

No.



9800281

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DEKALB Genetics Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'86ISI3'

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 sixth day of November, in the year two thousand two.



Attest

Paul M. Jubal

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture
Gregory B. Kneaman

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

The following statements are made in accordance with the Privacy
 1974 15 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 19

Application is required in order to determine if a plant variety pro-
 certificate is to be issued (7 U.S.C. 2421). Information is held confi-
 until certificate is issued (7 U.S.C. 2426).

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

1. NAME OF APPLICANT(S) <i>(as it is to appear on the Certificate)</i> DEKALB Genetics Corporation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME 86IS13
4. ADDRESS <i>(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)</i> 3100 Sycamore Road DeKalb, IL 60115		5. TELEPHONE <i>(include area code)</i> (815) 758-3461	FOR OFFICIAL USE ONLY PVPO NUMBER 9800281
		6. FAX <i>(include area code)</i> (815) 758-4106	
7. GENUS AND SPECIES NAME Zea Mays	8. FAMILY NAME <i>(Botanical)</i> Gramineae		FILING DATE 5/26/1998
9. CROP KIND NAME <i>(Common name)</i> Corn		FILING AND EXAMINATION FEE: \$ 2450.00 DATE 5/26/98	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION <i>(corporation, partnership, association, etc.) (Common name)</i> Corporation			CERTIFICATION FEE: \$ 320.00
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware	12. DATE OF INCORPORATION June 15, 1988		DATE 11/15/02
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Tim Kain, Patent Scientist Monsanto Company 3100 Sycamore Road DeKalb IL 60115 Ph. 815-758-9281 Fax 815-758-4106 trkain@monsanto.com			14. TELEPHONE <i>(include area code)</i> (815) 758-3461
			15. FAX <i>(include area code)</i> (815) 758-4106

JMS
3/4/02

16. 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 Applicant'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 (\$2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT 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 18 and 19 below* NO *if "no," go to item 20!*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
 YES NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
 FOUNDATION REGISTERED CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
 YES *if "yes," give names of countries and dates* NO

U.S. February 1998

21. The applicant(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 applicant(s) is(are) the owner(s) 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.

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

SIGNATURE OF APPLICANT <i>(Owner(s))</i> 	SIGNATURE OF APPLICANT <i>(Owner(s))</i>
NAME <i>(Please print or type)</i> R. Mark Lawson	NAME <i>(Please print or type)</i>
CAPACITY OR TITLE Director Research	DATE 5/18/98
CAPACITY OR TITLE	DATE

EXHIBIT A

Origin and Breeding History
86ISI3

86ISI3 was selected for greater combining ability and improved stalk and root strength.

Summer 1988	The inbred line IBC15 (a proprietary DEKALB Genetics Corporation inbred) was crossed to inbred line 3IBZ2 (a proprietary DEKALB Genetics Corporation inbred) (nursery book row numbers 111-34 and 111-35).
Winter 1988-89	The S0 seed was grown and self pollinated (nursery book row number 67-57).
Summer 1989	The S1 seed was grown and self pollinated (nursery book row numbers 101-7 to 101-18).
Winter 1989-90	The S2 seed was grown ear-to-row and self pollinated (nursery book row numbers 747-13 to 89).
Summer 1990	The S3 seed was grown ear-to-row and self pollinated (nursery book row numbers 107-29 to 30).
Summer 1991	S4 seed was grown ear-to-row and self pollinated (nursery book row numbers 142-52 to 53).
Summer 1992	S5 seed was grown ear-to-row and self pollinated (nursery book row numbers 217-11 to 12).
Winter 1992-93	S6 seed was grown as a bulk from S5 row 217-12 and self pollinated (nursery book row T9-44). Seed from row T9-44 was given the designation 86ISI3.

Statement of Stability and Uniformity

Corn inbred 86ISI3 was coded in 1993 and has been reproduced by self pollination for the past four years and judged to be stable. Inbred 86ISI3 is uniform for all traits observed.

