

No.



900057

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Ferry-Morse 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, 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 (T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Satin'

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 H. Sloan*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Edward Madison*  
Secretary of Agriculture

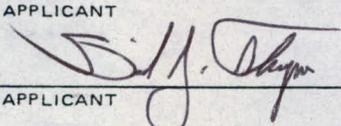
U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

**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) FERRY-MORSE SEED COMPANY		2. TEMPORARY DESIGNATION FM-93		3. VARIETY NAME SATIN	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 555 CODONI P.O. BOX 4938 MODESTO, CALIFORNIA 95352		5. PHONE (Include area code) 209/579-7333		FOR OFFICIAL USE ONLY VPPO NUMBER 9000057	
6. GENUS AND SPECIES NAME Phaseolus vulgaris L.		7. FAMILY NAME (Botanical) Leguminoisae		FILING DATE Dec. 27 1989 TIME 9:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
8. KIND NAME Garden bean		9. DATE OF DETERMINATION April, 1989		FEES RECEIVED AMOUNT FOR FILING \$ 1800.00 + 350.00 DATE Dec. 20, 1989, Jan. 16, 1990 AMOUNT FOR CERTIFICATE \$ 250.00 DATE Feb. 7, 1992	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) CORPORATION				12. DATE OF INCORPORATION 7 APRIL 1969	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION CALIFORNIA				12. DATE OF INCORPORATION 7 APRIL 1969	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS <del>DAVID J. THOMPSON</del> LARRY GAUTNEY AAA 24 FEB. 1992 FERRY-MORSE SEED COMPANY P.O. BOX 4938 MODESTO, CALIFORNIA 95352 PHONE (Include area code): 209/579-7333					
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 checked="" 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 checked="" type="checkbox"/> No			17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? N/A <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? Ferry-Morse Price List (domestic) of 11/17/89 <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 				DATE 12 DECEMBER 1989	
SIGNATURE OF APPLICANT				DATE	

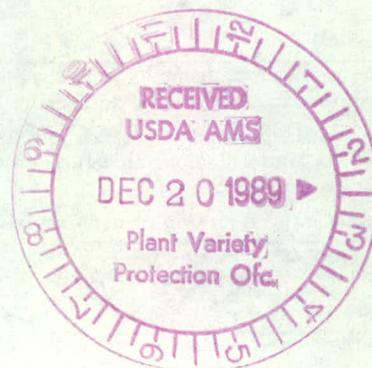
## INSTRUCTIONS

**General:** Send an original copy of the application and exhibits, at least 2,500 viable seeds (*furnish only untreated seed*), and \$1,800 fee (*\$200 filing fee and \$1,600 examination fee*) to the U. S. Department of Agriculture, Agricultural Marketing Service, Plant Variety Protection Office, National Agricultural Library Building, 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

- 9 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.
- 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.
- 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 clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d 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.
- 14e Section 52(4) of the Plant Variety Protection 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 his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (*See Section 180.16 of the Regulations and Rules of Practice.*)
- 19 See Sections 41 (i,j) and 42 of the Plant Variety Protection Act and Section 180.7 of the Regulations and Rules of Practice for eligibility requirements.

NOTE: All information submitted in support of an application becomes PUBLIC INFORMATION once the certificate is issued. (*See Section 180.17 of the Regulations and Rules of Practice.*)



VARIETY: Satin (formerly FM-93 (formerly 1D-93 (formerly Gitana Pros-(C)J(W)Ms(MT)Ms(W)Ms)))

Exhibit A: Origin and Breeding History of the Variety

Satin originated as a single plant selection through the pedigree method of breeding out of the cv Gitana Pros. In the summer of 1977 a row of Gitana Pros was planted in the field at San Juan Bautista, California. Ten single plant selections ( $S_1$ ) were made in the row and  $S_2$  seed was saved from each plant separately.

$S_2$  seed from each  $S_1$  selection was planted to separate rows in Sun Prairie, Wisconsin, in the summer of 1978. The Gitana Pros-(C)J selection was noted to have a slightly taller plant, higher pod height, earlier and more concentrated maturity, larger pod diameter, and slightly lighter pod color than Gitana Pros. Five  $S_2$  selections were taken from the row and their  $S_3$  seed was bulk massed. A portion of the  $S_3$  seed of Gitana Pros-(C)J(W)Ms was planted in the greenhouse at Sun Prairie, Wisconsin, in January, 1979, for testing for resistance to the NY15 strain of Common Bean Mosaic Virus and to increase to the  $S_4$  generation.

