No. 7200082

# 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, [illegible]R IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT [illegible]IETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. [illegible]E UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS [illegible]SS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS [illegible]D BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

Cutler 71

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

Earl L. Butz

*Secretary of Agriculture*

*Attest:*

L. F. Rollin

*Commissioner*
*Plant Variety Protection Office*
*Grain Division*
*Agricultural Marketing Service*

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<br>Cutler 71 | 2. KIND NAME<br>Soybeans | FOR OFFICIAL USE ONLY<br>PVPO NUMBER 72082 | |
| 3. GENUS AND SPECIES NAME<br>Glycine max | 4. FAMILY NAME *(Botanical)*<br>Leguminosae | FILING DATE 2/3/72 | TIME 1:30 P.M. |
| | 5. DATE OF DETERMINATION<br>February 15, 1971 | FEE RECEIVED $250 | CHARGES |
| 6. NAME OF APPLICANT(S)<br>Purdue University<br>Agricultural Experiment Station | 7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*<br>Agricultural Experiment Station<br>Purdue University<br>Lafayette, Indiana 47907 | | 8. TELEPHONE AREA CODE AND NUMBER<br>317-749-2461 |
| 9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*<br>Land Grant University | 10. STATE OF INCORPORATION<br>Established by Indiana Statute 1869 | | 11. DATE OF INCORPORATION<br>May 6, 1869 |

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
- [ ] 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).*

June 28 1972
(DATE)

H. H. Kramer
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

#72082

EXHIBIT A

Origin and Breeding History of the Variety

Cutler 71

Cutler 71 is a composite of six $F_3$ lines from the cross Cutler$^4$ × Kent-Rps rxp-SL5 (Backcross derivative of Kent with added resistance to phytophthora rot and bacterial pustule). The original cross, designated CX414, was made by Dr. A. H. Probst, USDA Agronomist, at the Purdue Agricultural Experiment Station in 1965. Subsequent backcrosses were made in 1965 and 1966. Phytophthora root-rot inoculations during this period and subsequently were made by F. A. Laviolette and Dr. K. L. Athow, Purdue Botany and Plant Pathology Department.

The $F_1$ and $F_2$ generations from the cross Cutler$^4$ × Kent-Rps rxp-SL5 were grown in 1966 and 1967. Thirty-one homozygous phytophthora rot resistant $F_2$ plant selections were grown in $F_3$ rows in 1967.

The above 31 lines plus Cutler were grown in CX414$BC_3$ test at Evansville, Indiana in 1968. There were no distinct observable differences in agronomic or chemical characteristics among the 31 lines. The phytophthora rot resistant lines averaged slightly taller and lodged slightly more than Cutler. The six highest yielding lines were composited and assigned the designation C1481. This was used as the initial source of breeders seed.

In 1969, C1481 was grown in Uniform Test IV of The Uniform Soybean Tests Northern States conducted by the U. S. Regional Soybean Laboratory, Urbana, Illinois. This test was grown in California, Delaware, Illinois, Indiana, Kansas, Kentucky, Maryland, Missouri, Nebraska, New Jersey, Ohio, and Texas. In addition, the breeders seed was increased to 74 bushels.

In 1970, C1481 was again grown in Uniform Test IV. The 74 bushels of breeders seed was divided among the releasing states of Delaware, Illinois, Indiana, Kansas, Kentucky, Missouri, and Nebraska. C1481 was named Cutler 71 on February 15, 1971.

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EXHIBIT B

Botanical Description of the Variety

Cutler 71

Cutler 71 soybean is identical to Cutler with the exceptions that it is resistant to phytophthora rot, has averaged 10 cm taller than Cutler, and is slightly more susceptible to lodging than Cutler. Cutler 71 is of Group IV maturity, has purple flowers, brown pubescence, brown pods, and shiny yellow seeds with black hila. Cutler 71 has medium sized ovate leaves and an indeterminate habit of growth. Cutler 71 is susceptible to bacterial blight, caused by *Pseudomonas glycinea*, bacterial pustule, caused by *Xanthomonas phaseoli* var. *sojensis*, brown spot, caused by *Septoria glycines*, and brown stem rot, caused by *Cephalosporium gregatum*. It is moderately susceptible to purple seed stain, caused by *Cercospora kikuchii*, and is resistant to phytophthora rot, caused by *Phytophthora megasperma* var. *sojae* and frogeye leafspot race 2, caused by *Cercospora sojina*. Cutler 71 is heterogeneous for high and low peroxidase activity in the seedcoat, flowers in about 70 days under 20-hour cool white fluorescent photoperiod, and has a hypocotyl length averaging 162 mm after germinating 9 days at 25° C, a critical temperature for differentiating strains.

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EXHIBIT D

Data Indicative of Novelty

Cutler 71

Cutler 71 can be distinguished from other Group IV varieties on the basis of flower color, pubescence color, pod color, seed coat luster, seed coat color, hilum color, and reaction to *Phytophthora megasperma* var. *sojae*. Cutler 71 most closely resembles the variety Cutler, however, Cutler 71 is resistant and Cutler is susceptible to phytophthora rot and these two varieties can be distinguished on this basis.

#72082

PURDUE UNIVERSITY
AGRICULTURAL EXPERIMENT STATION
LAFAYETTE, INDIANA 47907

EXHIBIT E RJS

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 - - - -

#72082



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

United States Department of Agriculture
Agricultural Research Service
Northern Plains Area National Seed Storage Laboratory
Ft. Collins, Colorado 80523
Telephone: 303 484-0402
Fax: 303 221-1427

August 30, 1990

Dr. K. H. Evans, Commisioner
Plant Variety Protection Office
Nal Building, Rm. 500
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

Dear Dr. Evans:

Subject: Expiration of Protection and Transfer of Seed Samples

As you requested, the National Seed Storage Laboratory has transfered the following samples to conventional storage and marked all records and GRIN, showing the samples expired.

| PV # | VARIETY NAME | ACTION TAKEN |
|---|---|---|
| SOYBEAN | | |
| 7100016 | SRF 100 | Expired, transfer to NSSL 8-30-90 |
| 7100019 | SRF 400 | Expired, transfer to NSSL 8-30-90 |
| 7200077 | SRF 450 | Expired, transfer to NSSL 8-30-90 |
| 7200082 | Cutler 71 | Expired, transfer to NSSL 8-30-90 |
| 7200083 | Amsoy 71 | Expired, transfer to NSSL 8-30-90 |
| 7200086 | SRF 150 | Expired, transfer to NSSL 8-30-90 |
| 7200126 | Bonus | Expired, transfer to NSSL 8-30-90 |
| 7300010 | Buccaneer | Expired, transfer to NSSL 8-30-90 |

Sincerely,

Toni Dawn Pisano

TONI PISANO
Computer Assistant

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
72082
VARIETY NAME OR TEMPORARY DESIGNATION
Cutler 71

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:**
[2] 1 = DULL 2 = SHINY

**4. SEED SIZE**
[1 9] GRAMS PER 100 SEEDS

**5. HILUM COLOR:**
[6] 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:**
[2] 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 2]

**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 5 2] MM. LENGTH OF SEEDLING [2 0] 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 |
| [2] 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)* | | |