Statement of Variants

86ISI3 shows no variants other than what would normally be expected due to environment or that would occur for almost any character during the course of repeated sexual reproduction.

EXHIBIT B

Statement of Distinctness

DEKALB Genetics Corporation believes that 86IS13 is most similar to corn inbred 3IBZ2, an inbred developed by DEKALB Genetics Corporation.

86IS13 and 3IBZ2 differ most significantly in the following traits:

Trait	86IS13	3IBZ2
Silk Color	Red (2.5 R 5/8)	Pink (2.5 R 7/6)
Reaction to Southern Leaf Blight	Resistant	Susceptible
Reaction to European Corn Borer - 1 st generation	Susceptible	Resistant
Weight per 100 kernels	19.4 gm (s.d. = 1.59)	32.0 gm (s.d. = 1.16)

Isozyme Profile Data for 86IS13 vs. 3IBZ2

LOCI	ISOZYME ALLELE	
	86IS13	3IBZ2
Acp1	2	2
Adh1	4	6
Cat3	9	9
Got3	NS	4
Got2	4	4
Got1	4	4
Idh1	4	4
Idh2	6	6
Mdh1	1 (3k)*, 6 (3k)*	6
Mdh2	6*♦	6♦
Mdh3	16*	16
Mdh4	12*	12
Mdh5	12*	12
Pgm1	9	9
Pgm2	4	4
6Pgd1	3.8	3.8
6Pgd2	5	5
Phi1	4	4

NS - enzyme system was not scorable

* - allelic pattern could not be confirmed with a photograph

♦ - allele is probably a 6, but a null cannot be ruled out when Mdh1 is a 6.

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

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*Zea mays* L.)