$S_4$  seed of Gitana Pros-(C)J(W)Ms(MT)Ms was planted back to the field at Sun Prairie in the summer of 1979. Again in comparison to Gitana Pros, the  $S_4$  row was noted to have a larger, less upright plant; earlier more concentrated maturity; heavier yield; and lighter pod color. Five  $S_4$  selections were made in this row and their  $S_5$  seed was bulk massed.

$S_5$  seed of Gitana Pros-(C)J(W)Ms(MT)Ms(W)Ms was planted in the field at San Juan Bautista, California, in the summer of 1980. Distinctiveness from Gitana Pros (earliness, pod color, pod width as well as length) continued to be expressed. Five  $S_5$  singles were taken and a bulk mass of the seed from the remaining plants was harvested from the row. In January, 1981, the  $S_6$  seed of Gitana Pros-(C)J(W)Ms(MT)Ms(W)Ms(C)Ms was redesignated 1D-93 for further intensive evaluation and increase.

In the summer of 1981 1D-93 was evaluated in trials in Wisconsin, New York, and Oregon and 200 foot of double row was planted for seed increase at San Juan Bautista, California. 1D-93 was rated in the field at Wisconsin as very good, in New York as good, and in Oregon as excellent. In California the row for seed increase was rated good; no offtypes were observed, and the variety was uniform for type and distinguishability from Gitana Pros. Twenty-one pounds of first generation increase of 1D-93 was harvested.

In 1982 1D-93 was evaluated in Wisconsin, New York, and Oregon trials and 1000 foot of double row was planted for seed increase in San Juan Bautista, California. However the evaluation trial in Oregon showed segregation for long, pale green, oval pods compared to the medium short, medium dark green, round pods of 1D-93. In the California increase, in addition to the long, pale

green, oval pods, there were also short, round, wax pods segregating in the seed increase row. It was concluded that outcrossing had occurred in the line at a previous time and it was not suitable for further evaluation. Further evaluation of 1D-93 did not occur in 1982 and 1983.

Renewed interest in 1D-93 as a "whole pack" type green bean arose in the fall of 1983. Fifty single plant selections ( $S_1$ ) were taken from the first generation increase of 1D-93 seed grown at San Juan Bautista, California, in the summer of 1981. The  $S_2$  seed from each of the fifty single plant selections was planted in progeny rows at San Juan Bautista, California, in the summer of 1984. None of the rows segregated for offtypes; all were uniform for the 1D-93 characteristics.  $S_3$  seed was harvested from each row and held separately.

In 1985  $S_3$  seed from each of the 1984 1D-93 progeny rows was again planted back into individual progeny rows at San Juan Bautista, California. All rows, except one, were true to type; the one row exception segregated 1 oval podded plant.  $S_4$  seed from the progeny rows true to type was bulk massed with the  $S_3$  seed of the same progeny rows. The line was concluded to be uniform for type and reproducible. The bulk massed  $S_3$  and  $S_4$  seed (70 pounds) of 1D-93 was transferred to the Quality Control department in March of 1986 for further increase and potential marketing of the variety.

In the summer of 1986 one acre of 1D-93 was grown at San Juan Bautista, California. Among approximately 100,000 plants, 17 probable mixtures and/or outcrosses were rogued (4 vine plant types with white flowers, 5 vine plant types with purple flowers, 4 bush plant types with purple flowers, and 4 bush plants with larger pod diameter and longer pod length than 1D-93). Approximately 2000 pounds of seed was harvested. 1D-93 was sampled for trial as FM-93 in further testing.

In 1987 and 1988 small commercial trials were placed without definite interest in release and introduction of FM-93. Further seed increase would remain until 1989. FM-93 was tentatively named Satin in January, 1988. The decision to introduce and market Satin as a new variety was made in April, 1989.

VARIETY: Satin (formerly FM-93 (formerly 1D-93 (formerly Gitana Pros-(C)J(W)Ms(MT)Ms(W)Ms)))

Exhibit B: Data Indicative of Novelty

Satin is most similar to the variety Gitana Pros. Satin can be distinguished from Gitana Pros by a longer pod length and a lighter pod color, also Satin is only resistant to the beta and gamma races of Anthracnose (Colletotrichum lindemuthianum) whereas Gitana Pros is resistant to these and additionally alpha and delta races.

1) Pod length

a) Sun Prairie, Wisconsin. Planted June 20, 1985.

	<u>Satin</u>	<u>Gitana Pros</u>	<u>diff.</u>	<u>t</u>	<u>d.f.</u>	<u>p</u>
pod length(cm)	11.11	9.72	1.39	12.52	198	<.001

b) Sun Prairie, Wisconsin. Planted June 16, 1987.

	<u>Satin</u>	<u>Gitana Pros</u>	<u>diff.</u>	<u>t</u>	<u>d.f.</u>	<u>p</u>
pod length(cm)	9.78	9.45	0.33	2.96	195	.005-.001

c) San Juan Bautista, California. Planted June 19, 1987.

