

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Helena Chemical Company

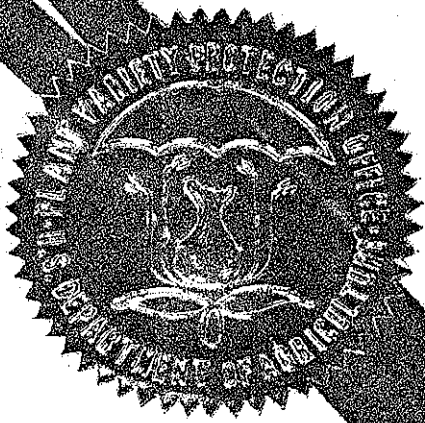
Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

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 (STATUTE, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Wilstar 790'



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 13th day of September in the year of our Lord one thousand nine hundred and seventy-nine

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
 INSTRUCTIONS: See Reverse.

FORM APPROVED
 OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form, has been received (5 U.S.C. 553).

FOR OFFICIAL USE ONLY

1a. TEMPORARY DESIGNATION OF VARIETY McNair 3-114	1b. VARIETY NAME Wilstar 790	PV NUMBER 7900058	
2. KIND NAME Soybean	3. GENUS AND SPECIES NAME Glycine max. (L.) Merrill	FILING DATE 3-6-79	TIME 1:30 P.M.
4. FAMILY NAME (BOTANICAL) Leguminosae	5. DATE OF DETERMINATION September 21, 1977	FEE RECEIVED \$ 500.00	DATE 3-6-79
6. NAME OF APPLICANT(S) Helena Chemical Company	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 5100 Poplar Ave., Suite 3200, Memphis, Tennessee 38137	\$ 250.00	8. TELEPHONE AREA CODE AND NUMBER 901-761-0050
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	11. DATE OF INCORPORATION April 25, 1957	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: RICHARD S. GUTHRIE, JR. MANAGER, SEED DEPARTMENT HELENA CHEMICAL CO. 5100 POPLAR AVE, SUITE 3200 MEMPHIS, TENN. 38137 RJS 3/26/79			

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
- 15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? YES NO (If "Yes," give name of countries and dates.)
- 15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? YES NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? YES NO

17. The applicant(s) declare(s) that a viable sample of basic seed 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 Act.

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

February 26, 1979
 (DATE)

February 26, 1979
 (DATE)

Nolan B. Johnson
 (SIGNATURE OF APPLICANT)

Richard S. Guthrie, Jr.
 (SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, 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 uniformity and stability.

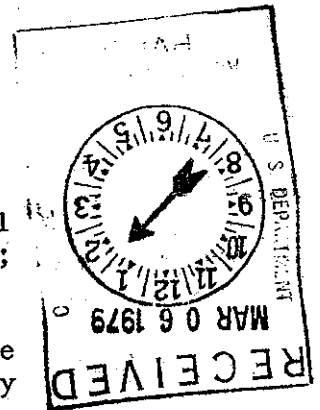
13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (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, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



7900058

HELENA CHEMICAL COMPANY



CORPORATE OFFICE

Suite 3200 — Clark Tower
5100 Poplar Avenue
Memphis, Tennessee 38137
Telephone: 901/761-0050
Telex: 8105911595

Exhibit A

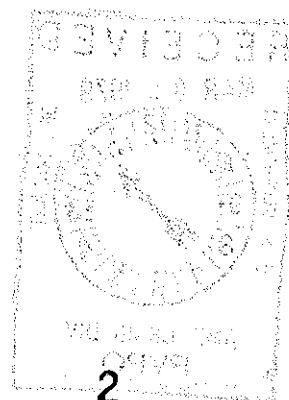
13a. Origin and Breeding History of the Variety

Wilstar 790 Soybean was developed from the cross Bragg x Ransom in a straight pedigree method by McNair Seed Company at Laurinburg, North Carolina, U.S.A. It was bulked in the F₅ generation for initial yield testing. The breeders seed came out of bulking uniform F₇ progeny rows. Subsequent increases have come from progeny rows planted with seed from plants taken at random from the breeders seed block.

"THE VARIETY APPEARS UNIFORM AND STABLE AS FAR AS PLANT MORPHOLOGY FOR THE LAST THREE TO FOUR YEARS UNDER SIZABLE ACREAGE. IN 1977, 44 ACRES OF FOUNDATION SEED WAS PLANTED IN ONE FIELD AND NO MORE THAN ONE OFF-TYPE PER 10,000 PLANTS WAS FOUND TO OCCUR. THE SAME FREQUENCY OF VARIANTS OCCURRED IN 1978 UNDER 300 ACRES OF FOUNDATION SEED PLANTINGS."

