

No.

8900092



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Wilson Hybrids, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED 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 *eighteen* 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 USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'WIL900'

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 *31st* day of *May* in the year of our Lord one thousand nine hundred and ninety-one.

Attest:

Kenneth A. Lewis
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Ed Madigan
Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

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) Wilson Hybrids, Inc.		2. TEMPORARY DESIGNATION 82C43-913-4-3-3-1-1	3. VARIETY NAME see Comment 1 under Exhibit D WIL900
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P.O. Box 391 Harlan, IA 51537		5. PHONE (Include area code) 712-755-3841	FOR OFFICIAL USE ONLY PVPO NUMBER 8900092
6. GENUS AND SPECIES NAME <u>Zea mays L.</u>	7. FAMILY NAME (Botanical) Gramineae		FILING DATE <u>Feb 16, 1989</u> TIME 10:00 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
8. KIND NAME corn inbred	9. DATE OF DETERMINATION 9-20-87		FEE RECEIVED AMOUNT FOR FILING \$ <u>1800.00</u> DATE <u>Feb. 6, 1989</u> AMOUNT FOR CERTIFICATE \$ <u>200.00</u> DATE <u>April 29, 1991</u>
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) corporation		12. DATE OF INCORPORATION August 29, 1945	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Iowa		13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Jerry F. Strissel Wilson Hybrids, Inc. P.O. Box 391 Harlan, IA 51537 712-755-3841 PHONE (Include area code):	

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- b. Exhibit B, Novelty Statement.
- c. Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)
- d. Exhibit D, Additional Description of Variety.
- e. Exhibit E, Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.)

Yes (If "Yes," answer items 16 and 17 below) No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?

Yes No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?

Foundation Registered Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

Yes (If "Yes," give date) No

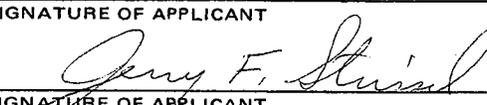
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

Yes (If "Yes," give names of countries and dates) No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT 	DATE 2-10-89
SIGNATURE OF APPLICANT	DATE

Origin and Breeding History of WIL900

Revised Exhibit A

Item 14a

Pedigree: 82C43-913-4-3-3-1-1

WIL900 was derived as a self out of the Wilson exotic corn breeding population 82C43. This population is made up of tropical corn into which elite corn belt germplasm has been introgressed.

The pedigree breeding method was used for the development of WIL900. In each of the six selfing generations during development, WIL900 was selected for on a line per-se basis for desirable agronomic characteristics and specific traits. During the last four selfing generations, WIL900 was also evaluated in hybrid combination with other inbreds. In hybrid combination, WIL900 was evaluated in replicated yield trials over locations for grain yield, desirable hybrid agronomic traits, and stability of traits.

The initial multiplication of WIL900 was made by shelling all the seed from the 82C43-913-4-3-3-1-1 (S6) ear and planting these seeds in a nursery block, and all of the plants that resulted were selfed by hand pollination and at harvest the seeds from these ears were bulked and called WIL900. Using this initial seed bulk, subsequent seed multiplication was made in an isolation increase field. No variants were observed during the seed increase of WIL900. The inbred plants appeared stable and uniform in the seed increase fields. Evidence of uniformity and stability can be found by examining data under Item 14b, Exhibit B.

Additional Information on the Origin and Breeding History of
WIL900

The germplasm used to make the 82C43 population was the inbred Mo17 and individual selections from the corn race Tuxpeño.

WIL900 was selected as an S6 ear in the Wilson nursery in September, 1986 at Harlan, Iowa.

Seeds from the S6 ear were planted in the Wilson nursery block at Harlan, Iowa and all of the plants that resulted were selfed by hand pollinations in July 1987.

The subsequent field isolation increase on WIL900 was made in a field known as Yellow Mountain near Walnut, Iowa in 1988. Please see field map.

← Interstate 80 →

N ↑

8900092 1988
Yellow mt.
Walnut Ia.