	<u>Satin</u>	<u>Gitana Pros</u>	<u>diff.</u>	<u>t</u>	<u>d.f.</u>	<u>p</u>
pod length(cm)	11.17	10.27	0.90	9.29	198	<.001

d) Sun Prairie, Wisconsin. Planted June 28, 1989.

	<u>Satin</u>	<u>Gitana Pros</u>	<u>diff.</u>	<u>t</u>	<u>d.f.</u>	<u>p</u>
pod length(cm)	10.76	9.80	0.96	8.02	98	<.001

e) San Juan Bautista, California. Planted June 21, 1989.

	<u>Satin</u>	<u>Gitana Pros</u>	<u>diff.</u>	<u>t</u>	<u>d.f.</u>	<u>p</u>
pod length(cm)	10.77	10.29	0.48	4.99	198	<.001

2) Pod color of Satin is slightly lighter green than Gitana Pros as demonstrated in the attached photograph.

3) The reaction of 25 seedlings of Satin and Gitana Pros to Anthracnose (Colletotrichum lindemuthianum) was tested in the Ferry-Morse Seed Company plant pathology laboratory in October, 1986. The reaction of each variety to the four races is presented here.

Race of Anthracnose

	<u>alpha</u>	<u>beta</u>	<u>gamma</u>	<u>delta</u>
<u>Satin</u>	susc.	resist.	resist.	susc.
<u>Gitana Pros</u>	resist.	resist.	resist.	resist.

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) Ferry-Morse Seed Company	FOR OFFICIAL USE ONLY	
	PVPO NUMBER 9000057	VARIETY NAME OR TEMPORARY DESIGNATION SATIN
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) PO Box 4938 Modesto, CA 95352-4938		

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: \_\_\_\_\_ . The location of test area is Sun Prairie, Wisconsin . 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

<input type="text" value=""/> <input type="text" value="2"/> No. days earlier than	<input type="text" value="1"/> <input type="text" value="8"/> } comparison variety from above	1 = Tendercrop 3 = Kinghorn Wax 5 = Michelite 62 7 = Bush Blue Lake 290	2 = Kentucky Wonder 4 = White Kidney 6 = Dwarf Horticultural 8 = Other (specify below) <u>Gitana Pros</u>
..... Same as .....			
<input type="text" value=""/> <input type="text" value=""/> No. days later than	<input type="text" value=""/> <input type="text" value=""/> }		
.....			

3. PLANT:

1 = Determinate      2 = Indeterminate

cm height

<input type="text" value=""/> <input type="text" value="1"/> cm shorter than	<input type="text" value="1"/> <input type="text" value="8"/> } comparison variety from above
..... Same as .....	

cm taller than

cm spread         Number primary branches near base

<input type="text" value=""/> <input type="text" value=""/> cm narrower than	<input type="text" value=""/> <input type="text" value="8"/> } comparison variety from above	<input type="text" value="1"/> Branching habit: 1 = compact    2 = open
..... width same as .....		

cm wider than

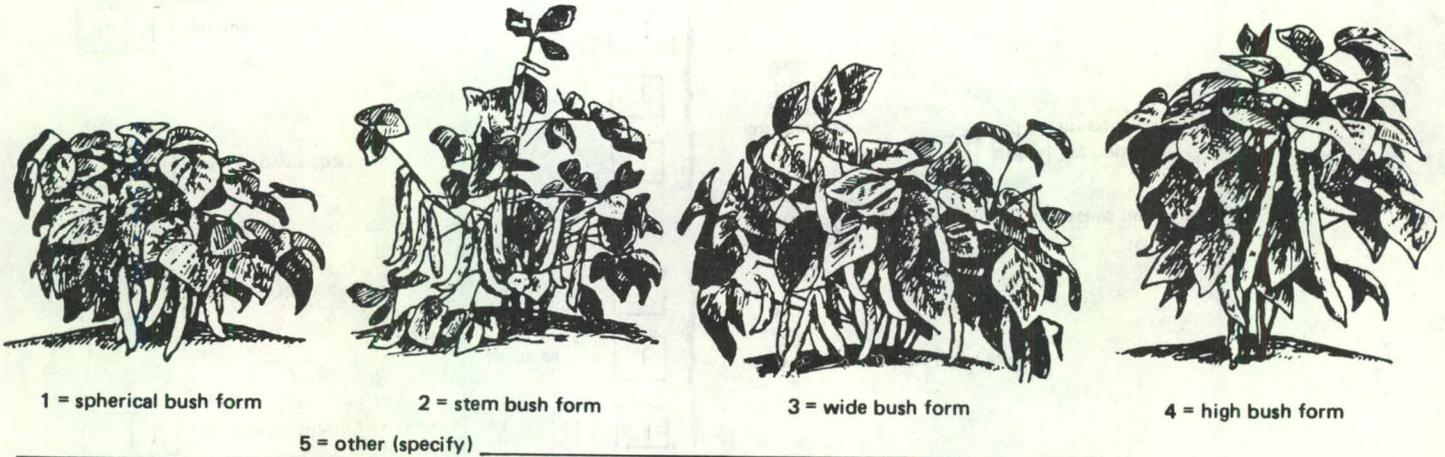
Main stalk: 1 = brittle    2 = wirey       1 = stout    2 = thin

