

No.

9800291



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DEKALB Genetics Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

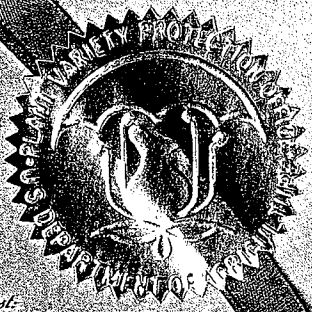
Secretary of Agriculture

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

'91DHAI'



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 tenth day of March, in the year two thousand three.

Attest:

Paul M. Jabouh

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Carl E. Anderson

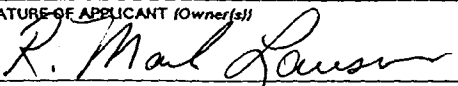
Secretary of Agriculture

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 Private Plant Variety Protection Act (7 U.S.C. 1811) and the Paperwork Reduction Act (PRA) of 1995 (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. 1811). Information is held confidential until certificate is issued (7 U.S.C. 1812).

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 91DHA1
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 9800291
		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 5/26/98 FILING AND EXAMINATION FEE: \$ 2430 DATE 5/26/1998 CERTIFICATION FEE: \$ 320.00 DATE 2/5/03
9. CROP KIND NAME <i>(Common name)</i> Corn			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION <i>(corporation, partnership, association, etc.) (Common name)</i> Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		12. DATE OF INCORPORATION June 15, 1988	
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>
			15. FAX <i>(include area code)</i>
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED <i>(Follow instructions on reverse)</i>			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety <i>(Optional)</i> e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample <i>(2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository)</i> g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,460), made payable to "Treasurer of the United States" <i>(Mail to PVPO)</i>			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? <i>(See Section 83(a) of the Plant Variety Protection Act)</i> <input type="checkbox"/> YES <i>if "yes," answer items 18 and 19 below</i> <input checked="" type="checkbox"/> NO <i>if "no," go to item 20</i>			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> 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? <input type="checkbox"/> YES <i>if "yes," give names of countries and dates</i> <input type="checkbox"/> 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

5/15/98

EXHIBIT A

Origin and Breeding History
91DHA1

91DHA1 was selected for earliness, improved root strength, test weight, and general combining ability.

Winter 1989-90	The S0 cross was made between inbred line FBLL (a proprietary DEKALB Genetics Corp. inbred) and inbred line S1067A (a proprietary DEKALB Genetics Corp. inbred)(nursery book row nos. E91 and E154).
Summer 1990	The backcross was made by crossing S0, FBLL*S1067A, to the recurrent parent FBLL (isolation 17 row 149).
Summer 1991	BC1S0 seed was grown (range/row nos. 119-64 to 95).
Summer 1992	BC1S1 seed was grown ear-to-row (range/row no. 27-10 was advanced).
Summer 1993	BC1S2 seed was grown ear-to-row (range/row no. 28-45 was advanced).
Winter 1993-94	BC1S3 seed was grown ear-to-row (range/row no. 80-1236 was advanced).
Summer 1994	BC1S4 seed was grown ear-to-row (range/row no. 217-19 was advanced). Seed harvested from this row was designated as 91DHA1.
Winter 1994-95	BC1S5 seed was grown ear-to-row (range/row no. 8L-34 to 36).
Summer 1995	BC1S6 seed was grown ear-to-row (range/row no. 506-28 to 47 and seed from these rows was bulked).

Statement of Stability and Uniformity

Corn inbred 91DHA1 was coded in 1994 and has been reproduced by self pollination for the past three years and judged to be stable. Inbred 91DHA1 is uniform for all traits observed.

Statement of Variants

91DHA1 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.

* Line S1067A is descended from the public lines B14 and SD5 (a line developed by the University of South Dakota).

