
07	Hard Endosperm Color (Munsell code)	10YR714		07	2.5Y812	
03	Endosperm Type: 1=Sweet (Su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other___			3		
31.3	gm Weight per 100 Kernels (unsized sample)	08.02	03	26.00	01.73	03

9. COB:		Standard Deviation	Sample Size	Standard Deviation		Sample Size
22.7	mm Cob Diameter at mid-point	00.58	03	28.7	00.58	03
14	Cob Color (Munsell code) 10R66			14	10R48	

10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic):

	A. Leaf Blights, Wilts, and Local Infection Diseases	
	Anthracnose Leaf Blight (Colletotrichum graminicola)	
	Common Rust (Puccinia sorghi)	
	Common Smut (Ustilago maydis)	
	Eyespot (Kabatiella zeae)	
	Goss's Wilt (Clavibacter michiganense spp. nebraskense)	
4	Gray Leaf Spot (Cercospora zeae-maydis)	3
	Helminthosporium Leaf Spot (Bipolaris zeicola) Race ———	
5	Northern Leaf Blight (Exserohilum turcicum) Race ———	4
5	Southern Leaf Blight (Bipolaris maydis) Race ———	3
	Southern Rust (Puccinia polysora)	
7	Stewart's Wilt (Erwinia stewartii)	3
	Other (Specify) ———	
	B. Systemic Diseases	
	Corn Lethal Necrosis (MCMV and MDMV)	
8	Head Smut (Sphacelotheca reiliana)	4
	Maize Chlorotic Dwarf Virus (MDV)	
	Maize Chlorotic Mottle Virus (MCMV)	
4	Maize Dwarf Mosaic Virus (MDMV)	2
	Sorghum Downy Mildew of Corn (Peronosclerospora sorghi)	
	Other (Specify) ———	
	C. Stalk Rots	
3	Anthracnose Stalk Rot (Colletotrichum graminicola)	3
	Diplodia Stalk Rot (Stenocarpella maydis)	
	Fusarium Stalk Rot (Fusarium moniliforme)	
	Gibberella Stalk Rot (Gibberella zeae)	
	Other (Specify) ———	
	D. Ear and Kernel Rots	
	Aspergillus Ear and Kernel Rot (Aspergillus flavus)	
4	Diplodia Ear Rot (Stenocarpella maydis)	1
6	Fusarium Ear and Kernel Rot (Fusarium moniliforme)	7
	Gibberella Ear Rot (Gibberella zeae)	
	Other (Specify) ———	

11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); (leave blank if not tested) :

Banks grass Mite (Oligonychus pratensis)	
Corn Worm (Helicoverpa zea)	
Leaf Feeding	
Silk Feeding	
mg larval wt.	
Ear Damage	
Corn Leaf Aphid (Rhopalosiphum maidis)	
Corn Sap Beetle (Carpophilus dimidiatus	
European Corn Borer (Ostrinia nubilalis)	
1st Generation (Typically Whorl Leaf Feeding)	
2nd Generation (Typically Leaf Sheath-Collar Feeding)	
Stalk Tunneling	
cm tunneled/plant	
Fall Armyworm (Spodoptera fruqiperda)	
Leaf Feeding	
Silk Feeding	
mg larval wt.	
Maize Weevil (Sitophilus zeamaize	
Northern Rootworm (Diabrotica barberi)	
Southern Rootworm (Diabrotica undecimpunctata)	
Southwestern Corn Borer (Diatreaea grandiosella)	
Leaf Feeding	
Stalk Tunneling	
cm tunneled/plant	
Two-spotted Spider Mite (Tetranychus urticae)	
Western Rootworm (Diabrotica virgifrea virgifera)	
Other (Specify) ———	

12. AGRONOMIC TRAITS:

2	Staygreen (at 65 days after anthesis) (Rate on a scale from 1=worst to excellent)	3
0.0	% Dropped Ears (at 65 days after anthesis)	0.3
	% Pre-anthesis Brittle Snapping	
	% Pre-anthesis Root Lodging	
20.3	Post-anthesis Root Lodging (at 65 days after anthesis)	3.1
4,878.8	Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)	5,319.5

13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied):

1 Isozymes 0 RFLP's 0 RAPD's

COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):

CLARIFICATION OF DATA IN EXHIBITS B AND C

2000002437

Please note the data presented in Exhibit C, "Objective Description of Variety," are collected primarily at Johnston and Ankeny, IA. The data in Exhibit B are from comparisons of inbreds grown in the same tests in the adapted growing area of PH2EJ and in Johnston and Ankeny, IA. The data in Tables 1A and 1B are from paired comparisons collected in Johnston and Ankeny, IA. The data in Table 2 are from paired comparisons grown primarily in the adapted growing area of PH2EJ. These traits collectively show distinct differences between the two varieties.

The data collected in exhibit C were collected from environments in 1999 for page 1 and 2. There are factors that differ from environment to environment. The environments had different planting dates. Environmental temperature and precipitation differences during the vegetative and grain fill periods can impact plant and grain traits and be a source of variability. These data are mostly based on 5 plants measured at each location. There often is more variability associated with environment to environment factors than within locations. Please see Table 3 for average temperature and rainfall information in 1999.

JMS 12/17/01

A paired comparison is used to make the best comparisons possible. Some differences can result simply due to the fact that the public check variety 'B73' is included in more years of testing along with the PVP variety being filed. Variety PH2JR had more years of paired data available for page 1 and 2 of exhibit C than varieties PH2EJ. For page 3 and 4 the paired data available from our disease, entomology and disease trials differed for each application listed.

Table 3. Temperature and Rainfall

TEMPERATURE

YEAR	MAY	JUN	JULY	AUG	AVERAGE
1994	59.8	70.7	71.9	69.0	**67.9**
1995	56.2	69.4	74.3	76.9	**69.2**
1996	56.2	69.3	71.3	70.5	**66.8**
1997	53.5	70.6	74.1	69.6	**67.0**
1998	64.7	66.6	74.8	73.5	**69.9**
1999	60.7	69.7	78.7	70.5	**69.9**

RAINFALL

YEAR	MAY	JUN	JULY	AUG	Total
1994	3.67	5.75	1.71	4.18	**15.31**
1995	5.04	4.19	2.94	2.87	**15.04**
1996	8.47	4.35	2.51	2.14	**17.47**
1997	4.32	3.27	4.10	1.36	**13.05**
1998	6.46	11.07	5.70	4.96	**28.19**
1999	6.46	4.54	4.45	6.55	**21.85**

200000243

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

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 APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
PIONEER HI-BRED INTERNATIONAL, INC.		**PH2EJ**

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)*
7301 NW 62nd AVENUE **P.O.BOX 85** **JOHNSTON, IA 50131-0085**	**515-270-4051**	**515-253-2125**
	7. PVPO NUMBER 200000243	

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

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO

If no, give name of country

10. Is the applicant the original owner? ☒ YES ☐ NO ***If no, please answer one of the following:***

a. If 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 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 *(if needed, use reverse for extra space)*:

PH2EJ is owned by Pioneer Hi-Bred International, Inc.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of 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 membe country, or owned by national 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 final breeding. See section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are 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 compete this information collection is estimated to average 10 minutes 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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To file a complaint, write Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD) USDA is an equal employmen opportunity employer.