

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Northrup King Company

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 *seventeen* 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. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Solar'

*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 this 29th day of March in the year of our Lord one thousand nine hundred and seventy-nine*

Attest:

*Edward L. Lane*  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*W. D. [Signature]*  
Secretary of Agriculture



**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY 755 5502 D WS178		1b. VARIETY NAME Solar		FOR OFFICIAL USE ONLY PV NUMBER 7800010	
2. KIND NAME Common wheat		3. GENUS AND SPECIES NAME Triticum aestivum L.		FILING DATE 12-16-77	
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION September 1972		TIME 2:30 P.M.	
6. NAME OF APPLICANT(S) Northrup King Co.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 1500 Jackson St. N.E. Minneapolis, MN 55413		FEE RECEIVED \$ 250.00 \$ 250.00 \$ 250.00	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Delaware		DATE 12-16-77 12-16-77 2-15-79	
				8. TELEPHONE AREA CODE AND NUMBER (612) 781-8011	
				11. DATE OF INCORPORATION 1896	

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

Allenby L. White  
Northrup King Co.  
1500 Jackson St. N.E.  
Minneapolis, MN 55413

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- 13B. Exhibit B, Novelty Statement.
- 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- 13D. Exhibit D, Additional Description of the Variety.

14A. 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). (If "Yes," answer 14B and 14C below.)  YES  NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations?  YES  NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed?  FOUNDATION  REGISTERED  CERTIFIED

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal?  YES  NO

16. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically 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 Act.

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

November 18, 1977  
(DATE)

Allenby L. White  
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

## INSTRUCTIONS

**GENERAL:** Send an original copy of the application, exhibits and \$250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, Beltsville, Maryland 20705. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

## ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a 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), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one 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 differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.
- 14A 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 his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)



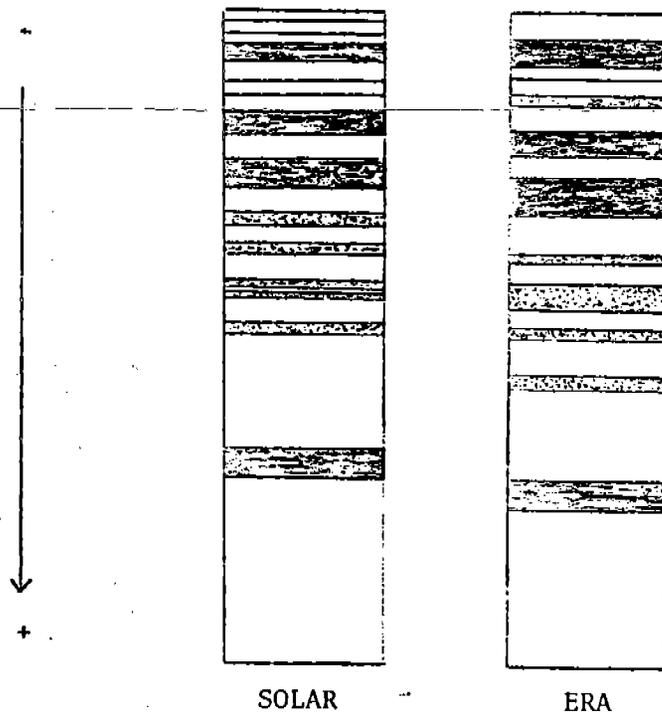
7800010

EXHIBIT A  
Origin and Breeding History of the Variety

The variety Solar is derived from a single head selection we made in 1969 in a plot of UM 953A at the University of Manitoba. This selection appeared to be a shorter deviant in the plot and the head also seemed to be somewhat more blocky than the others. UM 953A was listed as derived from the cross Sonora/Tezanos Pintos Precoz.

This head selection was maintained as a pure line for two generations prior to entering preliminary yield trials in 1972. In 1974, we selected 24 of 25 head rows in our nursery near Moorhead, Minnesota for further increase. These 24 populations were each grown in a separate plot at Yuma, Arizona in 1974-75. We discarded four of these as off-types. The remaining 20 populations were grown again as individual plots at Yuma, Arizona in the 1975-76 season. Seed from these was bulked as breeders seed.