Name of Applicant(s) DEKALB Genetics Corporation		Variety Seed Source	Variety Name or Temporary Designation 86ISI3																																									
Address (Street & No., or R.F.D. No., City, State, Zip Code and Country) 3100 Sycamore Road, DeKalb, IL 60115 U.S.A.			FOR OFFICIAL USE																																									
			PVPO Number	9800281																																								
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 a '*' are considered necessary for an adequate variety description and must be completed.																																												
<p>COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices; describe #25 and #26 in Comments section):</p> <table border="0"> <tr> <td>01=Light Green</td> <td>06=Pale Yellow</td> <td>11=Pink</td> <td>16=Pale Purple</td> <td>21=Buff</td> </tr> <tr> <td>02=Medium Green</td> <td>07=Yellow</td> <td>12=Light Red</td> <td>17=Purple</td> <td>22=Tan</td> </tr> <tr> <td>03=Dark Green</td> <td>08=Yellow-Orange</td> <td>13=Cherry Red</td> <td>18=Colorless</td> <td>23=Brown</td> </tr> <tr> <td>04=Very Dark Green</td> <td>09=Salmon</td> <td>14=Red</td> <td>19=White</td> <td>24=Bronze</td> </tr> <tr> <td>05=Green-Yellow</td> <td>10=Pink-Orange</td> <td>15=Red & White</td> <td>20=White Capped</td> <td>25=Variegated (Describe)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>26=Other (Describe)</td> </tr> </table>					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)										
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<p>STANDARD INBRED CHOICES (Use the most similar (in background and maturity) of these to make comparisons based on grow-out trial data):</p> <table border="0"> <tr> <td colspan="2">Yellow Dent Families:</td> <td>Yellow Dent (Unrelated):</td> <td colspan="2">Sweet Corn:</td> </tr> <tr> <td>Family</td> <td>Members</td> <td>Co109, ND246,</td> <td colspan="2">C13, Iowa5125, P39, 2132</td> </tr> <tr> <td>B14</td> <td>CM105, A632, B64, B68</td> <td>Oh7, T232</td> <td colspan="2">Popcorn:</td> </tr> <tr> <td>B37</td> <td>B37, B76, H84</td> <td>W117, W153R</td> <td colspan="2">SG1533, 4722, HP301, HP7211</td> </tr> <tr> <td>B73</td> <td>N192, A679, B73, NC268</td> <td>W182BN</td> <td colspan="2"></td> </tr> <tr> <td>C103</td> <td>Mo17, Va102, Va35, A682</td> <td></td> <td colspan="2">Pipecorn:</td> </tr> <tr> <td>Oh43</td> <td>A619, MS71, H99, Va26</td> <td>White Dent:</td> <td colspan="2">Mo15W, Mo16W, Mo24W</td> </tr> <tr> <td>WF9</td> <td>W64A, A554, A654, Pa91</td> <td>CI66, H105, Ky228</td> <td colspan="2"></td> </tr> </table>					Yellow Dent Families:		Yellow Dent (Unrelated):	Sweet Corn:		Family	Members	Co109, ND246,	C13, Iowa5125, P39, 2132		B14	CM105, A632, B64, B68	Oh7, T232	Popcorn:		B37	B37, B76, H84	W117, W153R	SG1533, 4722, HP301, HP7211		B73	N192, A679, B73, NC268	W182BN			C103	Mo17, Va102, Va35, A682		Pipecorn:		Oh43	A619, MS71, H99, Va26	White Dent:	Mo15W, Mo16W, Mo24W		WF9	W64A, A554, A654, Pa91	CI66, H105, Ky228		
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1. TYPE: (describe intermediate types in Comments section)			Standard Inbred Name A619																																									
* 2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental 7=Pipecorn			2																																									
2. REGION WHERE DEVELOPED IN THE U.S.A.:			Standard Seed Source NCRIPS_																																									
* 2 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other			2																																									
3. MATURITY (In Region Best Adaptability; show Heat Unit formula in "Comments" section):			DAYS																																									
			HEAT UNITS																																									
*	0 6 7	1 3 1 9. 0 From emergence to 50% of plants in silk	0 7 4	1 4 2 5. 0																																								
