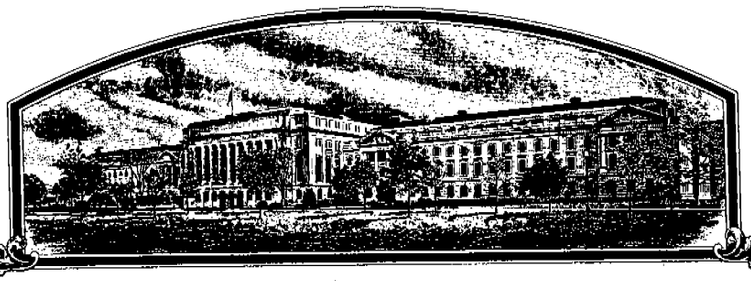

No. 7500087

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. IN 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 IFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'B 216'

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* fifth *day of* March *in the year of our Lord one thousand nine hundred and* seventy-six

Attest:

L. Rollin

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl L Butz

Secretary of Agriculture

FORM GR-470
(12-15-72)

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

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY
B 216	Soybeans	PV NUMBER 7500087
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 5.8.75 / TIME 2:30 P.M.
Glycine max (L.) Merr.	Leguminosae	FEE RECEIVED $250 / BALANCE DUE $ —
	5. DATE OF DETERMINATION	$250 / $ —
	January 1970	$250 / $ —

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Northrup, King & Co.	P. O. Box 959 Minneapolis, Minnesota 55440	612-781-8011

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Minnesota	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:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

[X] 13B. Exhibit B, Botanical Description of the Variety

[X] 13C. Exhibit C, Objective Description of the Variety

[X] 13D. Exhibit D, Data Indicative of Novelty

[X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

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.)* [X] YES [ ] NO

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

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [1] FOUNDATION [1] REGISTERED [1] CERTIFIED

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.

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.

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

May 5, 1975
(DATE)

Allen 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, 6525 Belcrest Road, Hyattsville, Maryland 20782. (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 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a 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.

13b 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.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

NORTHRUP, KING & CO.
P.O. BOX 49, WASHINGTON, IOWA 52353

7500087

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF B 216 SOYBEANS

1969 60 plants were selected from an F_4 bulk population from the cross 'Corsoy' x 'Wayne'. The population had been advanced to the F_4 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 9447. Each row was bulk-harvested if uniform.

1970 9447 was yield tested at Washington, Iowa. On the basis of its high yield, maturity, and standability, 9447 was chosen as an experimental variety worthy of further testing.

1971 9447 was yield tested at Hudson, Dayton, and Washington, Iowa.

1972 9447 was yield tested at Hudson, Dayton, and Washington, Iowa; and Dixon and Waverly, Illinois. Since 9447 was heterogeneous for hilum color (50% yellow, 50% brown), a yellow-seeded sublot was hand-picked and increased. From this, 200 representative plants with seed with yellow hila were harvested individually to be grown as progeny rows in 1973.

1973 9447 was yield tested at all the locations listed for 1972 plus Van Wert, Ohio and York, Nebraska. It was tested in University trials in Iowa, Minnesota, Wisconsin, Illinois, and Missouri. Two 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 9447 was yield tested at the locations tested in 1973 except Dixon, Illinois; plus Darien, Wisconsin; Carrollton, Missouri; Minnesota Lake, Minnesota; and Oakland, Illinois. It was tested in University trials in Iowa, Minnesota, Wisconsin, and Illinois. An increase block was planted from the pedigree seed produced in 1973 and was harvested to produce breeder seed. In addition, pedigree seed was produced as in 1973. The pedigree method of maintaining varietal purity will continue as long as the variety is produced.

1975 9447 was named B 216 and released to foundation growers.

B 216 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.

NORTHRUP, KING & CO.
P.O. BOX 49, WASHINGTON, IOWA 52353

7500087

EXHIBIT B
BOTANICAL DESCRIPTION OF B 216 SOYBEANS

I. Seed.

Cotyledons of B 216 are yellow. Seeds have dull-yellow seed coats and yellow hila. Seed size is similar to Corsoy (16.0 g per 100 seeds vs. 17.2 for Hark, 16.1 for Corsoy, 17.2 for Amsoy 71, and 16.3 for S 1474. Seed shape is spherical, or similar to most common varieties.