Uniformity within these lots was good, which suggests that Solar exhibits little outcrossing and has good stability. No describable or characteristic variants of the variety have been noted during reproduction and multiplication.



Interpretive drawings comparing the electrophoretic separations of the soluble proteins extracted from whole kernels by dimethylsulfoxide of Solar and Era spring wheat.



NORTHROP, KING & CO.  
1500 JACKSON ST., N.E. MINNEAPOLIS, MINN. 55413

EXHIBIT B

Novelty Statement

Solar is most similar to Era in general morphology and maturity but differs from Era in that Solar has a brown phenol reaction whereas Era is black-brown in reaction. The kernels of Solar are slightly longer and not so round as those of Era and the electrophoresis banding differs from that of Era.

FORM GR-470-6  
(2-15-73)

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
GRAIN DIVISION  
HYATTSVILLE, MARYLAND 20782

EXHIBIT C  
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)  Northrup King Co.  ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)  1500 Jackson St. N.E. Minneapolis, MN 55413	FOR OFFICIAL USE ONLY	
	PVPO NUMBER <b>7800010</b>	
	VARIETY NAME OR TEMPORARY DESIGNATION <b>Solar</b>	

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. KIND:

1 = COMMON    2 = DURUM    3 = EMMER    4 = SPELT    5 = POLISH    6 = POULARD    7 = CLUB

2. TYPE:

1 = SPRING    2 = WINTER    3 = OTHER (Specify) \_\_\_\_\_     1 = SOFT    3 = OTHER (Specify) \_\_\_\_\_  
2 = HARD

1 = WHITE    2 = RED    3 = OTHER (Specify) \_\_\_\_\_

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING     LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN .....     1 = ARTHUR    2 = SCOUT    3 = CHRIS  
 NO. OF DAYS LATER THAN .....     4 = LEMHI    5 = NUGAINES    6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH  
 CM. TALLER THAN .....     1 = ARTHUR    2 = SCOUT    3 = CHRIS  
 CM. SHORTER THAN .....     4 = LEMHI    5 = NUGAINES    6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN    2 = GREEN    3 = BLUE GREEN

7. ANTHUR COLOR:

1 = YELLOW    2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT    2 = PRESENT     Waxy bloom: 1 = ABSENT    2 = PRESENT  
 Hairiness of last internode of rachis: 1 = ABSENT    2 = PRESENT     Internodes: 1 = HOLLOW    2 = SOLID  
 NO. OF NODES (Originating from node above ground)     CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT    2 = PRESENT     Hairiness: 1 = ABSENT    2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT    2 = RECURVED     Flag leaf: 1 = NOT TWISTED    2 = TWISTED  
3 = OTHER (Specify): \_\_\_\_\_  
 Hairs of first leaf sheath: 1 = ABSENT    2 = PRESENT     Waxy bloom of flag leaf sheath: 1 = ABSENT    2 = PRESENT  
 MM. LEAF WIDTH (First leaf below flag leaf)     CM. LEAF LENGTH (First leaf below flag leaf):



7800010

EXHIBIT D  
Additional Description of the Variety

Solar is a cultivar of Triticum aestivum L. em Thell. with spring growth habit. The kernels are free threshing, red, hard, short, and ovate to oval. Kernel size is about 5 mm long and about 3 mm wide. The germ is small. The cheeks are rounded with a narrow, mid-deep crease. The brush is mid-sized and mid-long. There is no collar.

The spike is awned, fusiform, lax, and inclined. Head length is typically 6 cm long to 10 mm wide, but may develop up to 9 cm long and 13 mm wide under favorable conditions. Glumes are pale yellow, glabrous, mid-long, and mid-wide. Shoulders are finely apiculate or wanting. The beak is acuminate, mid-long, and the keel well defined. The awns are white.

The coleoptile is white and seedling anthocyanin is absent. Juvenile growth is erect. Plant color at booting is green. Waxy bloom on the stem and flag sheath is absent. Leaf blades and sheath are not hairy. The auricles are not hairy and have no anthocyanin. The stem is hollow. Usually three stem-nodes originate from the node above ground.