*	0 6 5	1 2 9 2. 0 From emergence to 50% of plants in pollen	0 6 9	1 3 5 9. 0																																								
	- - -	0 0 7 1. 0 From 10% to 90% pollen shed	- - -	0 0 7 3. 0																																								
(*)	- - -	- - - From 50% silk to optimum edible quality	- - -	- - -																																								
	0 7 5	1 1 5 0. 0 From 50% silk to harvest at 25% moisture	0 5 9	1 2 9 7. 0																																								
4. PLANT:			Standard Deviation																																									
			Sample Size																																									
*	1 5 1. 2 cm Plant Height (to tassel tip)	11.718	40	1 7 6. 9																																								
*	0 5 2. 7 cm Ear Height (to base of top ear node)	5.594	40	0 3 9. 7																																								
	0 1 1. 1 cm Length of Top Ear Internode	1.895	40	0 1 1. 2																																								
Average Number of Tillers			2.129																																									
*	1. 0 Average Number of Ears per Stalk	0.000	40	0 0 1. 0																																								
1 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark			0.000																																									
			1																																									
Application Variety Data			Standard Inbred Data																																									
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Application Variety Data			Page 2	Standard Inbred Data		
5. LEAF:			Standard Deviation	Sample Size	Standard Deviation	Sample Size
*	0 0	7. 7 cm Width of Ear Node Leaf	0.222	40	0 0 9. 0	0.306 120
*	0 6	1. 9 cm Length of Ear Node Leaf	1.561	40	0 6 4. 5	3.918 120
*		4. 5 Number of leaves above top ear	0.258	20	5. 5	0.366 50
	3 3	3. 1 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	5.105	40	2 8. 0	8.812 100
*	0 2	Leaf Color (Munsell code 5 GY 4/8)			0 2 (Munsell code 5 GY 4/8)	
		2 Leaf Sheath Pubescence (Rate on scale from 1=none to 9=peach fuzz)			1	
		2 Marginal Waves (Rate on scale from 1=none to 9=many)			5	
		5 Longitudinal Creases (Rate on scale from 1=none to 9=many)			4	
6. TASSEL:			Standard Deviation	Sample Size	Standard Deviation	Sample Size
*	5. 4	Number of Primary Lateral Branches	0.714	40	8. 6	1.804 120
	3 4. 3	Branch Angle from Central Spike	11.488	40	2 8. 8	3.766 100
*	3 3. 2	cm Tassel Length (from top leaf collar to tassel tip)	2.473	40	3 4. 7	4.928 120
	3. 3	Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			5. 3	
	1 4	Anther Color (Munsell code 2.5 R 5/8)			0 5 (Munsell code 2.5 GY 8/6)	
	0 2	Glume Color (Munsell code 5 GY 4/8)			0 2 (Munsell code 5 GY 4/8)	
	1	Bar Glumes (Glume Bands): 1=Absent 2=Present			1	
7a. EAR (Unhusked Data):						
*	1 4	Silk Color (3 days after emergence) (Munsell code 2.5 R 5/8)			0 5 (Munsell code 2.5 GY 8/6)	
	0 2	Fresh Husk Color (25 days after 50% silking) (Munsell code 5 GY 4/8)			0 2 (Munsell code 5 GY 4/8)	
	2 1	Dry Husk Color (65 days after 50% Silking) (Munsell code 2.5 Y 8/4)			2 1 (Munsell code 2.5 Y 8/4)	
*	2	Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			1	
	2	Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			5	
	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)			2	
7b. EAR (Husked Ear Data):			Standard Deviation	Sample Size	Standard Deviation	Sample Size
*	1 2. 7	cm Ear Length	0.640	20	1 3. 9	1.201 60
*	3 9. 5	mm Ear Diameter at mid-point	2.720	20	4 4. 3	2.024 60
	0 8	8. 2 gm Ear Weight	13.212	40	0 9 2. 3	12.867 120
*	1 6	Number of Kernel Rows	1.149	20	1 5	0.599 60
		2 Kernel Rows: 1=Indistinct 2=Distinct			2	
		2 Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			2	
	1 2. 8	cm Shank Length	1.849	40	1 3. 1	0.727 120
		2 Ear Taper: 1=Slight 2=Average 3=Extreme			2	
Application Variety Data					Standard Inbred Data	