Revised
Exhibit A
Item 14a (cont'd)

Location of WIL900 Field Isolation Increase

#4
WIL 901

WIL 903

#6

WIL 900

#12

W

To East Farm

← To walnut

Differences Between WIL900 and Mo17

Revised Exhibit B

Item 14b

WIL900 is most similar to Mo17. Twenty to twenty-five measurements were made per trait on each of these inbreds. From these measurements, means, variances and t values were calculated. The t values were calculated by the following formula:

$$t \text{ calc.} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2 + s_2^2}{n}}}$$

where: \bar{x}_1, \bar{x}_2 = mean 1 and mean 2 respectively

s_1^2, s_2^2 = variance 1 and variance 2

n = number of measurements per mean

Statistical differences between the means were determined by the t values for 2(n-1) degrees of freedom at the 5% level of probability. Statistically significant differences between the means of traits of WIL900 and Mo17 are marked significant. Below you will find this data reported.

Revised Exhibit B (cont'd)

	No. of Observations/Inbred	Mean		Variance		Calculated t value	Significance
		Mo17	WIL900	Mo17	WIL900		
No. of tassel branches/tassel	25	4.92	4.08	0.58	0.66	3.772	Significant
Tassel branch angle °	25	32.80	39.40	50.17	113.17	2.582	Significant
Peduncle length cm	25	7.28	7.56	1.71	2.59	0.675	
No. of leaves/plant	25	10.12	11.52	0.61	0.93	5.641	Significant
Leaf angle °	25	27.40	43.20	44.00	72.67	7.314	Significant
Ear leaf length cm	25	60.28	61.76	9.54	6.02	1.876	
Ear leaf width cm	25	9.00	9.08	0.33	0.33	0.492	
Husk leaf length cm	25	0.84	2.08	1.06	1.24	4.088	Significant
Plant height cm	25	169.80	176.16	33.25	39.64	3.725	Significant
Ear height cm	25	48.16	48.96	36.39	22.71	0.520	
Top ear internode length cm	25	11.20	11.96	0.92	1.54	2.423	Significant
Husk extension cm	25	5.36	7.20	3.24	1.92	4.050	Significant
Shank length cm	25	14.04	15.88	2.29	3.03	3.989	Significant
No. of shank internodes	25	7.00	7.48	0.50	0.26	2.753	Significant
Ear length cm	25	18.68	17.40	1.31	3.00	3.083	Significant
Ear weight gm	25	94.32	104.56	311.31	486.34	1.813	
No. of kernel rows/ear	25	10.64	12.00	1.24	1.33	4.242	Significant
Ear diameter mm	25	35.88	37.44	2.44	2.51	3.506	Significant
Cob diameter mm	25	21.00	20.72	1.58	1.96	0.744	
100 kernel weight gm	25	29.67	21.74	13.60	17.03	7.164	Significant
% round kernels	25	57.88	20.76	257.28	118.77	9.571	Significant
Kernel thickness mm	25	4.56	3.72	0.67	0.71	3.575	Significant
Kernel width mm	25	8.52	8.16	0.26	0.39	2.233	Significant
Kernel length mm	25	8.36	8.52	0.49	0.51	0.800	
No. of tillers/plant	25	0	0	0	0	0	

8900092

Revised Exhibit B (cont'd)

WIL900 PVP MEASUREMENTS

Second Year Data

These values are the average of 25 plants/trait measured at Harlan, Iowa in 1990.

Ear Height = 63 cm

Plant Height = 204 cm

Leaf Number/Plant = 12

Length of Top Ear Internode = 12 cm

Peduncle Length = 7 cm

No. of Lateral Tassel Branches = 4

Ear Node Leaf Length = 65 cm

Ear Node Leaf Width = 10 cm

Tassel Branch Angle = 40^o

Leaf Angle = 30^o

Revised Exhibit B (cont'd)

The following differences, although not tested for statistical significance, were observed between WIL900 and Mo17. As compared to Mo17, WIL900 flowers two days earlier, forms kernel black layer one day later, reaches 25% kernel moisture two days later, has a darker green leaf color, has fewer marginal leaf waves and more leaf sheath pubescence. WIL900 has a white cob, whereas Mo17 has a red cob.