JMS 12/10/02

EXHIBIT B

Statement of Distinctness

DEKALB Genetics Corporation believes that 91DHA1 is most similar to corn inbred FBLL, an inbred developed by DEKALB Genetics Corporation.

91DHA1 and FBLL differ most significantly in the following traits:

Isozyme Profile of 91DHA1 and Comparative Inbred FBLL

LOCI	ISOZYME ALLELE	
	91DHA1	FBLL
Acph1	2	2
Adh1	4	4
Cat3	9	9
Got3	4	4
Got2	4	4
Got1	4	4
ldh1	4	4
ldh2	4	4
Mdh1	6	6
Mdh2	3.5	3.5
Mdh3	16	16
Mdh4	12	12
Mdh5	12	12
Pgm1	9	9
Pgm2	4	4
6Pgd1	2	3.8
6Pgd2	5	5
Phi1	4	4

91DHA1 differs from FBLL at the 6Pgd1 locus.

Trait	91DHA1	FBLL
Number of days from emergence to 50% of plants in silk	84 74	74 84
Number of days from 50% silk to harvest at 25% moisture	80	61
Heat units from 50% silk to harvest at 25% moisture	1203.0	981.0
Disease resistance to Northern Leaf Blight (race 2)	Susceptible (4)*	Resistant (6)*
Disease resistance to Southern Leaf Blight	Resistant (6)*	Susceptible (4)*

*Disease ratings: 1= most susceptible to 9=most resistant

JMS 3/15/02

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 91DHA1																																																
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	9800291																																																
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 colspan="2">Yellow Dent (Unrelated):</td> <td colspan="2">Sweet Corn:</td> </tr> <tr> <td>Family</td> <td>Members</td> <td>Col109, ND246,</td> <td></td> <td>C13, Iowa5125, P39, 2132</td> <td></td> </tr> <tr> <td>B14</td> <td>CM105, A632, B64, B68</td> <td>Oh7, T232</td> <td></td> <td></td> <td></td> </tr> <tr> <td>B37</td> <td>B37, B76, H84</td> <td>W117, W153R</td> <td></td> <td>Popcorn:</td> <td></td> </tr> <tr> <td>B73</td> <td>N192, A679, B73, NC268</td> <td>W182BN</td> <td></td> <td>SG1533, 4722, HP301, HP7211</td> <td></td> </tr> <tr> <td>C103</td> <td>Mo17, Va102, Va35, A682</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Oh43</td> <td>A619, MS71, H99, Va26</td> <td>White Dent:</td> <td></td> <td>Pipecorn:</td> <td></td> </tr> <tr> <td>WF9</td> <td>W64A, A554, A654, Pa91</td> <td>CI66, H105, Ky228</td> <td></td> <td>Mo15W, Mo16W, Mo24W</td> <td></td> </tr> </table>				Yellow Dent Families:		Yellow Dent (Unrelated):		Sweet Corn:		Family	Members	Col109, ND246,		C13, Iowa5125, P39, 2132		B14	CM105, A632, B64, B68	Oh7, T232				B37	B37, B76, H84	W117, W153R		Popcorn:		B73	N192, A679, B73, NC268	W182BN		SG1533, 4722, HP301, HP7211		C103	Mo17, Va102, Va35, A682					Oh43	A619, MS71, H99, Va26	White Dent:		Pipecorn:		WF9	W64A, A554, A654, Pa91	CI66, H105, Ky228		Mo15W, Mo16W, Mo24W	
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1. TYPE: (describe intermediate types in Comments section)		Standard Inbred Name B73																																																	
* 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																																																	
* 0 7 4		HEAT UNITS																																																	
* 0 7 1		0 7 9																																																	
- - -		1 5 2 8.0																																																	
(*) - - -		0 7 5																																																	
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		1 2 6 7.5																																																	
4. PLANT:		Standard Deviation																																																	
Size		Sample																																																	
* 1 9 6.8 cm Plant Height (to tassel tip)		25.739																																																	
* 0 5 8.1 cm Ear Height (to base of top ear node)		1.414																																																	
0 1 3.7 cm Length of Top Ear Internode		0.919																																																	
Average Number of Tillers																																																			
* 1.0 Average Number of Ears per Stalk		0.000																																																	
3 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark																																																			
Application Variety Data		Page 1																																																	
		Standard Inbred Data																																																	