Solar is a short-statured wheat approximately equal to Era in height. The stems are strong and resistance to lodging is excellent. Resistance to shattering is good. Maturity is approximately the same as that of Era.

Solar is resistant to the races of leaf rust (Puccinia recondita Rob. ex Desm.) prevalent in the Midwest in 1977. It has the following seedling reaction to stem rust (Puccinia graminis f. sp. tritici Erikss & Henn.):

<u>Race</u>	<u>Infection Type</u>
TNMK	0; Fleck
TNMH	0; "
TDMH	0; "
HJCS	0; "
RKQS	0; "
RTQQ	0; "
RPQQ	0; "
RHRS	0; "
RCRS	0; "
QSHS	X++

In the Cereal Rust Laboratory plots at St. Paul, Minnesota, it was rated 10 MR in the adult stage, suggesting it has adequate protection for race QSHS.

7800010

Table 4. Quality Comparisons.

Characteristic	Moorhead 1973		Moorhead 1974	
	Era	Solar	Era	Solar
Wheat Protein %	13.9	14.5	17.0	14.7
Milling Extraction %	70.5 G	71.2 G	61.3 P	67.4 F
Farinograph				
Absorption	59.5	60.6	56.5	56.0
Peak	6.3	7.8	6.8	6.0
Stability	13.0	14.5	13.0	10.5
MTI	35	25	30	35
Valorimeter	67	72	66	63
Flour				
Ash	.378	.380	.397	.400
Protein	12.9	13.5	15.1	13.4
Bake				
Absorption	62.0 G-	63.0 G	60.0 F+	59.5 F
Mix	3.8 G	4.0 G	4.3 G	5.0 VG
Dough	6 G	6 G	6 G	6 G
Loaf Volume, cc.	1000 VG	1000 VG	1000 VG	1000 VG
Score	30 G-	30 G-	30 G-	33 G
Overall Score	57 G	60 G-	52 G-	58 G-

Characteristic	Bath 1975		Langdon 1975	
	Era	Solar	Era	Solar
Wheat Protein %	15.8	15.0	13.3	13.8
Milling Extraction %	71.9 G	68.2 G-	70.9 G	69.3 G-
Farinograph				
Absorption	61.0	59.0	60.4	60.2
Peak	6.3	6.8	6.3	8.0
Stability	10.0	15.5	9.0	14.0
MTI	35	30	40	25
Valorimeter	66	69	64	74
Flour				
Ash	.410	.450	.377	.353
Protein	14.8	13.8	12.3	12.7
Bake				
Absorption	63.5 G	62.0 G-	63.5 G	63.5 G-
Mix	3.8 G	3.5 G	4.3 G	4.5 VG-
Dough	6 G	6 G	5 G-	4 F
Loaf Volume, cc.	1000 VG	1000 VG	885 G-	880 G-
Score	31 G	30 G-	25 G-	25 G-
Overall Score	61 G	57 G-	53 G-	53 G-

7800010

Table 4. Quality Comparisons. (cont.)

Characteristic	Glyndon 1976		Langdon 1976	
	Era	Solar	Era	Solar
Wheat Protein %	13.5	13.9	15.5	13.9
Milling Extraction %	70.8 G	69.6 G-	67.0 F	68.5 G-
Farinograph				
Absorption	60.5	59.5	61.0	58.5
Peak	6.8	7.8	13.0	8.0
Stability	13.0	19.5	32.0	26.0
MTI	25	20	5	20
Valorimeter	68	73	87	75
Flour				
Ash	.361	.350	.333	.359
Protein	12.5	12.8	14.2	12.8
Bake				
Absorption	63.0 G	62.0 G-	63.0 G	61.5 G-
Mix	4.3 G	4.5 VG-	6.3 G-	5.3 G-
Dough	6 G	6 G	6 G	5 G-
Loaf Volume, cc.	1000 VG	910 G	935 G	870 G-
Score	30 G-	29 G-	27 G-	25 G-
Overall Score	58 G-	57 G-	56 G-	52 G-

Table 5. Date of heading comparisons at Moorhead, Minnesota

Year	Variety		Difference
	Era	Solar	
1973	June 23	June 24	+ 1
1974	July 6	July 8	+ 2
1975	July 7	July 9	+ 2
1976	June 24	June 22	- 2
1977	June 7	June 6	- 1

Table 6. Comparisons of height.

