No. 7200126

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Purdue University
Agricultural Experiment Station

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

SOYBEAN

Bonus

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* first *day of* August *in the year of our Lord one thousand nine hundred and* seventy three

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(2-12-71)

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND 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 Bonus	2. KIND NAME Soybeans	FOR OFFICIAL USE ONLY PVPO NUMBER 72126
3. GENUS AND SPECIES NAME Glycine max	4. FAMILY NAME *(Botanical)* Leguminosae	FILING DATE 4-21-72 / TIME 4:30 P.M.
	5. DATE OF DETERMINATION August 5, 1970	FEE RECEIVED $250.00 / CHARGES
6. NAME OF APPLICANT(S) Purdue University Agricultural Experiments Station	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Agricultural Experiment Station Purdue University Lafayette, Indiana 47907	8. TELEPHONE AREA CODE AND NUMBER 317-749-2891
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Division of Land Grant University	10. STATE OF INCORPORATION Established by Federal Law, Hatch Act, 1889	11. DATE OF INCORPORATION 1889

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:
Dr. H. H. Kramer, Director
Agricultural Experiment Station
Purdue University
Lafayette, Indiana 47907

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*
- [X] 12B. Exhibit B, Botanical Description of the Variety
- [X] 12C. Exhibit C, Objective Description of the Variety
- [X] 12D. Exhibit D, Data Indicative of Novelty
- [X] 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.)* [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?
Three

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).

4/11/72
(DATE)

H H Kramer
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (REVERSE)

U.S. DEPARTMENT OF AGRICULTURE
RECEIVED
APR 21 1972
CEMS GRAIN DIVISION

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 unles 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.

#72126

Exhibit A

Origin and Breeding History of the Variety

Bonus

Bonus soybean [Glycine max (L.) Merr.] is an F_6 plant selection from the cross [C1266R (Sel. from Harosoy × C1079) × C1253 (Sel. from Blackhawk × Harosoy)].

The original cross, designated CX403, was made in 1962 by Dr. A. H. Probst, USDA Agronomist, at the Purdue Agricultural Experiment Station. The F_1 through F_6 generations were grown from 1962-1964 in the greenhouse or in the field at the Purdue University Agricultural Experiment Station. Phytophthora rot inoculations, to screen for resistance to this disease, were made during this time by F. A. Laviolette and Dr. K. L. Athow, Purdue Botany and Plant Pathology Department.

In 1964, 364 phytophthora rot resistant selections were grown in three-foot rows at Lafayette, Indiana. The selection CX403-308 was grown in yield trials at Lafayette, Indiana in 1965, at Evansville, Indiana in 1966, and at Worthington and Evansville, Indiana in 1967.

The selection was designated C1474 and was grown in Preliminary Test IV of the Uniform Soybean Tests Northern States conducted by the U.S. Regional Soybean Laboratory, Urbana, Illinois. The tests were grown in Illinois, Indiana, Kansas, Maryland, Missouri, and Ohio. From 1969 to 1971, C1474 was grown in Uniform Test IV of the Uniform Soybean Tests Northern States conducted by the U.S. Regional Soybean Laboratory in California, Delaware, Illinois, Indiana, Kansas, Kentucky, Maryland, Missouri, Nebraska, New Jersey, Ohio, Pennsylvania, and Texas.

Fifteen rows of breeders seed of C1474 were grown in 1968, and forty-four rows were grown in 1969 at Lafayette, Indiana. Breeders seed was increased to 298 bushels at Lafayette, Indiana in 1970 and in 1971 was divided among the releasing states of Illinois, Indiana, Iowa, and Nebraska. The strain was named Bonus on August 1, 1971.

72126

Exhibit B

Botanical Description of the Variety

Bonus

Bonus soybean is an early Group IV in maturity, has purple flowers, gray normal pubescence, brown pods, and dull yellow seeds with imperfect black hila. Bonus has medium sized ovate leaves and an indeterminate habit of growth. Bonus is susceptible to bacterial blight caused by Pseudomonas glycinea, bacterial pustule, caused by Xanthomonas phaseoli var. sojensis, brown spot, caused by Septoria glycines, brown stem rot, caused by Cephalosporium gregatum, downy mildew, caused by Peronospora manshurica, frogeye leafspot, race 2, caused by Cercospora sojina, and powdery mildew, caused by Microsphaera diffusa. It is resistant to Phytophthora rot, caused by Phytophthora megasperma var. sojae. Bonus has low peroxidase activity in the seed coat, flowers in about 70 days under a 20-hour cool white fluorescent photoperiod, and a hypocotyl length averaging 8 cm after germinating 9 days at 25° C, a critical temperature for differentiating strains.