OBJECTIVE DESCRIPTION OF VARIETY
CORN (ZEA MAYS)

NAME OF APPLICANT(S) Wilson Hybrids, Inc. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P.O. Box 391 Harlan, IA 51537	FOR OFFICIAL USE ONLY PVPO NUMBER 8900092
	VARIETY NAME OR TEMPORARY DESIGNATION see comment 1 under Exhibit WIL900

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. TYPE:

1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "Comments" (pg. 3) state how heat units were calculated)

<input type="text" value="7"/> <input type="text" value="5"/>	DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	<input type="text" value="1"/> <input type="text" value="6"/> <input type="text" value="7"/> <input type="text" value="7"/>	HEAT UNITS
<input type="text" value=""/> <input type="text" value=""/>	DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	<input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/> <input type="text" value=""/>	HEAT UNITS
<input type="text" value="6"/> <input type="text" value="3"/>	DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	<input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="7"/> <input type="text" value="7"/>	HEAT UNITS

4. PLANT:

CM. HEIGHT (To tassel tip) CM. EAR HEIGHT (To base of top ear)
 CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

1 = NONE 2 = 1-2 3 = 2-3 4 = > 3

Number of Ears Per Stalk:

1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

1 = < 30° 2 = 30-60° 3 = > 60°

Sheath Pubescence:

1 = LIGHT (W22) 2 = MEDIUM (WF9)
3 = HEAVY (OH26)

Marginal Waves:

1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

1 = ABSENT (OH51) 2 = FEW (OH56A)
3 = MANY (PA11)

Width:

CM. WIDEST POINT OF EAR NODE LEAF

Length:

CM. EAR NODE LEAF

NUMBER OF LEAVES PER MATURE PLANT

6. TASSEL:

04 NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

2 1 = < 30° 2 = 30-40° 3 = > 45°

Peduncle Length:

08 CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

1 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY (KY21)

5 see comment 2 under Exhibit D

Anther Color: 1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN

5 Glume Color: 6 = OTHER (Specify)

Pollen Restoration for Cytoplasm (0 = Not Tested, 1 = Partial, 2 = Good)

0 "T" 0 "S" 0 "C" 0 OTHER (Specify Cytoplasm and degrees of restoration)

7. EAR (Husked Ear Data Except When Stated Otherwise):

17 CM LENGTH 37 MM. MID-POINT DIAMETER 105 GM. WEIGHT

Kernel Rows:

2 1 = INDISTINCT 2 = DISTINCT 12 NUMBER

1 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

1 see comment 3 under Exhibit D 1 = GREEN 2 = PINK 3 = SALMON 4 = RED

Husk Color:

1 see comment 4 under Exhibit D 1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK

6 DRY 4 = RED 5 = PURPLE 6 = BUFF

Husk Extention: (Harvest Stage)

2 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear) 3 = LONG (8-10CM Beyond Ear Tip) 4 = VERY LONG (> 10 CM)

Husk Leaf:

1 1 = SHORT (< 8 CM) 2 = MEDIUM (8-15 CM) 3 = LONG (> 15 CM)

Shank:

16 CM LONG 7 NO. OF INTERNODES

Position at Dry Husk Stage:

3 1 = UPRIGHT 2 = HORIZONTAL 3 = PENDENT

Taper:

2 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

2 1 = SLOW 2 = AVERAGE 3 = FAST

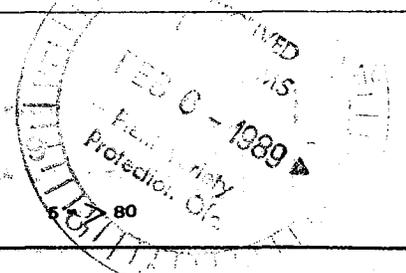
8. KERNEL (Dried):

Size (From Ear Mid-Point):