4

Application Variety Data			Page 2	Standard Inbred Data			
5. LEAF:			Standard Deviation	Sample Size	Standard Deviation		Sample Size
*	0 0	8.1 cm Width of Ear Node Leaf	0.000	20	0 0 9.0	0.737	170
*	0 7	7.6 cm Length of Ear Node Leaf	4.525	20	0 7 9.4	2.596	170
*		7.1 Number of leaves above top ear	0.141	10	5.6	0.444	85
	2 6	8 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	2.546	20	2 5.8	7.800	170
*	0 2	Leaf Color (Munsell code 5 GY 4/8)			0 3 (Munsell code 5 GY 3/4)		
		5 Leaf Sheath Pubescence (Rate on scale from 1=none to 9=peach fuzz)			8		
		3 Marginal Waves (Rate on scale from 1=none to 9=many)			4		
		4 Longitudinal Creases (Rate on scale from 1=none to 9=many)			3		
6. TASSEL:			Standard Deviation	Sample Size	Standard Deviation		Sample Size
*	4 5	Number of Primary Lateral Branches	0.141	20	8.1	1.784	170
	2 3	3 Branch Angle from Central Spike	2.475	20	2 4.6	5.261	170
*	3 3	8 cm Tassel Length (from top leaf collar to tassel tip)	1.838	20	3 7.4	4.944	170
		3.3 Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			7.0		
	0 5	Anther Color (Munsell code 2.5 GY 8/6)			2 2 (Munsell code 10 Y 8.5/6)		
	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):					0 5 (Munsell code 2.5 GY 8/6)		
*	0 5	Silk Color (3 days after emergence) (Munsell code 2.5 GY 8/6)			0 2 (Munsell code 5 GY 4/8)		
	0 2	Fresh Husk Color (25 days after 50% silking) (Munsell code 5 GY 4/8)			2 1 (Munsell code 2.5 Y 8/4)		
	2 1	Dry Husk Color (65 days after 50% Silking) (Munsell code 2.5 Y 8/4)			3		
*		1 Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			6		
		4 Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			3		
		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)					
7b. EAR (Husked Ear Data):			Standard Deviation	Sample Size	Standard Deviation		Sample Size
*	1 5	8 cm Ear Length	1.556	10	1 3.5	0.706	85
*	3 9	1 mm Ear Diameter at mid-point	0.424	10	4 3.0	1.766	85
	1 0	6.5 gm Ear Weight	35.709	20	1 1 8.9	27.764	170
*		1 6 Number of Kernel Rows	0.566	10	1 7	0.758	85
		2 Kernel Rows: 1=Indistinct 2=Distinct			2		
		1 Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			2		
	0 9	2 cm Shank Length	3.394	20	0 7.8	1.559	170
		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.

