

No.

8900217



# 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 *eighteen* 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 (P.L. 85-625, T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Horizon'

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, D.C. this 30th day of April in the year of our Lord one thousand nine hundred and ninety-two.

Attest:

*Kenneth Flowers*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Edward Madigan*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

**APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE**

(Instructions on reverse)

1. NAME OF APPLICANT(S) Asgrow Seed Company		2. TEMPORARY DESIGNATION XP-B212		3. VARIETY NAME Horizon AAA 30 APR 1992	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 9620-190-46 Kalamazoo, Mich. 49001		5. PHONE (Include area code) (616) 385-6605		FOR OFFICIAL USE ONLY VPVO NUMBER 8900217	
6. GENUS AND SPECIES NAME Phaseolus vulgaris		7. FAMILY NAME (Botanical) Leguminosae		FILING DATE May 12, 1989 TIME <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
8. KIND NAME Dry Edible bean, light red kidney		9. DATE OF DETERMINATION September 1985		FEES RECEIVED AMOUNT FOR FILING \$ 250.- DATE May 4, 1989 AMOUNT FOR CERTIFICATE \$ 250.- DATE Dec. 16, 1991	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation				12. DATE OF INCORPORATION March 22, 1968	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware				12. DATE OF INCORPORATION March 22, 1968	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS <del>John A. Batcha</del> Kathy Ward AAA 13 Dec 1991 Asgrow Seed Company Unit 9620-190-46 Kalamazoo, MI 49001 PHONE (Include area code): (616) 385-6605					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.) d. <input type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.					
15. 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) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No					
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No			17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified		
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No					
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? Offered for sale in the United States September 13, 1988 <input checked="" type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input type="checkbox"/> No					
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request 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 Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF APPLICANT John A. Batcha				DATE May 1, 1989	
SIGNATURE OF APPLICANT				DATE	

EXHIBIT A

Origin and Breeding History of XP-B212 Garden Bean

XP-B212 was developed at Asgrow's Western Breeding Station, WBS, Twin Falls, Idaho, by backcrossing the "I" gene for resistance to BCMV into the light red kidney variety, Sacramento:

- 3-2-82 Planted Sacramento and Redcloud in the greenhouse at WBS. Crosses made.
- 7-82 Planted BC0 and Sacramento in the greenhouse at WBS. Selected resistant plants and crossed to Sacramento.
- 10-82 Planted BC1 and Sacramento in the greenhouse at WBS. Selected resistant plants and crossed to Sacramento.
- 1-20-83 Planted BC2 and Sacramento in the greenhouse at WBS. Selected resistant plants and crossed to Sacramento.
- 4-27-83 Planted BC3 and Sacramento in the greenhouse at WBS. Selected resistant plants and crossed to Sacramento.
- 8-4-83 Planted BC4 and Sacramento in the greenhouse at WBS. Selected resistant plants and crossed to Sacramento.
- 11-4-83 Planted BC5 and Sacramento in the greenhouse at WBS. Selected resistant plants and crossed to Sacramento.
- 3-20-84 Planted BC6 and in the greenhouse at WBS. Selected resistant plants and allowed them to self.
- 1-25-85 Planted BC6S1 in the greenhuose at WBS, selected resistant plants, and allowed them to self.
- 6-13-85 Planted BC6S2 in the field at WBS. Selected 6 progenies, R8515359, R8515360, R8515361, R8515362, R8515376, and R8515383 that appeared to be uniform and that were breeding true for resistance to BCMV. All subsequent increases of B212 trace to the bulk derived from these 6 progenies.
- 6-2-86 Planted BC6S2+1 bulks in replicated yield trial at WBS. Observations during the growing season confirmed the 6 lines were uniform and breeding true.

Observations indicate XP-B212 is uniform and stable within commercially acceptable limits. As is true with other dry bean varieties, a small percentage of variants or offtypes can occur within commercially acceptable limits for almost any characteristic during the course of repeated multiplications.

Asgrow Seed Company  
PVP Application  
Garden Bean, XP-B212  
May 1, 1989

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EXHIBIT B

Novelty Statement Concerning XP-B212 Garden Bean

XP-B212 is a light red kidney variety developed by backcrossing resistance to bean common mosaic virus (BCMV) into the variety Sacramento. To our knowledge the variety that most closely resembles XP-B212 is Sacramento. Comparative characteristics that best distinguish the two include, but may not be limited to, resistance to BCMV: B212 carries the "I" gene for resistance to BCMV, whereas Sacramento does not have this resistance gene.

