

No.

9000056



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Harris Moran 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 (ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Espada'

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 28th day of February in the year of our Lord one thousand nine hundred and ninety-two.

Attest.

Kenneth Howard
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
Secretary of Agriculture

No.

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BEAN

'Espada'

Replacement for lost certificate
* Original grant February 28, 1992

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 November in the year of our Lord one thousand nine hundred and ninety-five.

Attest:

Marsha A. Stanton
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Don Feltman
Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

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).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) HARRIS MORAN SEED COMPANY		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. MOX or HMX 8051	3. VARIETY NAME ESPADA
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 100 BREEN ROAD SAN JUAN BAUTISTA, CA. 95045		5. PHONE (Include area code) (408) 623-4323	FOR OFFICIAL USE ONLY PVPO NUMBER <p style="text-align: center; font-size: 24pt;">9000056</p> F I L I N G Date Dec. 26, 1989 Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M. F E E S Filing and Examination Fee: \$ 2150.- Date Dec. 26, 1989 R E C E I V E D Certificate Fee: \$ 250.- Date Dec. 24, 1991
6. GENUS AND SPECIES NAME PHASEOLUS VULGARIS L.	7. FAMILY NAME (Botanical) LEGUMINOSAE		
8. CROP KIND NAME (Common Name) GARDEN BEAN		9. DATE OF DETERMINATION <i>Per phone call</i> August 1983 4 Feb 1992 AAA	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) CORPORATION			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION MARYLAND		12. DATE OF INCORPORATION JANUARY 11, 1985	

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
**STEVE MAGNUSON
 HARRIS MORAN SEED COMPANY
 100 BREEN ROAD
 SAN JUAN BAUTISTA, CA. 95045** (408) 623-4323
 PHONE (Include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. Exhibit A, Origin and Breeding History of the Variety.
- b. Exhibit B, Novelty Statement.
- c. Exhibit C, Objective Description of Variety.
- d. Exhibit D, Additional Description of Variety.
- e. Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office 12/22/89
- g. Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

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.)
 YES (If "YES," answer items 16 and 17 below) NO (If "NO," skip to item 18 below)

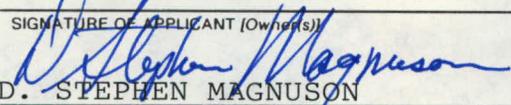
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
 YES NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
 FOUNDATION REGISTERED CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
 YES (If "YES," through Plant Variety Protection Act Patent Act. Give date: _____)
 NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
 YES (If "YES," give names of countries and dates) **JANUARY 1989**
 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 (Owner(s))  D. STEPHEN MAGNUSON	CAPACITY OR TITLE PLANT BREEDER HARRIS MORAN SEED CO.	DATE 12/22/89
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A,B,C,E; (3) at least 2,500 viable untreated seeds; (4) check, drawn on a U.S. bank, payable to "Treasurer of the United States" in the amount of \$2,150 (\$250 filing fee and \$1,900 examination fee). (See section 180.175 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for 30 days, then returned to the applicant as unfiled. Mail application and other requirements to: Plant Variety Protection Office, AMS, USDA, Rm. 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the Application are self-explanatory unless noted below. Corrections on the Application form and Exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a Certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$250 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: 301/344-2518

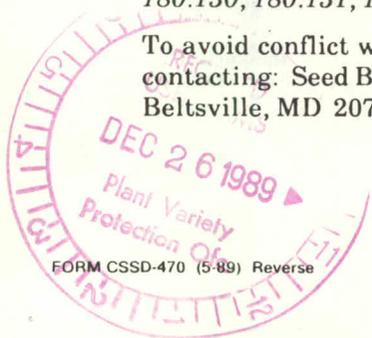
ITEM

9. Give the date when there has been at least a tentative determination that the variety has been sexually reproduced with recognized characteristics, whether or not the novelty of those characteristics has been determined. [See section 41(d) of the Plant Variety Protection Act (Act).]
- 14a. 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 uniformity and stability. (See sections 41 and 52 of the Act.)
- 14b. 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 are clear differences; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons which clearly indicate novelty.
- 14c. Exhibit C forms are available from the PVPO; specify crop kind. Fill in the Exhibit C (Objective Description of Variety form) to describe your variety.
- 14d. Optional additional characteristics and/or photographs: Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 14e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.
15. 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 this affirmative decision after the variety has either been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified the applicant may change the choice. (See section 180.16 of the Regulations and Rules of Practice.)
19. See sections 41 (i, j) and 42 of the Act and section 180.7 of the Regulations and Rules of Practice for eligibility requirements.

NOTES:

It is the responsibility of the applicant/owner to keep the PVPO informed of any change of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is \$25. [See section 101 of the Act, and sections 180.130, 180.131, 180.132, and 180.175(h) of the Regulations and Rules of Practice.]

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Rm. 213, Building 306, Beltsville Agricultural Research Center -- East, Beltsville, MD 20705. Telephone: 301/344-2089.





