

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Iowa Agriculture 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 SEED OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Marion'

*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 7th day of December in the year of our Lord one thousand nine hundred and seventy-seven*

Attest:

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

*Bob Dwyer*  
Secretary of Agriculture



**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY  A73-227	1b. VARIETY NAME  Marion	FOR OFFICIAL USE ONLY	
		PV NUMBER <b>7700051</b>	
2. KIND NAME  Soybean	3. GENUS AND SPECIES NAME  Glycine max	FILING DATE <b>3-7-77</b>	TIME <b>10:00</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">A.M.</span> P.M.
		FEE RECEIVED \$ <b>250.00</b> \$ <b>250.00</b> \$ <b>250.00</b>	DATE <b>3-7-77</b> <b>8-30-77</b> <b>10-14-77</b>
4. FAMILY NAME (BOTANICAL)  Leguminosae	5. DATE OF DETERMINATION  March 1, 1976	8. TELEPHONE AREA CODE AND NUMBER  515-294-4762	
6. NAME OF APPLICANT(S)  Iowa Agriculture and Home Economics Experiment Station	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)  104 Curtiss Iowa State University Ames, IA 50011		
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)  State Experiment Station		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:  
John P. Mahlstedt  
104 Curtiss  
Iowa State University  
Ames, IA 50011

**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.

September 1, 1976  
(DATE)

John P. Mahlstedt  
(SIGNATURE OF APPLICANT)  
**00001**

\_\_\_\_\_  
(DATE)

\_\_\_\_\_  
(SIGNATURE OF APPLICANT)

EXHIBIT A

## Origin and Breeding History of the Variety.

1. Marion originated in Iowa from the cross Amsoy x [Provar x (Magna x Disoy)]. This cross was made in 1966. Winter nursery facilities at the Puerto Rico Agricultural Experiment Station were used for inbreeding by single seed descent from F2 to F5. The breeding history and description of the parents may be found in Crop Science 6:611 "Registration of Amsoy soybeans", Crop Science 7:403 "Registration of Disoy soybeans" and "Registration of Magna soybeans", and Crop Science 10:728 "Registration of Provar soybeans."
2. Marion was selected as an F5 plant the winter of 1970. Yield tests were made at one location in Iowa in 1972 and 1973. Marion was tested in the Uniform Soybean Tests Northern States in 1974 and in the Iowa Variety Test in 1975 and 1976. Foundation seed of Marion was produced in 1975. The foundation seed was distributed for planting in 1976 to certified seed growers in Iowa that have a record of producing large-seed varieties.
3. Marion has a dark buff hilum. Under certain environments the hilum color appears brown.
4. ~~Coles~~ <sup>MARION KJ<sup>3</sup></sup> has shown evidence of stability. The attached data indicate a stable variety for the past three years.

## EXHIBIT A.

Variety	Yield bu/a	Maturity date	Lodging score <sup>a</sup>	Height inches	Seed quality score <sup>b</sup>	Seed Size g/100	Chlo- rosis score <sup>c</sup>	Seed Content Protein %	Oil %
<u>1974 Northern States Uniform Preliminary Soybean Tests (12 locations)</u>									
Marion	38.5	9/28	1.3	28	1.7	22.0	3	38.6	20.2
Beeson	40.1	9/29	1.8	33	1.6	19.8	3	41.3	19.6
<u>1975 Iowa Uniform Soybean Tests (2 locations)</u>									
Marion	64.4	9/19	1.7	34	1.2	26.1			
Beeson	63.6	9/18	1.8	36	2.3	21.5			
Prize	55.8	9/17	1.7	34	1.4	28.8			
<u>1975 Iowa Variety Test (3 locations)</u>									
Marion	56.8	9/18	1.5	35		23.9			
Beeson	55.5	9/20	1.7	37		20.6			
<u>1976 Iowa Variety Test (2 locations)</u>									
Marion	50.1	9/12	1.6	38		21.2	3		
Beeson	47.3	9/13	2.4	42		18.1	4		
Prize	42.3	9/11	1.6	36		26.0	3		

<sup>a</sup> Scores range from 1 (plant erect) to 5 (plant prostrate)

<sup>b</sup> Scores range from 1 (very good) to 5 (very poor)

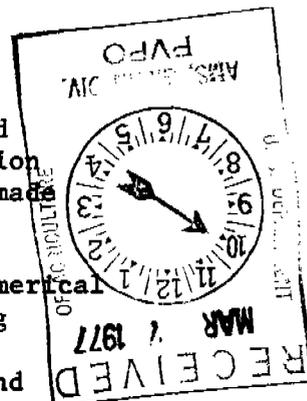
<sup>c</sup> Scores range from 1 (no chlorosis) to 5 (severe chlorosis)

## 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.)



7700051

EXHIBIT B

Novelty Statement

Novelty is based on the unique combination of the following characters:

Marion most closely resembles Prize, except it has 1) a shiny seed coat luster, 2) a dark buff hilum, 3) is resistant to bacterial pustule, and 4) is higher yielding.