**OBJECTIVE DESCRIPTION OF VARIETY**  
**Dry Edible Bean (*Phaseolus vulgaris* L.)**

<b>NAME OF APPLICANT(S)</b> Asgrow Seed Company	<b>EXPERIMENTAL NAME</b> XP-B212	<b>VARIETY NAME</b> <i>30 Apr 1992</i> Horizon
<b>ADDRESS (Street and No. or R.F.D. No., City, State, ZIP)</b> Unit 9620-190-46 Kalamazoo, MI 49001		<b>FOR OFFICIAL USE ONLY</b> <b>PVPO NO.</b> 8900217

Provide data for all characters unless indicated as "optional." Place numbers in the boxes for the characters or numerical values which best describe this variety. Measured data should be the mean of an appropriate number of well spaced (15-20 cm) plants. The Royal Horticulture Society or any recognized color standard may be used to determine plant color. Designate the color system used below.

<b>COLOR SYSTEM USED</b>	<b>LOCATION OF THE TEST(S) TO EVALUATE THIS VARIETY</b> Asgrow Western Breeding Station, Twin Falls, Idaho
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**1. MARKET CLASS**

CLASS	CHECK
1 = Navy (Pea)	Seafarer
2 = Small White	Aurora
3 = Black	Midnight
4 = Pinto	UI-114
5 = Great Northern	UI-59
6 = Small Red	NW-59
7 = Pink	Viva
8 = Cranberry	UI-50
9 = Dark Red Kidney	Montcalm
10 = Light Red Kidney	Redcloud
11 = Yellow Eye	Steuben
12 = Other (specify)	

**2. MATURITY**

1 = Early (80-90 days); 2 = Medium (90-100 days); 3 = Late (>100 days)

Days from planting to harvest maturity:

Heat units from planting to harvest maturity (optional). Specify base temperature used: \_\_\_\_\_

Days from planting to harvest maturity of check variety (use check appropriate to market class shown in item 1):

**3. PLANT HABIT**

**TYPE**

1 = Ia Bush-determinate, strong and erect stem and branches  
 2 = Ib Bush-determinate, weak stem and branches  
 3 = IIa Erect growth habit-indeterminate, guides (runners) short or not developed  
 4 = IIb Erect growth habit-indeterminate, guides medium to long, with no ability to climb  
 5 = IIIa Vine-indeterminate, short guides with no ability to climb  
 6 = IIIb Vine-indeterminate, long guides with ability to climb  
 7 = IVa Indeterminate climbing, pods distributed throughout the plant  
 8 = IVb Indeterminate climbing, pods concentrated on the upper part of the plant

Average height of mature plant, in cm.

Average height of check variety, in cm. (use same check as above)

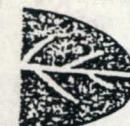
Pod Position:  1 = Low (lower pods touching soil surface)  
 2 = High (lower pods not touching soil surface)  
 3 = Scattered (not concentrated high or low)

Adaptability to machine harvest:  1 = Adapted 2 = Not Adapted

Lodging resistance:  1 = Good 2 = Fair 3 = Poor

**4. LEAFLET MORPHOLOGY (Use terminal leaflet of a fully expanded trifoliolate)**

1 = Smooth; 2 = Wrinkled  1 = Dull; 2 = Glossy; 3 = Semiglossy; 4 = Variable

<b>SHAPE:</b>	1 = Ovate 	2 = Lanceolate 	3 = Deltoid 	4 = Cordate 	5 = Rhomboid 
<b>APEX OF LEAFLET:</b>	1 = Acute 	2 = Acuminate 	3 = Cuspidate 	4 = Obtuse 	
<b>BASE OF LEAFLET:</b>	1 = Obtuse 	2 = Oblique 	3 = Cordate 	4 = Cuneate 	5 = Attenuate 

4

5. FLOWER COLOR AND DAYS TO BLOOM

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COLOR OF STANDARD: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

COLOR OF KEEL: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

COLOR OF WINGS: 1 = White; 2 = Cream; 3 = Pink; 4 = Blue; 5 = Purple

Days to 50% bloom

6. POD MORPHOLOGY (Green pod morphology optional)

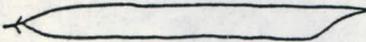
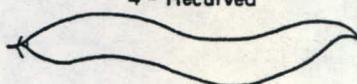
Green  Mature  COLOR PATTERN: 1 = Solid; 2 = Striped; 3 = Blotched; 4 = Mottled; 5 = Other blotches on mature pods are transient, bleach out.