HARRIS MORAN SEED COMPANY

100 Breen Road, San Juan Bautista, CA 95045

(408) 623-4323

GARDEN BEAN - 'ESPADA'

EXHIBIT A: ORIGIN AND BREEDING HISTORY OF THE VARIETY

ESPADA is derived from the cross:

Slenderette X RH13/ (Astro/Rebel)

The cross was made in the Fall of 1980; the F1 grown in the greenhouse in Spring 1981 and the F2 was selected in plot 7CA73 (selection one) on August 17, 1981. A straight pedigree system was used. The F3 (Fall 1981) and F6 (Fall 1983) were greenhouse selections from halo blight screenings. The initial bulk was made in the F8 in Spring 1985 near Los Mochis, Mexico.

RH13 is a snapbean line released by "Station d'Amelioration des Plantes INRA" at Versailles, France. The line is halo blight resistant (derived from PI150414), Anthracnose resistant (Arc gene from Cornell 49242), BCMV resistant (I gene, derived from Processor) and CYVV (derived from Great Northern UI-123). The pod on RH13 is the small European "whole-pack" type.

Espada has appeared uniform for horticultural type for the past four generations in trials throughout the United States and Europe except for a flat pod mutant that was detected in a stock seed field in Idaho during the Summer of 1989. The level of the mutant was one out of five hundred plants.

GARDEN BEAN - ESPADA

EXHIBIT B: NOVELTY STATEMENT

ESPADA is most similar to Labrador but differs from Labrador in that Espada is resistant to halo blight, race 2, (in foliage and pod) whereas Labrador is susceptible. Halo blight resistance of Espada derives from and is equivalent to PI 150414.

Espada was compared to Labrador because the pods are identical in color (RHS Colour chart-143A), texture, and shape. The breeder considers the above two varieties as being in the Slenderette class because of pod texture (gloss) and shape, but the pods are darker than Slenderette (143C). The halo blight resistance (Race 2, Nebraska HB-16) in both foliage and pod, separates Espada from all other varieties in its class.

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
 BELTSVILLE, MARYLAND 20705

EXHIBIT C
 (Bean)

OBJECTIVE DESCRIPTION OF VARIETY
 BEAN (*Phaseolus vulgaris* L.)

NAME OF APPLICANT(S) HARRIS MORAN SEED COMPANY	FOR OFFICIAL USE ONLY
	PVPO NUMBER 9000056
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 100 BREEN ROAD SAN JUAN BAUTISTA, CA. 95045	VARIETY NAME OR TEMPORARY DESIGNATION ESPADA

Place numbers in the boxes (e.g.) for the characters that best describe this variety. Measured data should be for SPACED PLANTS. Ranges may also be given. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: Royal Horticultural Society. The location of test area is San Juan Bautista, Calif. Please answer questions appropriate for your variety if the information is available.

1. TYPE:

1 = Field (dry-edible) 2 = Garden

2. MARKET MATURITY:

Days to edible pods Days to green shells

Days to dry seeds

Heat units to edible pods Heat units to green shells

Heat units to dry seeds

No. days earlier than }
 Same as ... }
 No. days later than }

1 = Tendercrop 2 = Kentucky Wonder
 3 = Kinghorn Wax 4 = White Kidney
 5 = Michelite 62 6 = Dwarf Horticultural
 7 = Bush Blue Lake 290 8 = Other (specify below)

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

cm shorter than }
 Same as ... } comparison variety from above

cm taller than }

cm spread Number primary branches near base

cm narrower than }
 width same as ... } comparison variety from above

cm wider than }

1 Main stalk: 1 = brittle 2 = wirey 1 1 = stout 2 = thin

3. PLANT: (Cont'd)

3 Pod position: 1 = low 2 = high 3 = scattered

4 Bush form (illustrated below):



1 = spherical bush form

2 = stem bush form

3 = wide bush form

4 = high bush form

5 = other (specify) _____

4. LEAVES:

1 1 = smooth 2 = wrinkled

1.5 1 = dull 2 = glossy

3 Size: 1 = small (Earliwax) 2 = medium 3 = large (Tendercrop)

1 Color: 1 = light green (as light or lighter than Bountiful) 2 = medium green
3 = dark green (as dark or darker than Bush Blue Lake 290)

5. FLOWERS:

1 Color: 1 = white 2 = cream 3 = pink 4 = lilac 5 = purple 6 = Other (specify) _____

Days to 50% bloom

6. FRESH PODS: (Edible maturity, average for 20 pods)

3 Exterior color: 1 = light green (as light or lighter than Bountiful)
2 = medium green
3 = dark green (as dark or darker than Bush Blue Lake 290)
4 = light yellow (Brittlewax)
5 = golden yellow (Cherokee Wax)
6 = green-red variegated (Horticultural)
7 = other (specify)

% Sieve size distribution at optimum maturity for non-flat pods

Note:

- 1 = 4.76 mm to 5.76 mm
- 2 = 5.76 mm to 7.34 mm
- 3 = 7.34 mm to 8.34 mm
- 4 = 8.34 mm to 9.53 mm
- 5 = 9.53 mm to 10.72 mm
- 6 = 10.72 mm or larger

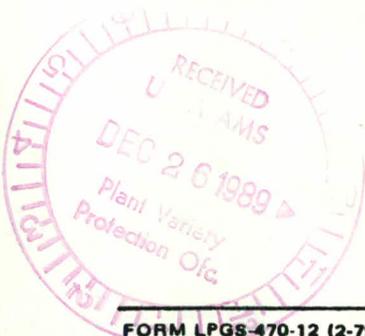
1	2	3	4	5	6
7	21	17	44	11	-

3 sieve 1 3 cm length mm width mm thickness

4 sieve 1 4 cm length mm width mm thickness

5 sieve 15 cm length mm width mm thickness

6 sieve cm length mm width mm thickness



6. FRESH PODS: (Cont'd)

- 3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 1 Creaseback: 1 = present 2 = absent
- 2 Pubescence: 1 = none 2 = sparse 3 = considerable
- 2 Spur: 1 = straight 2 = slightly curved 3 = curved
- 1 Constrictions: 1 = none 2 = slight 3 = deep
- 3 Pod flesh: 1 = light 2 = medium 3 = dark
- 1 4 mm spur length
- 2 Fiber: 1 = none 2 = sparse 3 = considerable
- 7 Number of seeds per pod
- 1 Surface: 1 = smooth 2 = rough
- 2 Suture string: 1 = present 2 = absent
- 1 Seed development (Snap Bean): 1 = slow 2 = medium 3 = fast
- 1 Machine harvest: 1 = adapted 2 = not adapted
- 1 Pod flavor: (1) Standard (Tendercrop)
 (2) Mild Blue Lake (BBL 274)
 (3) Strong Blue Lake (Pole FM1)
 (4) Mild Romano (Roma)
 (5) Strong Romano (Pole Romano)
 (6) Other (specify) _____

7. SEED COAT COLOR:

- 1 1 = Monochrome 2 = Polychrome 1 1 = shiny 2 = dull
- 1 Primary color: 1 = white 2 = yellow 3 = buff 4 = tan
- Secondary color: 5 = brown 6 = pink 7 = red 8 = purple
 9 = blue 10 = black 11 = other (specify) _____
- 1 Color Pattern: 1 = none 2 = splashed 3 = mottled 4 = striped 5 = flecked 6 = dotted
- Secondary color location: 1 = hilar ring 2 = ventral surface
 3 = sides 4 = dorsal surface
 5 = not restricted to any area 6 = combination of location (specify below) _____
- Hilar ring on colored seeds: 1 = absent 2 = narrow 3 = butterfly shaped

8. SEED SHAPE AND SIZE:

- 2 Hilum view: 1 = elliptical 2 = oval 3 = round 2 Cross section: 1 = elliptical 2 = oval 3 = cordate 4 = round
- 1 Side view:  1 = oval to oblong  2 = round  3 = reniform

8. SEED SHAPE AND SIZE: (Cont'd)

1 = truncate ends 2 = rounded ends

2 8 gm/100 seed

7 gm/100 seed lighter than 1

gm/100 seed same as

gm/100 seed heavier than

} comparison variety from page one

9. ANTHOCYANIN: (1 = absent 2 = present)

1 Flowers

1 Stems

1 Pods

1 Seeds

1 Leaves

10. DISEASE RESISTANCE (0 = not tested 1 = susceptible 2 = resistant):

2 Anthracnose (specify race below)
Delta

0 Fuscous blight

1 Rust (specify race below) 38

0 Red node virus

0 Powdery mildew

0 Pod mottle virus

1 Fusarium root rot

2 Bean common mosaic virus (specify strain below)
NY 15 (23°c)

1 Pythium root rot

Mosaic mottle

0 Rhizoctonia root rot

Black root

0 Pythium wilt

1 Bean yellow mosaic virus

0 Angular leaf spot

1 Curly top

0 Bacterial wilt

1 Other (specify below)
Clover Yellow Vein Virus

2 Halo blight (specify race below)
Race 2

11. INSECT RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

0 Aphids

0 Root knot nematode

0 Leaf hopper

0 Seed corn maggot

0 Lygus

0 Thrips

0 Pod borer

0 Weevils

0 Other (specify below)

12. PHYSIOLOGICAL RESISTANCE: (0 = not tested 1 = susceptible 2 = resistant)

0 Heat

0 Cold

0 Drought

0 Air pollution

13. COMMENTS:

BCM necrotic reactions with NL-3 strain indicate that Espada contains the dominant I gene.

9000056

EXHIBIT E: STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

GARDEN BEAN: ESPADA

Harris Moran Seed Company is the owner of ESPADA cultivar of Garden Bean. This variety was developed solely from Company funds.