#72126

Exhibit D

Data Indicative of Novelty

Bonus

Bonus, which has gray pubescence, can readily be distinguished from the Group IV varieties Clark, Clark 63, Kent, Cutler, Cutler 71, Wye, and Columbus, all of which have tawny pubescence. The imperfect black hilum of Bonus distinguishes this variety from Oksoy which has a buff hilum. The purple flowers of Bonus distinguish it from the old varieties Gibson and Wabash, both with white flowers. Bonus most closely resembles the old varieties Patoka and Perry. However, Bonus is resistant to phytophthora rot and both Patoka and Perry are susceptible.

PURDUE UNIVERSITY
AGRICULTURAL EXPERIMENT STATION
LAFAYETTE, INDIANA 47907

#72126

EXHIBIT E rfs

OFFICE OF THE DIRECTOR

June 4, 1973

Robert J. Snyder, Examiner
Plant Variety Protection Office
Agricultural Marketing Service
U. S. Department of Agriculture
6525 Belcrest Road
Hyattsville, Maryland 20782

Dear Mr. Snyder:

To answer the question you raised in your letter of May 29, I quote from the Master Memorandum of Understanding between the Indiana Agricultural Experiment Station and the U. S. Department of Agriculture, Agricultural Research Service, relative to cooperative research.

Section C, paragraph 6.b. reads as follows:

"b. Plants, seeds, and plant materials used in this cooperative undertaking will be provided by the parties from time to time as mutually agreed upon. Such plants, seeds, and plant materials produced hereunder as may not be needed in this undertaking but may be needed in other research conducted by either party, shall be available to such party. New varieties or strains obtained through the cooperation shall be distributed for commercial growing, as and when mutually agreed upon. All plants, seeds, and plant materials produced and not needed in this undertaking or in other research, as provided above, shall be the property of the Agricultural Experiment Station which agrees to make to the Agricultural Research Service such reports of disposition as may be mutually agreed upon."

This memorandum of agreement was signed by E. L. Butz for the Experiment Station and by B. T. Shaw for the Agricultural Research Service and became effective August 1, 1957.

New varieties constitute plant materials produced and no longer needed "in this undertaking" since the undertaking is complete with the release of each new variety. The varieties 'Cutler 71', 'Amsoy 71' and 'Bonus' were distributed to commercial growers as mutually agreed upon, (as documented in the release statements which also constitute our report to ARS of disposition) at which point they become the "property of the Agricultural Experiment Station" as specifically stated in the memorandum of understanding.

continued - - - -

#72126

The memorandum provides that it "shall continue indefinitely but may be modified by mutual agreement between the parties in writing and may be discontinued at the request of either party. Requests for termination or any major change shall be submitted to the other party not less than 60 days in advance of the effective date desired." No change has been requested by either party since July 1, 1957.

We can supply the complete memorandum of understanding if you feel it necessary. However, the section quoted is the only one which bears on the question you raised in your letter of 29 May.

The memorandum thus states explicitly that the USDA does not wish to participate in ownership of new varieties and has released its principal rights in the varieties to the Agricultural Experiment Station of Purdue University.

Very truly yours,

H H Kramer

Herbert H. Kramer
Director

jl

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

SOYBEAN *(GLYCINE MAX)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Purdue University Agricultural Experiment Station

ADDRESS *(Street and No., or R.F.D. No.; City, State, and ZIP Code)*
Agricultural Experiment Station
Purdue University
West Lafayette, Indiana 47907

FOR OFFICIAL USE ONLY

PVPO NUMBER
72126

VARIETY NAME OR TEMPORARY DESIGNATION
Bonus

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][8] GRAMS PER 100 SEEDS

5. HILUM COLOR:
[5] 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)*:
[2] 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:
[2] 1 = WHITE 2 = PURPLE 3 = OTHER *(Specify)*

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

12. POD SET:
[1] 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)*:
[3] 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

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

16. HYPOCOTYL COLOR:
[2] 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.)*
[5][1]

19. MATURITY GROUP:
[6] 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.)* 16 hour daylength.

[0][6][3] MM. LENGTH OF SEEDLING [2][2] MM. LENGTH OF COTYLEDON [1][3] MM. WIDTH OF COTYLEDON

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

[1] BACTERIAL PUSTULE	[1] SOYBEAN CYST	[1] DOWNY MILDEW	[1] PURPLE STAIN	[1] POD AND STEM BLIGHT	[0] ROOT KNOT
[1] FROGEYE	[0] STEM CANKER	[2] PHYTO-PHTHORA	[1] BROWN STEM ROT	[0] TARGET SPOT	[1] BROWN SPOT
[1] BUD BLIGHT	[0] WILDFIRE	[0] RHIZOCTONIA ROT	[ ] OTHER *(Specify)*		

FORM GR-470-2 (REVERSE)

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

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

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	119	1.8	41" 104			42.5	22.2 %		
Name of similar variety Cutler	120	1.9	38" 96			41.1	22.0		

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"