Application Variety Data			Page 3	Standard Inbred Data		
8. KERNEL (Dried):			Standard Deviation	Sample Size	Standard Deviation Sample Size	
1	0.6 mm Kernel Length		0.283	10	1 0.9	0.710 85
0	6.9 mm Kernel Width		0.424	10	0 7.0	0.575 85
0	4.5 mm Kernel Thickness		0.424	10	0 3.9	0.591 85
3	9.0 % Round Kernels (Shape Grade)		3.973	500g	4 1.0	7.686 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 (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				0 3	
2	5.3 gm Weight per 100 Kernels (unsized sample)		2.263	200 seeds	2 3.5	3.944 1700 seeds
9. COB:			Standard Deviation	Sample Size	Standard Deviation Sample Size	
*	2 2.6 mm Cob Diameter at mid-point		0.283	10	2 6.1	1.650 85
	1 4 Cob Color (Munsell code 5 R 3/8)				1 4 (Munsell code 5 R 3/8)	
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						
7	Anthracnose Leaf Blight (<i>Colletotrichum graminicola</i>)				7	
-	Common Rust (<i>Puccinia sorghi</i>)				5	
-	Common Smut (<i>Ustilago maydis</i>)				7	
7	Eyespot (<i>Kabatella zeae</i>)				7	
-	Goss's Wilt (<i>Clavibacter michiganense</i> spp. <i>nebraskense</i>)				7	
2	Gray Leaf Spot (<i>Cercospora zeae-maydis</i>)				2	
-	Helminthosporium Leaf Spot (<i>Bipolaris zeicola</i>) Race _____				8 Race 2	
4	Northern Leaf Blight (<i>Exserohilum turcicum</i>) Race 2				5 Race 2	
6	Southern Leaf Blight (<i>Bipolaris maydis</i>) Race 0				3 Race 0	
-	Southern Rust (<i>Puccinia polysora</i>)					
-	Stewart's Wilt (<i>Erwinia stewartii</i>)				3	
-	Other (Specify) _____					
B. Systemic Diseases						
-	Corn Lethal Necrosis (MCMV and MDMV)				3	
-	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.

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> 1st Generation (Typically Whorl Leaf Feeding)</td> <td></td> <td>3</td> <td></td> <td></td> </tr> <tr> <td> 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>)					1st Generation (Typically Whorl Leaf Feeding)		3			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>12. AGRONOMIC TRAITS:</p> <p> 2 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)</p> <p>0 1. 0 % Dropped Ears (at 65 days after anthesis)</p> <p>0 0. 8 % Pre-anthesis Brittle Snapping</p> <p>0 0. 0 % Pre-anthesis Root Lodging</p> <p>0 3. 0 % Post-anthesis Root Lodging (at 65 days after anthesis)</p> <p>3 9 9 2. 0 Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)</p>																																																																																																																																													
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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: $GDU = \frac{\text{Daily Max Temp } (<=86^{\circ}F) + \text{Daily Min Temp } (>=50^{\circ}F)}{2} - 50^{\circ}F$</p>																																																																																																																																													

JMS 12/26/02

EXHIBIT D

Comparison between 91DHA1 and CM105

Isozyme Profile of 91DHA1 and CM105

LOCI	ISOZYME ALLELE	
	91DHA1	CM105
Acph1	2	4
Adh1	4	4
Cat3	9	9
Got3	4	4
Got2	4	4
Got1	4	4
ldh1	4	4
ldh2	4	6
Mdh1	6	6
Mdh2	3.5	6
Mdh3	16	16
Mdh4	12	12
Mdh5	12	12
Pgm1	9	9
Pgm2	4	4
6Pgd1	2	-
6Pgd2	5	-
Phi1	4	4

91DHA1 differs from CM105 at the Acph1, Idh2 and Mdh2 loci

Comparison between 91DHA1 and PHW52

Trait	91DHA1	PHW52
Ear Height	58.0 cm (s.d. = 1.414, N=20)	88.0 cm
Anther Color	Green-Yellow (2.5 GY 8/6)	Purple (5 RP 5/8)
Leaf Angle	26.8° (s.d. = 2.546, N=20)	30° - 60°

Comparison between 91DHA1 and PHJR5

Trait	91DHA1	PHJR5
Ear Height	58.0 cm (s.d. = 1.414, N=20)	80 cm
Leaf Angle	26.8° (s.d. = 2.546, N=20)	30° - 60°
Tassel Branch Angle	23.3° (s.d. = 2.475, N=20)	>45°

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 91DHA1
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 9800291		

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):

91DHA1 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:

- 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.
- 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.
- 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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