II. Seedling.

When grown for 10 days at 25° C. under constant light, seedlings of B 216 averaged 152 mm in length compared to 129 mm for Corsoy and 124 mm for S 1474. Length of cotyledon was 16 mm for B 216 and Corsoy vs. 15 mm for S 1474. Width of cotyledon was 8 mm for B 216, Corsoy, and S 1474.

Seedlings of B 216 have excellent field emergence receiving a score of 1 (1 = excellent, 5 = very poor) in Iowa State University trials in 1973 and 1974 compared to S 1474 = 1, Amsoy 71 = 5, and Beeson = 5.

Hypocotyl color of B 216 is green.

III. Flowering.

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

IV. Fruiting.

Flowering and beginning pod set overlap, as is true of other indeterminate varieties. At full vegetative growth, B 216 has medium to small, slightly slender ovate leaflets which are a medium green color. Canopy type is more slender than Corsoy or S 1474, but not as slender as Hark.

V. Disease Reaction.

B 216 is similar to most northern soybean varieties in its susceptibility to common foliar diseases. It has field tolerance, but not immunity, to Phytophthora root rot.

VI. Mature Plant.

B 216 has gray pubescence and tan pods. It is shorter than Corsoy or S 1474, and has better lodging resistance. Most pods are 2 or 3 seeded, and there are normally several pods per node, depending upon yield level. In 24 NK trials, B 216 has an average yield of about 109% of Amsoy 71 and Beeson. It is the same maturity as S 1474 or two days later than Corsoy.

FORM GR-470-2
(6-15-72)

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

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY

INSTRUCTIONS: *See Reverse.*

SOYBEAN *(GLYCINE MAX)*

NAME OF APPLICANT(S)
Northrup, King & Co.

ADDRESS *(Street and No., or R.F.D. No.; City, State, and ZIP Code)*
P. O. Box 959
Minneapolis, Minnesota 55440

FOR OFFICIAL USE ONLY

PVPO NUMBER
7500087

VARIETY NAME OR TEMPORARY DESIGNATION
B 216

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

1. SEED SHAPE:
[1] 1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER *(Specify)*

2. SEED COAT COLOR:
[1] 1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER *(Specify)* _____
SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER:
[1] 1 = DULL 2 = SHINY

4. SEED SIZE
[1][6] GRAMS PER 100 SEEDS

5. HILUM COLOR:
[2] 1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER *(Specify)* _____
SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR:
[1] 1 = YELLOW 2 = GREEN

7. LEAFLET SIZE *(See Reverse)*:
[1] 1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE:
[1] 1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER *(Specify)* _____

9. LEAF COLOR *(See reverse)*:
[2] 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR:
[1] 1 = WHITE 2 = PURPLE 3 = OTHER *(Specify)* _____

11. POD COLOR:
[1] 1 = TAN 2 = BROWN 3 = BLACK

12. POD SET:
[2] 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR:
[1] 1 = GRAY 2 = BROWN 3 = OTHER *(Specify)* _____
SHADE: [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES *(See Reverse)*:
[1] 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT:
[2] 1 = DETERMINATE 2 = INDETERMINATE 3 = OTHER *(Specify)* _____

16. HYPOCOTYL COLOR:
[1] 1 = GREEN 2 = PURPLE

17. SEED PROTEIN:
[2] 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.)*
[4][5]

19. MATURITY GROUP:
[4] 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.)*
[1][5][2] MM. LENGTH OF SEEDLING
[1][6] MM. LENGTH OF COTYLEDON
[0][8] MM. WIDTH OF COTYLEDON

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

[1] BACTERIAL PUSTULE	[0] SOYBEAN CYST	[0] DOWNY MILDEW	[1] PURPLE STAIN	[1] POD AND STEM BLIGHT	[0] ROOT KNOT
[0] FROGEYE	[1] STEM CANKER	[1] PHYTOPHTHORA	[1] BROWN STEM ROT	[0] TARGET SPOT	[1] BROWN SPOT
[0] BUD BLIGHT	[0] WILDFIRE	[1] RHIZOCTONIA ROT	[ ] OTHER *(Specify)* _____		

NORTHRUP, KING & CO.
P.O. BOX 49, WASHINGTON, IOWA 52353

7500087

EXHIBIT D
DATA INDICATIVE OF NOVELTY FOR B 216 SOYBEANS

I. Seed.

A. Seed Description.

Seed of B 216 has dull-yellow seed coats and yellow cotyledons and hila. Seed shape is spherical, or similar to most common varieties.