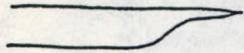
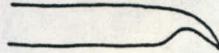
PRIMARY COLOR: 1 = Purple; 2 = Red; 3 = Green; 4 = Yellow; 5 = Tan; 6 = Brown; 7 = Other \_\_\_\_\_

COLOR MODIFIER: 1 = Light; 2 = Light Medium; 3 = Medium; 4 = Medium Dark; 5 = Dark

SECONDARY COLOR: 1 = Purple; 2 = Red; 3 = Green; 4 = Yellow; 5 = Tan; 6 = Brown; 7 = Other \_\_\_\_\_

CROSS SECTION SHAPE: 1 = Flat  2 = Pear  3 = Round  4 = Figure Eight 

POD CURVATURE: 1 = Straight  2 = Slightly Curved   
3 = Curved  4 = Recurved 

POD BEAK ORIENTATION: 1 = Straight  2 = Curved Upward  3 = Curved Downward  4 = Variable Average beak length, in cm. \_\_\_\_\_

CONSTRICTIONS: 1 = None; 2 = Slight; 3 = Deep

Average number of seeds per pod

7. SEED COLOR

1 = Shiny; 2 = Dull; 3 = Semishiny; 4 = Variable

1 = Monochrome; 2 = Polychrome

PRIMARY COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other \_\_\_\_\_

SECONDARY COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other \_\_\_\_\_

COLOR PATTERN: 1 = Solid; 2 = Splashed; 3 = Mottled; 4 = Striped; 5 = Flecked; 6 = Dotted

HILAR RING: 1 = Absent; 2 = Present

HILAR RING COLOR: 1 = White; 2 = Yellow; 3 = Buff; 4 = Tan; 5 = Brown; 6 = Pink; 7 = Red; 8 = Purple; 9 = Blue; 10 = Black; 11 = Other \_\_\_\_\_

8. SEED SHAPE AND WEIGHT

SHAPE OF SEED TAKEN FROM MIDDLE OF POD: 1 = Round  2 = Oval  3 = Cuboid  4 = Kidney  5 = Truncate Fastigiate 

Dry seed weight in g/100g seeds (adjusted to 12% moisture)

9. ANTHOCYANIN PIGMENTATION

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1 = ABSENT  
2 = PRESENT

<input checked="" type="checkbox"/> 2	Flowers	<input type="checkbox"/> 1	Stems	<input checked="" type="checkbox"/> 2	Pods	<input checked="" type="checkbox"/> 2	Seeds
<input checked="" type="checkbox"/> 1	Leaves	<input type="checkbox"/> 1	Petioles	<input type="checkbox"/> 1	Peduncles	<input type="checkbox"/> 1	Nodes

10. KNOWN DISEASE REACTION

DISEASES - COMMON NAME: Anthracnose, Rust, Powdery mildew, Fusarium root rot, Pythium root rot, Rhizoctonia root rot, Pythium wilt, Sclerotinia white mold, Angular leaf spot, Bacterial wilt, Halo blight, Fuscous blight, Common bacterial blight, Red node virus, Pod mottle virus, Bean common mosaic virus, Bean yellow mosaic virus, Curly top virus, Bacterial brown spot, Bean southern mosaic virus, Other (specify) \_\_\_\_\_

REACTION: 1 = Susceptible; 2 = Resistant; 3 = Tolerant; 4 = Avoidance

(Give the common name (CN), scientific name (SN), and race(s), where applicable)

2 DISEASE: CN Bean Common Mosaic Virus SN \_\_\_\_\_ ; Race(s) all ("I" gene)

DISEASE: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Race(s) \_\_\_\_\_

DISEASE: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Race(s) \_\_\_\_\_

DISEASE: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Race(s) \_\_\_\_\_

DISEASE: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Race(s) \_\_\_\_\_

DISEASE: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Race(s) \_\_\_\_\_

11. KNOWN INSECT/NEMATODE RESISTANCE

PESTS - COMMON NAME: Aphids, Bean pod weevil, Bruchid beetle, Corn earworm, Flea beetle, Leaf hopper, Lesion nematode, Lygus, Mexican bean beetle, Root knot nematode, Corn seed maggot, Spider mites, Thrips, Weevils, Western bean cutworm, Other (specify) \_\_\_\_\_

REACTION: 1 = Susceptible; 2 = Resistant; 3 = Tolerant; 4 = Avoidance

(Give the common name (CN), scientific name (SN), and biotype, where applicable)

PEST: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Biotype \_\_\_\_\_

PEST: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Biotype \_\_\_\_\_

PEST: CN \_\_\_\_\_ ; SN \_\_\_\_\_ ; Biotype \_\_\_\_\_

12. KNOWN PHYSIOLOGICAL STRESS REACTION

1 = Susceptible; 2 = Resistant; 3 = Tolerant; 4 = Avoidance

Heat  Cold  Drought  Air Pollution

Nutrient toxicity or deficiency (specify nutrient) \_\_\_\_\_

Other \_\_\_\_\_

13. COMMENTS

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Asgrow Seed Company  
PVP Application  
Garden Bean, XP-B212  
May 1, 1989

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

XP-B212 was originated and developed by David M. Webster, Asgrow Plant Breeder. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are **retained** by the employee.