

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Northrup, King and 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 CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS REQUIRED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'S 1492'

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

*Attest:*

*J. C. Rollin*  
 Commissioner  
 Plant Variety Protection Office  
 Grain Division  
 Agricultural Marketing Service

*Earl L. Buttz*

Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION  S 1492	2. KIND NAME  Soybeans	FOR OFFICIAL USE ONLY	
		PVPO NUMBER  7600066	
3. GENUS AND SPECIES NAME  <u>Glycine max</u> (L.) Merr.	4. FAMILY NAME (Botanical)  Leguminosae	FILING DATE  4-12-76	TIME  8:30 A.M.
	5. DATE OF DETERMINATION  October 1971	FEE RECEIVED  \$ 750	CHARGES
6. NAME OF APPLICANT(S)  Northrup, King & Co.	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)  P.O. Box 959 Minneapolis, Minnesota 55440	8. TELEPHONE AREA CODE AND NUMBER  612-781-8011	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)  Corporation	10. STATE OF INCORPORATION  Minnesota	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.  
P. O. Box 959  
Minneapolis, Minnesota 55440

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- 12A. Exhibit A, Origin and Breeding History of the Variety (See Section 52, P.L. 91-577)
- 12B. Exhibit B, Botanical Description of the Variety
- 12C. Exhibit C, Objective Description of the Variety
- 12D. Exhibit D, Data Indicative of Novelty
- 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

The applicant declares 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. (See Section 52, P.L. 91-577).

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), P.L. 91-577) (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

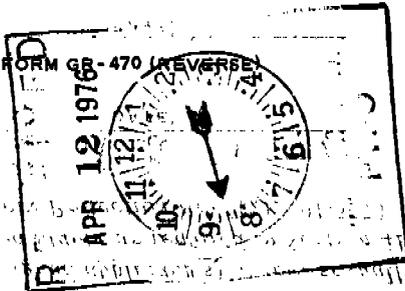
14C. If "Yes," to 14B, how many generations of production beyond breeder seed?  
1 Foundation, 1 registered, 1 certified

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act (P.L. 91-577).

April 2, 1976  
(DATE)

Allenby L. White  
(SIGNATURE OF APPLICANT)  
00001  
(SIGNATURE OF APPLICANT)



INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and \$50.00 fee to U.S. Dept. of Agriculture, Consumer and Marketing Service, Grain Division, Hyattsville, Maryland 20782. Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 - Insert the date the applicant determined that he had a new variety.

12a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

12b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

12c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

12d Provide complete data indicative of novelty. Seed and plant specimens may be submitted and seeds submitted may be sterile. Where possible, include photographs of plant comparisons, chemical tests, etc.

12e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

APPLICATION FOR PLANT VARIETY PROTECTION

U.S. DEPARTMENT OF AGRICULTURE  
CONSUMER AND MARKETING SERVICE  
GRAIN DIVISION  
HYATTSVILLE, MARYLAND 20782



EXHIBIT A  
ORIGIN AND BREEDING HISTORY OF S 1492 SOYBEANS

- 1969 Approximately 60 plants were selected from a F<sub>4</sub> bulk population from the cross 'Corsoy' x 'Wayne'. The population had been advanced to the F<sub>4</sub> generation by harvesting 2 pods from approximately 400 plants in each generation.
- 1969-70 Seeds from each plant were grown in a progeny row. One of these was designated WO-2928. Each row was bulk-harvested if uniform.
- 1970 WO-2928 was grown in an observation row at Washington, Iowa. It was selected for further testing based on maturity, standability, uniformity and general appearance.
- 1971 WO-2928 was yield tested at Hudson and Washington, Iowa. Based on yield and general performance, it was chosen as an experimental variety worthy of further testing.
- 1972 WO-2928 was yield tested at Hudson, Dayton, and Washington, Iowa and at Lima, Ohio.
- 1973 WO-2928 was yield tested at the locations used in 1972 plus Dixon and Waverly, Illinois, and York, Nebraska. Since WO-2928 was heterogeneous for hilum color (50% yellow, 50% buff), a buff seeded subplot was hand-picked and increased.
- 1973-74 A sample of the buff-seeded subplot was grown. From this, 100 single plants with seed with buff hila were harvested individually to be grown in 1974.
- 1974 WO-2928 was tested at eight midwestern locations. One hundred progeny rows were grown, and any rows containing off-type plants were discarded. The rest were bulk harvested to produce pedigree seed of the variety.
- 1974-75 Pedigree seed of WO-2928 was planted to produce a breeder seed increase.
- 1975 WO-2928 was tested at 11 midwestern locations in Northrup, King trials, and in University trials in Iowa, Wisconsin, and Illinois. Breeder seed was produced from the 1974-75 winter increase. In addition, pedigree seed was produced as in 1974. The pedigree method of maintaining varietal purity will continue as long as the variety is produced.
- 1976 WO-2928 was named S 1492 and released to Foundation growers.