Year and Location	Variety		Difference
	Era	Solar	
	cm	cm	cm
1973			
Moorhead, Minnesota	92	86	- 6
1974			
Moorhead, Minnesota	60	72	+ 12
1975			
Moorhead, Minnesota	72	64	- 8
Bath, South Dakota	78	80	+ 2
Warren, Minnesota	68	66	- 2
Langdon, North Dakota	64	73	+ 9
Average	<u>71</u>	<u>71</u>	+ 0.25
1976			
Langdon, North Dakota	59	66	- 7
Glyndon, Minnesota	70	70	0
Average	<u>64</u>	<u>68</u>	- 3.5
1977			
Langdon, North Dakota	75	76	+ 1
Glyndon, Minnesota <sup>1/</sup>	79	76	- 3
Gilbey, North Dakota	67	64	- 3
Portage, Manitoba	76	77	+ 1
Average	<u>74</u>	<u>73</u>	- 1
5-Year Average	72.2	74	0.35

<sup>1/</sup> Near Moorhead, Minnesota

ASSIGNMENT OF UNITED STATES PLANT  
VARIETY PROTECTION CERTIFICATES

In consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Northrup King Co., a Delaware corporation having an office at 1500 Jackson Street N.E., Minneapolis, Minnesota 55413, does hereby sell, assign, transfer and convey to Rohm and Haas Seeds Inc., a Delaware corporation, Independence Mall West, Philadelphia, Pennsylvania 19105, the entire right, title and interest in and to the following United States Plant Variety Protection Certificates together with all the rights described and claimed therein:

<u>Certificate Number</u>	<u>Variety</u>	<u>Date Issued</u>
7500005	Prodax	June 30, 1975
7800010	Solar	March 29, 1979
8200002	Walera	June 17, 1982
8100013	711	December 10, 1981
	715	Applied for in 1983
	817	June 17, 1982
8200033	830	September 23, 1982
8200094	835	March 11, 1982
8200006	McNair 701	February 26, 1974
7200038	McNair 1003	August 10, 1978
7700084	McNair 1813	May 1, 1975
7500006	McNair 4823	April 8, 1975
7200037	RHS 8232	Applied for in 1984

the same to be held and enjoyed by said Rohm and Haas Seeds Inc. for its own use and benefit, and for the use and benefit of its successors, assigns or other legal representatives, for the full term or terms for which said Certificates are or may be granted or reissued, as fully and entirely as the same would have been held and

ASSIGNMENT

7800010

WHEREAS, Rohm and Haas Seeds Inc., a Delaware corporation, with its principal offices at Independence Mall West, Philadelphia, Pennsylvania 19105 ("Rohm and Haas Seeds"), is the owner of the entire right, title and interest to the following varieties, U.S. Plant Variety Certificates and applications therefore:

<u>Variety</u>	<u>Certificate No.</u>	<u>Grant Date</u>
Prodax	7500005	06/30/75
Solar	7800010	03/29/79
711	8100013	12/10/81
Walera	8200002	06/17/82
715	8300068	01/31/86
835	8200006	03/11/82
817	8200033	06/17/82
830	8200094	09/23/82
Norak	8500105	03/11/88

	<u>Application No.</u>	<u>Filing Date</u>
Bighorn	8500109	04/12/85
Pony	8500107	04/12/85
Rodeo	8500106	04/12/85

WHEREAS, HybriTech Seed International, Inc., a Delaware corporation and wholly-owned subsidiary of Monsanto Company, with its principal offices at 800 North Lindbergh Boulevard, St. Louis, Missouri 63167 ("HybriTech") is desirous of acquiring the entire interest in the aforementioned varieties, certificates and applications;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Rohm and Haas Seeds does hereby sell, assign and transfer unto HybriTech, the entire right, title and interest in and to the varieties, certificates and applications for its use and benefit and for its successors and assigns.