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OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (GLYCINE MAX)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) Iowa Agriculture and Home Economics Experiment Station ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) 104 Curtiss Iowa State University Ames, IA 50011	FOR OFFICIAL USE ONLY
	PVPO NUMBER 7700051
	VARIETY NAME OR TEMPORARY DESIGNATION MARION

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

1. SEED SHAPE:

<input checked="" type="checkbox"/> 2	1 = SPHERICAL	2 = SPHERICAL FLATTENED	3 = ELONGATE	4 = OTHER (Specify)
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2. SEED COAT COLOR: SHADE:

<input checked="" type="checkbox"/> 1	1 = YELLOW	2 = GREEN	3 = BROWN	4 = BLACK	<input checked="" type="checkbox"/> 2	1 = LIGHT	2 = MEDIUM	3 = DARK
	5 = OTHER (Specify)							

3. SEED COAT LUSTER: 4. SEED SIZE

<input checked="" type="checkbox"/> 2	1 = DULL	2 = SHINY	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 2	GRAMS PER 100 SEEDS
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5. HILUM COLOR: SHADE:

<input checked="" type="checkbox"/> 1	1 = BUFF	2 = YELLOW	3 = BROWN	4 = GRAY	5 = IMPERFECT BLACK	<input checked="" type="checkbox"/> 3	1 = LIGHT	2 = MEDIUM	3 = DARK
	6 = BLACK	7 = OTHER (Specify)							

6. COTYLEDON COLOR: 7. LEAFLET SIZE (See Reverse):

<input checked="" type="checkbox"/> 2	1 = YELLOW	2 = GREEN	<input checked="" type="checkbox"/> 2	1 = SMALL	2 = MEDIUM	3 = LARGE
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8. LEAFLET SHAPE:

<input checked="" type="checkbox"/> 1	1 = OVATE	2 = OBLONG	3 = LANCEOLATE	4 = ELLIPTICAL	5 = OTHER (Specify)
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9. LEAF COLOR (See reverse): 10. FLOWER COLOR:

<input checked="" type="checkbox"/> 2	1 = LIGHT GREEN	2 = MEDIUM GREEN	3 = DARK GREEN	<input checked="" type="checkbox"/> 2	1 = WHITE	2 = PURPLE
					3 = OTHER (Specify)	

11. POD COLOR: 12. POD SET:

<input checked="" type="checkbox"/> 1	1 = TAN	2 = BROWN	3 = BLACK	<input checked="" type="checkbox"/> 1	1 = SCATTERED	2 = CONCENTRATED
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13. PLANT PUBESCENCE COLOR: SHADE:

<input checked="" type="checkbox"/> 1	1 = GRAY	2 = BROWN	3 = OTHER (Specify)	<input checked="" type="checkbox"/> 2	1 = LIGHT	2 = MEDIUM	3 = DARK
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14. PLANT TYPES (See Reverse): 15. PLANT HABIT:

<input checked="" type="checkbox"/> 3	1 = SLENDER	2 = BUSHY	3 = INTERMEDIATE	<input checked="" type="checkbox"/> 2	1 = DETERMINATE	2 = INDETERMINATE
					3 = OTHER (Specify)	

16. HYPOCOTYL COLOR: 17. SEED PROTEIN:

<input checked="" type="checkbox"/> 2	1 = GREEN	2 = PURPLE	<input checked="" type="checkbox"/> 1	1 = A	2 = B
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18. NUMBER OF DAYS TO FLOWERING (Place a zero in first box (e.g. 0 9) when days are 9 or less.) 19. MATURITY GROUP:

4 6	<input checked="" type="checkbox"/> 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.)

<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 5	MM. LENGTH OF SEEDLING	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 0	MM. LENGTH OF COTYLEDON	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 1	MM. WIDTH OF COTYLEDON
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21. DISEASE: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

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

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

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

## 23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT inches	LEAF SIZE cm		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted Marion	124	1.3	28	7	12	38.6	20.2%	36	--
Name of similar variety Beeson	124	1.8	33	7	12	41.3	19.6	43	--

## 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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