09 MM LONG 08 MM. WIDE 04 MM. THICK

Shape Grade (% Rounds)

2 1 = < 20 2 = 20-40 3 = 40-60 4 = 60-80



MS 3/8/91

45 8/91

8. KERNEL (Dried) :

Pericarp Color: 1 = COLORLESS 2 = RED-WHITE 3 = TAN 4 = BRONZE
 5 = BROWN 6 = LIGHT RED 7 = CHERRY RED
 8 = VARIEGATED (Describe) _____

Aleurone Color: 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED
 7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

Endosperm Color: 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

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 = OTHER (Specify) _____

GM. WEIGHT /100 SEEDS (Unsize Sample)

9. COB:

MM. DIAMETER AT MID-POINT

Strength:

1 = WEAK 2 = STRONG

Color:

1 = WHITE 2 = PINK 3 = RED 4 = BROWN
 5 = VARIEGATED 6 OTHER (Specify) _____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

<input type="text" value="0"/>	STALK ROT (Diplodia)	<input type="text" value="0"/>	STALK ROT (Fusarium)	<input type="text" value="0"/>	STALK ROT (Gibberella)
<input type="text" value="0"/>	NORTHERN LEAF BLIGHT	<input type="text" value="0"/>	SOUTHERN LEAF BLIGHT	<input type="text" value="0"/>	SMUT
<input type="text" value="0"/>	SOUTHERN RUST	<input type="text" value="0"/>	CORN SMUT	<input type="text" value="0"/>	BACTERIAL WILT
<input type="text" value="0"/>	BACTERIAL LEAF BLIGHT	<input type="text" value="0"/>	MAIZE DWARF MOSAIC	<input type="text" value="0"/>	STUNT
<input type="text" value="0"/>	OTHER (Specify) _____				

11. INSECT RESISTANT (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

<input type="text" value="0"/>	CORNBORER	<input type="text" value="0"/>	EARWORM	<input type="text" value="0"/>	SAPBEETLE	<input type="text" value="0"/>	APHID
<input type="text" value="0"/>	ROOTWORM (Northern)	<input type="text" value="0"/>	ROOTWORM (Western)				
<input type="text" value="0"/>	ROOTWORM (Southern)	<input type="text" value="0"/>	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	Mo17	Kernel Type	Mo17
Plant Type	Mo17	Quality (Edible)	-
Ear Type	Mo17	Usege	Mo17

REFERENCES:

- U.S. Department Agriculture. Yearbook 1937.
- Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)
- Emerson, R.A., G.W. Beadle, and A.C. Freser. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. 1935.
- The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.
- Stringfield, G.H. Maize Inbred Lines of Ohio, Ohio A.E.S. Bul. 831. 1959.
- Butler, D.R. 1954 - A System for the Classification of Corn Inbred Lines - PhD. Thesis, Ohio State University.

COMMENTS: $GDD = \frac{(F^0 \text{ max.} + F^0 \text{ min.})}{2} - 50^{\circ} F *$

* If $F^0 \text{ max}$ was $> 86^{\circ} F$ then $F^0 \text{ max}$ was set equal to $86^{\circ} F$
 If $F^0 \text{ min}$ was $< 50^{\circ} F$ then $F^0 \text{ min}$ was set equal to $50^{\circ} F$

Additional Characteristics and Description of WIL900

Revised Exhibit D

Item 14d

(Comment 1) WIL900 is the permanent name of this corn inbred. It will be mated to other corn inbreds and the resulting seed will be sold as corn hybrid seed. The hybrid seed we sell will be identified by names other than WIL900.

(Comment 2) WIL900 anthers are green.

(Comment 3) WIL900 silks are green.

(Comment 4) WIL900 fresh husk color is light green.

Statement of the Basis of Applicant's Ownership of Wil900

Exhibit E

Item 14e

The development of WIL900 was done by Wilson Hybrids, Inc. All rights to and future use of WIL900 are assigned to Wilson Hybrids, Inc. at Harlan, IA.