IN TESTIMONY WHEREOF, Rohm and Haas Seeds intending to be legally bound has caused this assignment to be executed by its duly authorized officer.

ROHM AND HAAS SEEDS INC.

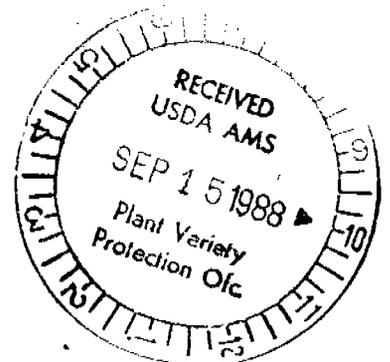
By Harold C. Myrland  
 Title Vice President

COMMONWEALTH OF PENNSYLVANIA )  
 ) SS  
COUNTY OF PHILADELPHIA )

On this 25 day of July, 1988, before me appeared Howard A. Mergelthaus Jr. of Rohm and Haas Seeds Inc., the person who signed this instrument, who acknowledged that he signed it as a free act on behalf of Rohm and Haas Seeds, Inc. with authority to do so.

Elaine Sherman  
Notary Public

ELAINE SHERMAN  
Notary Public, Phila., Phila. Co.  
My Commission Expires June 1, 1992





United States  
Department of  
Agriculture

Agricultural  
Research  
Service



Northern Plains Area  
National Seed  
Storage Laboratory

1111 South Mason Street  
Fort Collins, CO 80521-4500  
Telephone: 970 495-3200  
Fax: 970 221-1427

February 14, 1997

Marian R. Minnifield, Secretary  
Plant Variety Protection Office  
NAL Building, Room 500  
10301 Baltimore Boulevard  
Beltsville, Maryland 20705-2351

Subject: Expired PVPO's; disposition of

1. The following expired PVPO's have been transferred to the NPGS. Our records have been changed accordingly.

Serial Number		PVP Number
101862	01	PVP 7800029
102219	01	PVP 7800010 ✓
102675	01	PVP 7800088
102676	01	PVP 7400011
103506	01	PVP 7800084
103507	01	PVP 7900016
103508	01	PVP 7800082
103840	01	PVP 7900017
103842	01	PVP 7900067
104549	01	PVP 7700106
104551	01	PVP 7100046
314988	01	PVP 9500276
101863	01	PVP 7800026
102222	01	PVP 7800078
102226	01	PVP 7800091
101854	01	PVP 7200134
102214	01	PVP 7605014
102216	01	PVP 7900011
102217	01	PVP 7800095
102218	01	PVP 7800093
102220	01	PVP 7800097
102221	01	PVP 7800042

97 FEB 25 11 53 AM '97  
USDA



United States  
Department of  
Agriculture

Agricultural  
Research  
Service

Northern Plains Area  
National Seed  
Storage Laboratory

1111 South Mason Street  
Fort Collins, CO 80521-4500  
Telephone: 970 495-3200  
Fax: 970 221-1427

102673	01	PVP 7800059
103502	01	PVP 7800096
103503	01	PVP 7800074
103509	01	PVP 7900044
103510	01	PVP 7900047
103838	01	PVP 7500042
103843	01	PVP 7300101
101859	01	PVP 7200132
102227	01	PVP 7700085
103511	02	PVP 7800028
103839	01	PVP 7900049
103845	01	PVP 7900048
104548	02	PVP 7800057
104550	01	PVP 7800024

97 FEB 25 11 53 AM '97  
USDA

Sincerely,

GENE KEYS  
Data Coordinator

## 11. HEAD:

1 Density: 1 = LAX 2 = DENSE  4 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  
4 = OTHER (Specify) Fusiform

4 Awedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
5 = BROWN 6 = BLACK 7 = OTHER (Specify): \_\_\_\_\_

0  6 CM. LENGTH  1  0 MM. WIDTH

## 12. GLUMES AT MATURITY:

2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)  
3 = LONG (CA. 9 mm.)  2 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)  
3 = WIDE (CA. 4 mm.)