"TESTING BY THE LOUISIANA STATE SEED LABORATORY SUPPORTS THE BREEDER DESCRIPTION IN ALL RESPECTS TO DATE AND HAS FOUND THE VARIETY TO BE PEROXIDASE NEGATIVE"

PER APPLICANT'S LETTER OF MAY 15, 1979 RJS 5/23/79





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Exhibit B

13b. Novelty Statement

Wilstar 790 is most similar to 'Ransom' but has white flowers
whereas 'Ransom' has purple flowers.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782
OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (GLYCINE MAX)

EXHIBIT C
(Soybean)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)
Helena Chemical Company
ADDRESS (Street and No., or R.F.D. No.; City, State, and ZIP Code)
5100 Poplar Avenue, Suite 3200
Memphis, Tennessee 38137

FOR OFFICIAL USE ONLY

PVPO NUMBER
7900058

VARIETY NAME OR TEMPORARY DESIGNATION
WINSTAR 790 R/S 5/23/79

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. SEED SHAPE:

1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER (Specify)

2. SEED COAT COLOR:

1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER (Specify) SHADE: 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER:

1 = DULL 2 = SHINY

4. SEED SIZE

1 5 GRAMS PER 100 SEEDS

5. HILUM COLOR:

1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK SHADE: 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR:

1 = YELLOW 2 = GREEN

7. LEAFLET SIZE (See Reverse):

1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE:

1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER (Specify)

9. LEAF COLOR (See reverse):

1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR:

1 = WHITE 2 = PURPLE
 3 = OTHER (Specify)

11. POD COLOR:

1 = TAN 2 = BROWN 3 = BLACK

12. POD SET:

1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR:

1 = GRAY 2 = BROWN 3 = OTHER (Specify) Tawny

SHADE:

1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES (See Reverse):

1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT:

1 = DETERMINATE 2 = INDETERMINATE
 3 = OTHER (Specify)

16. HYCOTYL COLOR:

1 = GREEN 2 = PURPLE

17. SEED PROTEIN:

1 = A 2 = B

18. NUMBER OF DAYS TO FLOWERING
(Place a zero in first box (e.g. 0 9) when days are 9 or less.)

6 0

19. MATURITY GROUP:

1 = 00 2 = 0 3 = I 4 = II 5 = III
 6 = IV 7 = V 8 = VI 9 = VII 10 = VIII

20. SIZE OF 10 DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT (Growth Chamber) AT 25° C. (Place a zero in first box (e.g. 0 2) when size is 9 mm. or less.)

MM. LENGTH OF SEEDLING MM. LENGTH OF COTYLEDON

MM. WIDTH OF COTYLEDON

21. DISEASE: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL PUSTULE SOYBEAN CYST DOWNY MILDEW PURPLE STAIN POD AND STEM BLIGHT ROOT KNOT
 FROGEYE STEM CANKER PHYTO-PHTHORA BROWN STEM ROT TARGET SPOT BROWN SPOT
 BUD BLIGHT WILDFIRE RHIZOCTONIA ROT OTHER (Specify)

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Ransom	Petiole angle	
Leaf shape	Cobb	Seed size	Bragg
Leaf color	Ransom	Seed shape	Bragg
Leaf surface		Seedling pigmentation	Bragg

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT	LEAF SIZE		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted	150	2.0	105 cm	718	14.1		%	151	
Name of similar variety	Ransom	Ransom	Bragg	Cobb	Lee 68			Lee 68	

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. Scott, Walter O. and Samuel R. Aldrich, 1970, Modern Soybean Production, The Farmer Quarterly.
2. Norman, A. G., 1963, The Soybean: Genetics, Breeding, Physiology, Nutrition, Management.
3. McKie, J. W., and K. L. Anderson, 1970, The Soybean Book.

LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following Soybean varieties may be used as a guide to identify the colors listed on the form.

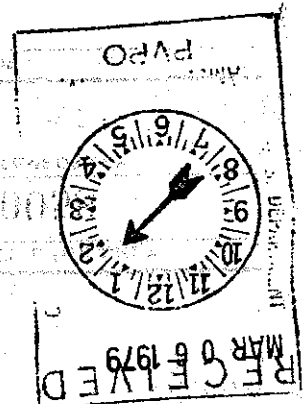
COLOR	VARIETY
Light Green	"Ada"
Medium Green	"Wilkin"
Dark Green	"Swift"

LEAF SIZE: The following varieties may be used as a guide to identify the relative size leaves.

SIZE	VARIETY
Small	"Amsoy"
Medium	"Bonus"
Large	"Anoka"

PLANT TYPE: The following varieties may be used as a guide to identify the plant type.

TYPE	VARIETY
Slender	"Vansoy"
Intermediate	"Wirth"
Bushy	"Adelphia"





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Exhibit D

13d. Additional Description of Variety

Wilstar 790 Soybeans, (Glycine max. L.) was developed from the cross Bragg x Ransom in a straight pedigree method. It was bulked in the F₅ generation for initial yield testing. The breeders seed came out of bulking uniform F₇ progeny rows.

Wilstar 790 soybean belongs to maturity group VII and is determinate in growth habit. It has white flowers and tawny pubescence. It is similar in plant type to Ransom but is 8-10 cm. taller. It possesses a strong central stalk which resists lodging. The seed of Wilstar 790 are medium bold with ~~dark~~ seed coat lustre and black hila. *SHINY 6/13/79*

Wilstar 790 is susceptible for cyst nematodes and phytophthora rot but is resistant to common foliar diseases.

Wilstar 790 exhibited a negative reaction to the peroxidase reaction test as performed at Louisiana State Seed Testing Laboratory under the direction of Director Edward A. Drummond.