S 1492 is stable and uniform for all normal descriptive characteristics. A very low frequency of variants would be expected through mutation, outcrossing, or mechanical mixture. These will be prevented from becoming a significant constituent of the variety through application of the time-proven pedigree method referred to above.

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EXHIBIT B  
BOTANICAL DESCRIPTION OF S 1492 SOYBEANS

I. Seed and Seedling.

Cotyledons of S 1492 are yellow. Seeds have dull-yellow seed coats and buff hila. Seed size is rather small (16.7 per 100 seeds vs. 16.5 for B 216, 16.1 for Corsoy, 17.0 for S 1474, 17.3 for Amsoy 71, 17.4 for Wells, and 20.1 for Beeson. Seed shape is similar to most common varieties.

Seedlings of S 1492 have excellent field emergence receiving a score of 1 (1=excellent, 5=very poor) in Iowa State University trials in 1975 compared to S 1474=1, B 216=1, Amsoy 71=5, and Beeson=5. Hypocotyl color of S 1492 is green.

II. Flowering.

When planted about May 15, S 1492 will begin flowering in about 45 days at Washington, Iowa; about the same as for B 216 or Amsoy 71. Duration and pattern of flowering is similar to other indeterminate, Maturity Group II varieties. Flower color is white.

III. Fruiting.

Flowering and beginning pod set overlap, as is true of other indeterminate varieties. At full vegetative growth, S 1492 has medium to small, slightly slender, ovate leaflets which are a medium green color. Canopy type is slender to intermediate.

IV. Disease Reaction.

S 1492 is similar to most northern soybean varieties in its susceptibility to common foliar diseases. It has some field tolerance, but no race-specific resistance, to Phytophthora root rot.

V. Mature Plant.

S 1492 has gray pubescence and tan pods. It is relatively short, like B 216, average 8 cm. less than Corsoy or S 1474 and 13 cm. less than Amsoy 71. S 1492 has good lodging resistance. Most nodes normally have several pods, and most pods are 2 or 3 seeded. Average yield of S 1492 is slightly higher than B 216, considerably higher than Corsoy, Amsoy 71, or Wells. It is similar in maturity to B 216, or about 2 days later than Corsoy.

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## 22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	B216	Petiole angle	B216
Leaf shape	B216	Seed size	B216
Leaf color	B216	Seed shape	B216
Leaf surface	B216	Seedling pigmentation	B216

## 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	133	1.8	80cm	66cm	101cm	36.0	21.1%	21@ 350000plt/ha	
Name of similar variety B216	133	1.8	80cm	69cm	106cm	37.2	20.4%	21@ 350000plt/ha	

## 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  
DATA INDICATIVE OF NOVELTY FOR S 1492 SOYBEANS

S 1492 is most similar to B 216 in maturity, leaf size and shape, seed quality and size, plant habit and appearance. S 1492 can be differentiated from B 216 by hilum color. S 1492 has buff hilum color; B 216 has yellow hilum color.

Data contrasting S 1492 soybeans from other Maturity Group II varieties.

	<u>Color of</u>			<u>Phytophthora</u> <u>Race 1</u>
	<u>Pubescence</u>	<u>Flower</u>	<u>Hilum</u>	
B 216	G	W	Y	S
Wells	G	P	IB	R
Corsoy	G	P	Y	S
Amsoy	G	P	Y	S
Amsoy 71	G	P	Y	R
S 1474	B	P	Br	S
XK 505	B	P	BF	R
Beeson	G	P	IB	R
SRF 200	G	P	Y	R
Harosoy	G	P	Y	S
Harosoy 63	G	P	Y	R
Marshall	G	P	IB	S
Lindarin	G	P	BF	S
Lindarin 63	G	P	BF	R
Hawkeye	G	P	IB	S
Hawkeye 63	G	P	IB	R
Provar	B	P	Br	S
Protana	G	P	IB	R
S 1492	G	W	BF	S

Key: G = Gray                      Y = Yellow                      S = Susceptible  
 B = Brown                      IB = Imperfect Black              R = Resistant  
 W = White                      Br = Brown  
 P = Purple                      BF = Buff

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NORTHROP, KING & CO.

P. O. BOX 49

WASHINGTON, IOWA 52353

EXHIBIT E  
STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

The soybean variety, S 1492, was developed by Northrup, King & Co.'s breeding staff at its Washington, Iowa research farm from germplasm sources cited in Exhibit A of the application. Northrup, King & Co. believes that the variety it has created is novel as defined in the Plant Variety Protection Act, and, therefore, that Northrup, King & Co. is the sole owner of the variety.

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