1 1 = Glabrous 2 = Pubescent

Shoulder 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE  3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

1 1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

1 1 = ABSENT 2 = PRESENT  
Kc

## 15. JUVENILE PLANT GROWTH HABIT:

3 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL  1 Cheek: 1 = ROUNDED 2 = ANGULAR

2 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG  1 Brush: 1 = NOT COLLARED 2 = COLLARED

4 Phenol reaction 1 = IVORY 2 = FAWN 3 = LT. BROWN  
(See instructions): 4 = BROWN 5 = BLACK  
11/17/79 Exhibit B

3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) \_\_\_\_\_

0  5 MM. LENGTH  0  3 MM. WIDTH  3  3 GM. PER 1000 SEEDS

## 17. SEED CREASE:

1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
2 = 80% OR LESS OF KERNEL 'CHRIS'  
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

2 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
2 = 35% OR LESS OF KERNEL 'CHRIS'  
3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

2 STEM RUST (Races) (15B-2)  2 LEAF RUST (Races) Not identified  2 STRIPE RUST (Races) Not identified  0 LOOSE SMUT

2 POWDERY MILDEW  0 BUNT  OTHER (Specify) \_\_\_\_\_

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

0 SAWFLY  0 APHID (Bydv.)  0 GREEN BUG  0 CEREAL LEAF BEETLE

OTHER (Specify) \_\_\_\_\_ HESSIAN FLY }  
RACES: }  GP  A  B  C  
 D  E  F  G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Era	Seed size	Era
Leaf size	Era	Seed shape	Era
Leaf color	Era	Coleoptile elongation	Era
Leaf carriage	Era	Seedling pigmentation	Era

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

ASSIGNMENT OF UNITED STATES PLANT  
VARIETY PROTECTION CERTIFICATES

In consideration of One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Northrup King Co., a Delaware corporation having an office at 1500 Jackson Street N.E., Minneapolis, Minnesota 55413, does hereby sell, assign, transfer and convey to Rohm and Haas Seeds Inc., a Delaware corporation, Independence Mall West, Philadelphia, Pennsylvania 19105, the entire right, title and interest in and to the following United States Plant Variety Protection Certificates together with all the rights described and claimed therein:

<u>Certificate Number</u>	<u>Variety</u>	<u>Date Issued</u>
7500005	Prodax	June 30, 1975
7800010	Solar	March 29, 1979
8200002	Walera	June 17, 1982
8100013	711	December 10, 1981
	715	Applied for in 1983
8200033	817	June 17, 1982
8200094	830	September 23, 1982
8200006	835	March 11, 1982
7200038	McNair 701	February 26, 1974
7700084	McNair 1003	August 10, 1978
7500006	McNair 1813	May 1, 1975
7200037	McNair 4823	April 8, 1975
	RHS 8232	Applied for in 1984

the same to be held and enjoyed by said Rohm and Haas Seeds Inc. for its own use and benefit, and for the use and benefit of its successors, assigns or other legal representatives, for the full term or terms for which said Certificates are or may be granted or reissued, as fully and entirely as the same would have been held and

enjoyed by said Northrup King Co. if this assignment and sale had not been made; together with all claims for damages by reason of past infringement of said Certificates, including the right to sue for and collect the same for its own use and benefit, and for the use and benefit of its successors, assigns or other legal representatives.

IN WITNESS WHEREOF, Northrup King Co. has caused this assignment to be executed by its duly authorized officer, effective the 20<sup>th</sup> day of JULY, 1984.

NORTHRUP KING CO.

By: George L. Jones

(CORPORATE SEAL)

STATE OF MINNESOTA     )  
  ) ss.  
COUNTY OF HENNEPIN    )

On this 20<sup>th</sup> day of JULY, 1984, before me, a Notary Public in and for the county and state aforesaid, personally appeared GEORGE L. JONES, to me personally known, who, being by me duly sworn, did say that he is the PRESIDENT of Northrup King Co.; that the seal affixed to the foregoing assignment is the corporate seal of Northrup King Co. and that the assignment was executed in behalf of Northrup King Co. by authority of its board of directors; and did acknowledge the assignment to be the free act and deed of Northrup King Co.

Witness my hand and seal the day and year set forth above.

Edward C. Resler  
Notary Public

