



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed 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, 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 (ACT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A5312'

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 30th day of December in
the year of our Lord one thousand nine
hundred and seventy-seven

Attest:

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

B. B. Berglund
Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY XP 5312		1b. VARIETY NAME A5312		FOR OFFICIAL USE ONLY PV NUMBER 7700111	
2. KIND NAME Soybean		3. GENUS AND SPECIES NAME Glycine max		FILING DATE 9-23-77	TIME 4:00 <input checked="" type="radio"/> A.M. <input checked="" type="radio"/> P.M.
4. FAMILY NAME (BOTANICAL) Leguminosae		5. DATE OF DETERMINATION November 1975		FEE RECEIVED \$ 250.00	DATE 9-23-77
6. NAME OF APPLICANT(S) Asgrow Seed Company		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Kalamazoo, Michigan 49001		\$ 250.00	DATE 12-19-77
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 March 22, 1968	

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:
John A. Batcha
Asgrow Seed Company
Unit 9630-190-1
7000 Portage Road
Kalamazoo, Michigan 49001

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

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal? YES NO

16. The applicant(s) declare(s) 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) 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.

Sept 6, 1977
(DATE)

John A. Batcha
(SIGNATURE OF APPLICANT)
John A. Batcha 1
(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, National Agricultural Library, 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 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 or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

EXHIBIT A

Origin and Breeding History of the Variety

- 1972 Original cross made at Ames, Iowa
Parents: Williams x Essex
Cross Number: Q327
- 1972-73 10 F1 plants grown at Delray Beach, Fla.,
(Fall-Winter) under lighted conditions.
- 1973 (Winter-Spring) F2 Bulk Populations grown at Delray
Beach, Fla.
- 1973 (Summer) F3 Bulk Populations grown at Queen Anne, Md.,
F4 single plant selections of late
maturity were made.
- 1973 (Fall-Winter) F4 Plant selections of Q327 were grown at
Delray Beach, Fla., in plant rows.
Three plants were harvested and
threshed individually from each row.
- 1974 321 F5 progeny rows of cross Q327 were
grown at Queen Anne, Md. Row Q327-Md74-7209
was selected for its uniformity, pod set,
standability and overall desirable
characteristics.
- 1975 Q327-Md74-7209 was grown in yield tests at
Caruthersville, Mo. and Cordova, Md.
Q327-Md74-7209 was selected for its high
yield and other agronomic characteristics.
Q327-Md74-7209 was found to be uniform in
all yield plots. It was in November, 1975,
that ~~A~~XP5312 was declared a true-breeding
cultivar of soybeans. 46 pounds of Breeder
seed were produced at Caruthersville, Mo.
- 1976 ^A~~XP~~5312 was evaluated in Advanced Strain V
tests at four locations in Maryland and
Missouri, as well as in state tests in
Maryland and Missouri. It again was
selected for its high yield, standability
and overall performance.
- 1480 pounds of Basic seed was produced at
Cordova, Md. The Basic seedlot was
carefully examined at flowering and
maturity for off-types. Less than .5%
off-types were found and these were rogued.

XP5312

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (GLYCINE MAX)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) Asgrow Seed Company	FOR OFFICIAL USE ONLY
	PVPO NUMBER 7700111
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) Kalamazoo, Michigan 49001	VARIETY NAME OR TEMPORARY DESIGNATION A5312

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 3 GRAMS PER 100 SEEDS

5. HILUM COLOR:

1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER (Specify)

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):

2 = 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:

2 = 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR:

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

SHADE:

1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES (See Reverse):

2 = 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT:

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

16. HYPOCOTYL 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.)

May 1-July 20 8 1 Mo.

19. MATURITY GROUP:

7 = 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 1 0 MM. LENGTH OF SEEDLING 2 0 MM. LENGTH OF COTYLEDON 1 0 MM. WIDTH OF COTYLEDON

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

<input checked="" type="checkbox"/> 2 BACTERIAL PUSTULE	<input checked="" type="checkbox"/> 1 SOYBEAN CYST	<input type="checkbox"/> 0 DOWNY MILDEW	<input checked="" type="checkbox"/> 2 PURPLE STAIN	<input type="checkbox"/> 0 POD AND STEM BLIGHT	<input type="checkbox"/> 0 ROOT KNOT
<input checked="" type="checkbox"/> 2 FROGEYE	<input checked="" type="checkbox"/> 2 STEM CANKER	<input checked="" type="checkbox"/> 1 PHYTO-PHTHORA	<input type="checkbox"/> 0 BROWN STEM ROT	<input type="checkbox"/> 0 TARGET SPOT	<input type="checkbox"/> 0 BROWN SPOT
<input type="checkbox"/> 0 BUD BLIGHT	<input type="checkbox"/> 0 WILDFIRE	<input type="checkbox"/> 0 RHIZOCTONIA ROT	<input type="checkbox"/> OTHER (Specify)		

7700111

Asgrow Seed Company
Soybean XP5312

1977

Foundation seed of ^A~~XP~~5312 is being produced at West Point, Va., Sikeston, Mo., and Plainview, Tx. Approximately 7 acres are being grown at each location.

Yield tests are being conducted at 7 locations in Maryland, Virginia, Missouri, Kansas and Texas. ^A~~XP~~5312 is also entered in state tests in Maryland, Virginia and Missouri.

Breeder seed is being grown and genetic purity maintained at Caruthersville, Mo.

September 6, 1977

EXHIBIT B

To our knowledge, the soybean variety that most closely resembles ~~XP~~^A 5312 is Essex. The plant characteristics that differentiates ~~XP~~^A 5312 from Essex includes but is not restricted to flower color. ~~XP~~^A 5312 has white flowers and Essex has the purple flower color.

September 6, 1977



THE UPJOHN COMPANY

MEDICINE... DESIGNED FOR HEALTH... PRODUCED WITH CARE
KALAMAZOO, MICHIGAN 49001
D-U-N-S NUMBER 00-532-0742

No. 0555191 ⁷⁴⁻⁴²₇₂₄

REFERENCE CHECK NO.
555191

CHECK DATE
05 23 83

PAY THIS AMOUNT
*****218.00

PAY TWO HUNDRED EIGHTEEN AND NO/100 *****
DOLLARS *****

TO THE ORDER OF
US TREASURER
WASHINGTON DC 20220

THE FIRST NATIONAL BANK AND TRUST COMPANY OF MICHIGAN
KALAMAZOO, MICHIGAN

Copies + authentication

7600063	7700034	8000086
7600064	7700059	8000147
7700006	7700100	8000149
7700007	7700111	8100081
	7900037	8100082
		8100083

⑈0555191⑈ ⑆072400421⑆ 023 02941 3⑈

THIS DOCUMENT VOID UNLESS BORDER IS DARK BLUE AND BACKGROUND IS LIGHT BLUE

PV# 7600063 \$32
 PV# 7600064 \$16
 PV# 7700006 \$14
 PV# 7700007 \$12
 PV# 7700034 \$12
 7700059 \$14
 7700100 \$14
 7700111 \$14
 7900037 \$14

PV# 8000086 \$14
 8000147 \$12
 8000148 \$12
 8100081 \$12
 8100082 \$12
 8100083 \$14

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Essex	Petiole angle	Essex
Leaf shape	"	Seed size	"
Leaf color	"	Seed shape	"
Leaf surface	"	Seedling pigmentation	Williams

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 XP5312	May 1-Oct. 20 (Missouri) 172	20 2.0	inches 38	12	10		%	91	
Name of similar variety Essex	171	1.7	34	12	10			90	

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"