Note: Use chart on first page to choose color codes for color traits.

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Application Variety Data			Page 3	Standard Inbred Data		
8. KERNEL (Dried):			Standard Deviation	Sample Size		
0	9. 7 mm Kernel Length		0.191	20	1 0. 4	0.608 60
0	6. 5 mm Kernel Width		0.808	20	0 8. 1	0.612 60
0	3. 4 mm Kernel Thickness		0.566	20	0 3. 9	0.403 60
6	1. 0 % Round Kernels (Shape Grade)		4.589	500g	4 3. 0	2.876 500g
	1 Aleurone Color Pattern: 1=Homozygous 2=Segregating				1	
(*)	1 8 Aleurone Color (Munsell code _____)				1 9 (Munsell code Lighter Than 2.5 Y 9/2)	
*	0 7 Hard Endosperm Color (Munsell code 2.5 Y 8/10)				0 7 (Munsell code 2.5 Y 8/10)	
*	0 3 Endosperm Type: 1=Sweet (sul) 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				0 3	
1	9. 4 gm Weight per 100 Kernels (unsized sample)		1.592	400 seeds	2 5. 8	3.098 1200 seeds
9. COB:			Standard Deviation	Sample Size		
*	2 2. 8 mm Cob Diameter at mid-point		2.119	20	2 6. 3	0.985 60
	1 9 Cob Color (Munsell code Lighter Than 5 Y 9/1)				1 9 (Munsell code Lighter Than 5 Y 9/1)	
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						
8	Anthracnose Leaf Blight (<i>Colletotrichum graminicola</i>)				7	
4	Common Rust (<i>Puccinia sorghi</i>)				-	
-	Common Smut (<i>Ustilago maydis</i>)				-	
8	Eyespot (<i>Xabatiella zeae</i>)				6	
7	Goss's Wilt (<i>Clavibacter michiganense</i> spp. <i>nebraskense</i>)				6	
3	Gray Leaf Spot (<i>Cercospora zeae-maydis</i>)				4	
9	Helminthosporium Leaf Spot (<i>Bipolaris zeicola</i>) Race 2				9 Race 2	
4	Northern Leaf Blight (<i>Exserohilum turcicum</i>) Race 2				4 Race 2	
7	Southern Leaf Blight (<i>Bipolaris maydis</i>) Race 0				7 Race 0	
-	Southern Rust (<i>Puccinia polysora</i>)				-	
5	Stewart's Wilt (<i>Erwinia stewartii</i>)				-	
-	Other (Specify) _____				-	
B. Systemic Diseases						
5	Corn Lethal Necrosis (MCMV and MDMV)				4	
7	Head Smut (<i>Sphacelotheca reiliana</i>)				7	
-	Maize Chlorotic Dwarf Virus (MCDV)				-	
-	Maize Chlorotic Mottle Virus (MCMV)				-	
-	Maize Dwarf Mosaic Virus (MDMV) Strain _____				- Strain _____	
-	Sorghum Downy Mildew of Corn (<i>Peronosclerospora sorghi</i>)				-	
-	Other (Specify) _____				-	
C. Stalk Rots						
-	Anthracnose Stalk Rot (<i>Colletotrichum graminicola</i>)				-	
-	Diplodia Stalk Rot (<i>Stenocarpella maydis</i>)				-	
-	Fusarium Stalk Rot (<i>Fusarium moniliforme</i>)				-	
-	Gibberella Stalk Rot (<i>Gibberella zeae</i>)				-	
-	Other (Specify) _____				-	
D. Ear and Kernel Rots						
-	Aspergillus Ear and Kernel Rot (<i>Aspergillus flavus</i>)				-	
-	Diplodia Ear Rot (<i>Stenocarpella maydis</i>)				-	
-	Fusarium Ear and Kernel Rot (<i>Fusarium moniliforme</i>)				-	
-	Gibberella Ear Rot (<i>Gibberella zeae</i>)				-	
-	Other (Specify) _____				-	
Application Variety Data			Standard Inbred Data			

Note: Use chart on first page to choose color codes for color traits.