B. Seed Size.

Variety	Wt. in g per 100 seeds*
B 216	16.0
Hark	17.2
Corsoy	16.1
Amsoy 71	17.2
S 1474	16.3

* Average of 12 trials.

C. Chemical Composition of Seed.

Variety	Protein %	Oil %	Iodine No.
B 216	37.2	20.4	128
Hark	40.0	20.0	135
Corsoy	37.6	20.8	137
S 1474	39.1	19.6	131

D. Seed Protein (Larson and Caldwell; Crop Science. 9:385).

B 216 has type B protein.

II. Seedling.

A. Hypocotyl color is green.

B. Size of 10-day old seedling under constant light at 25° C.

Variety	Seedling Length (mm)	Cotyledon Length (mm)	Cotyledon Width (mm)
B 216	152	16	8
Hark	114	15	8
Corsoy	129	16	8
S 1474	124	15	8

FORM GR-470-2 (REVERSE)

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Corsoy	Petiole angle	Hark
Leaf shape	Corsoy	Seed size	Corsoy
Leaf color	Corsoy	Seed shape	Corsoy
Leaf surface	Corsoy	Seedling pigmentation	Evans

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	1.7	81 cm	50 mm	94 mm	37.2	20.4 %	22 @ 350000 plt/ha	128
Name of similar variety Corsoy	131	2.7	86 cm	50 mm	94 mm	37.6	20.8	20 @ 350000 plt/ha	137

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"

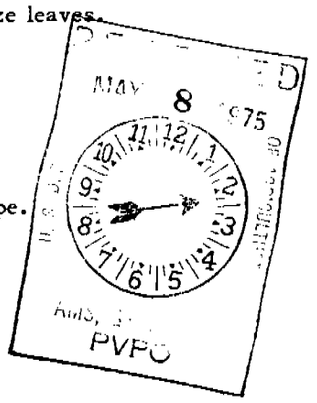

Exhibit D cont'd.

7500087

C. Seedling Emergence Score.

Variety	Score*
B 216	1
Hark	3
Corsoy	2
Amsoy 71	5
S 1474	1

* Average of 1973 and 1974 Iowa State University trials. 1 = excellent, 5 = very poor.

III. Leaf and Canopy.

A. Leaf Characteristics.

Variety	Leaf Color	Leaf Shape	Leaf Width (mm)	Leaf Length (mm)
B 216	Medium	Ovate	50	94
Hark	Medium	Ovate	44	82
Corsoy	Light	Ovate	50	94
Amsoy 71	Medium	Ovate	50	100
S 1474	Medium	Ovate	50	100

B. Canopy and Growth Characteristics.

Variety	Canopy Openness	Canopy Shape	Determinancy
B 216	Open	Slender	Indeterminate
Hark	Open	Very slender	Indeterminate
Corsoy	Intermediate	Intermediate	Indeterminate
Amsoy 71	Intermediate	Intermediate	Indeterminate
S 1474	Intermediate	Intermediate	Indeterminate

IV. Flower Color - White.

V. Mature Plant.

A. Description. B 216 has gray pubescence and tan pods.

Exhibit D cont'd.

7500087

B. Agronomic Data.

Variety	Yield (K/ha) ($\bar{X}_{24}$ 1970-74)	Maturity ($\bar{X}_3$ 1973-74)	Lodging* ($\bar{X}_{13}$ 1973-74)	Height (cm) ($\bar{X}_3$ 1973-74)
B 216	3064	9-25	1.7	81
Corsoy		9-23	2.7	86
Amsoy 71**	2807	9-26	2.4	96
Beeson	2807	9-27	1.6	86
S 1474		9-25	2.4	86

* 1 = erect, 5 = prostrate.
** Amsoy previous to 1972.

VI. Disease Reaction.

A. Similar to most northern soybean varieties in susceptibility to common foliar diseases.

B. Similar to most northern varieties in susceptibility to Rhizoctonia, Pythium, and Fusarium root rots.

C. Has field tolerance, but not immunity, to Phytophthora root rot.

NORTHRUP, KING & CO.
P.O. BOX 49, WASHINGTON, IOWA 52353

7500087

EXHIBIT E
STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

The soybean variety, B 216, was developed by Northrup, King & Co.'s breeding staff at its Washington, Iowa research farm from germ plasm sources cited in Exhibit A of this 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.