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Application Variety Data	Page 4	Standard Inbred Data																																																																																																																																											
<p>11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested):</p> <table border="0"> <thead> <tr> <th></th> <th>Standard Deviation</th> <th>Sample Size</th> <th>Standard Deviation</th> <th>Sample Size</th> </tr> </thead> <tbody> <tr> <td>- Banks Grass Mite (<i>Oligonychus pratensis</i>)</td> <td></td> <td></td> <td>-</td> <td></td> </tr> <tr> <td>- Corn Earworm (<i>Helicoverpa zea</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Leaf-Feeding</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Silk Feeding :</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- mg larval wt.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Ear Damage</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Corn Leaf Aphid (<i>Rhopalosiphum maidis</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Corn Sap Beetle (<i>Carpophilus dimidiatus</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- European Corn Borer (<i>Ostrinia nubilalis</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 1st Generation (Typically Whorl Leaf Feeding)</td> <td></td> <td>7</td> <td></td> <td></td> </tr> <tr> <td>1 2nd Generation (Typically Leaf Sheath-Collar Feeding)</td> <td></td> <td>5</td> <td></td> <td></td> </tr> <tr> <td>- Stalk Tunneling :</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- cm tunneled/plant</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Fall Armyworm (<i>Spodoptera frugiperda</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Leaf-Feeding</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Silk-Feeding :</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- mg larval wt.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Maize Weevil (<i>Sitophilus zeamaze</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Northern Rootworm (<i>Diabrotica barberi</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Southern Rootworm (<i>Diabrotica undecimpunctata</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Southwestern Corn Borer (<i>Diatraea grandiosella</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Leaf Feeding</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Stalk Tunneling :</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- cm tunneled/plant</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Two-spotted Spider Mite (<i>Tetranychus urticae</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Western Rootworm (<i>Diabrotica virgifera virgifera</i>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>- Other (Specify) _____</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Standard Deviation	Sample Size	Standard Deviation	Sample Size	- Banks Grass Mite (<i>Oligonychus pratensis</i>)			-		- Corn Earworm (<i>Helicoverpa zea</i>)					- Leaf-Feeding					- Silk Feeding :					- mg larval wt.					- Ear Damage					- Corn Leaf Aphid (<i>Rhopalosiphum maidis</i>)					- Corn Sap Beetle (<i>Carpophilus dimidiatus</i>)					- European Corn Borer (<i>Ostrinia nubilalis</i>)					4 1st Generation (Typically Whorl Leaf Feeding)		7			1 2nd Generation (Typically Leaf Sheath-Collar Feeding)		5			- Stalk Tunneling :					- cm tunneled/plant					- Fall Armyworm (<i>Spodoptera frugiperda</i>)					- Leaf-Feeding					- Silk-Feeding :					- mg larval wt.					- Maize Weevil (<i>Sitophilus zeamaze</i>)					- Northern Rootworm (<i>Diabrotica barberi</i>)					- Southern Rootworm (<i>Diabrotica undecimpunctata</i>)					- Southwestern Corn Borer (<i>Diatraea grandiosella</i>)					- Leaf Feeding					- Stalk Tunneling :					- cm tunneled/plant					- Two-spotted Spider Mite (<i>Tetranychus urticae</i>)					- Western Rootworm (<i>Diabrotica virgifera virgifera</i>)					- Other (Specify) _____					
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<p>REFERENCES:</p> <p>Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University.</p> <p>Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180.</p> <p>Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The American Phytopathological Society, St. Paul, MN.</p> <p>Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, CT.</p> <p>Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York.</p> <p>McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.</p> <p>Munsell Color Chart for Plant Tissues. Macbeth. P.O. Box 230. Newburgh, N.Y. 12551-0230</p> <p>The Mutants of Maize. 1968. Crop Science Society of America. Madison, WI.</p> <p>Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp.</p> <p>Sprague, G.F., and J.W. Dudley (Editors). 1988. Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. ASA, CSSA, SSSA, Madison, WI.</p> <p>Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959.</p> <p>U.S. Department of Agriculture. 1936, 1937. Yearbook.</p>																																																																																																																																													
<p>COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):</p> <p>Heat Unit Calculation: $GDU = \frac{\text{Daily Max Temp } (<=86^{\circ}\text{F}) + \text{Daily Min Temp } (>=50^{\circ}\text{F})}{2} - 50^{\circ}\text{F}$</p>																																																																																																																																													

Data was reported as means across years and locations. Each of the aforementioned characteristics had a wide range of values due to spacial and temporal variation of the test contributing to the large standard deviation. Growing conditions (soil, climate, drought conditions, etc.) contributed significantly to influence the variability of the traits measured.

JMS
3/4/02

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U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE

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.

**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). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) DEKALB Genetics Corporation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME 86ISI3
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 3100 Sycamore Road DeKalb, IL 60115 U.S.A.	5. TELEPHONE (include area code) (815) 758-3461	6. FAX (include area code) (815) 758-4106
7. PVPO NUMBER 9800281		

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):

86ISI3 was originated and developed by a breeder employed by DEKALB Genetics Corporation. By agreement between DEKALB Genetics Corporation and the breeder, all rights to any invention, discovery, or development are assigned to DEKALB Genetics Corporation. No rights to such invention, discovery, or development are retained by the breeder.

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 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 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 complete 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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