5

3. PLANT: (Cont'd)

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

Bush form (illustrated below):



4. LEAVES:

1 = smooth 2 = wrinkled

1 = dull 2 = glossy

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

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:

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)

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
5	38	57	0	0	0

3 sieve	<input type="text" value="1"/> <input type="text" value="1"/>	cm length	<input type="text" value="0"/> <input type="text" value="8"/>	mm width	<input type="text" value="0"/> <input type="text" value="9"/>	mm thickness
4 sieve	<input type="text"/>	cm length	<input type="text"/>	mm width	<input type="text"/>	mm thickness
5 sieve	<input type="text"/>	cm length	<input type="text"/>	mm width	<input type="text"/>	mm thickness
6 sieve	<input type="text"/>	cm length	<input type="text"/>	mm width	<input type="text"/>	mm thickness

6. FRESH PODS: (Cont'd)

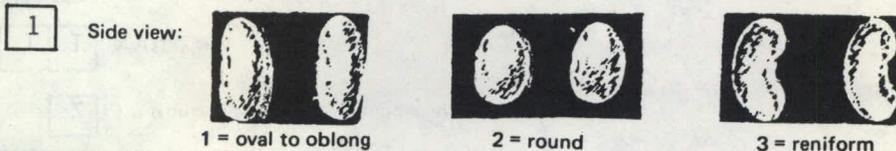
- 3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 1 Creaseback: 1 = present 2 = absent
- 2.5 Pubescence: 1 = none 2 = sparse 3 = considerable
- 2 Spur: 1 = straight 2 = slightly curved 3 = curved
- 2 Constrictions: 1 = none 2 = slight 3 = deep
- 2.5 Pod flesh: 1 = light 2 = medium 3 = dark
- 1 0 mm spur length
- 2 Fiber: 1 = none 2 = sparse 3 = considerable
- 6 Number of seeds per pod
- 1 Surface: 1 = smooth 2 = rough
- 2 Suture string: 1 = present 2 = absent
- 1.5 Seed development (Snap Bean): 1 = slow 2 = medium 3 = fast
- 1 Machine harvest: 1 = adapted 2 = not adapted
- 2 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  2 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:

- 1 Hilum view: 1 = elliptical 2 = oval 3 = round  2 Cross section: 1 = elliptical 2 = oval 3 = cordate 4 = round



7  
509002



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

2 1 = truncate ends 2 = rounded ends

1  1 gm/100 seed

gm/100 seed lighter than .....  }  
gm/100 seed same as ....  8 } comparison variety from page one  
  gm/100 seed heavier than .....  }

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)  
beta, gamma

2 Rust (specify race below)  
rates 38 and 49

0 Powdery mildew

0 Fusarium root rot

0 Pythium root rot

0 Rhizoctonia root rot

0 Pythium wilt

0 Angular leaf spot

0 Bacterial wilt

0 Halo blight (specify race below)  
\_\_\_\_\_

0 Fuscous blight

0 Red node virus

0 Pod mottle virus

2 Bean common mosaic virus (specify strain below)  
NY15 strain

2 Mosaic mottle

0 Black root

0 Bean yellow mosaic virus

0 Curly top

0 Other (specify below)  
\_\_\_\_\_

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

0 Aphids

0 Leaf hopper

0 Lygus

0 Pod borer

0 Root knot nematode

0 Seed corn maggot

0 Thrips

0 Weavils

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:

8

VARIETY: Satin (formerly FM-93 (formerly 1D-93 (formerly Gitana Pros-(C)J(W)Ms(MT)Ms(W)Ms)))

Exhibit D: Botanical Description of the Variety

Seed germination is moderately vigorous and rate of emergence medium; seedling growth is medium in vigor. Flowering is early to midseason, earlier than Tendercrop. Pods reach market maturity in early midseason, earlier than Tendercrop.

Plants are medium upright and tend to spread. Leaves are dark green (darker than Tendercrop), ovate, acuminate in shape with rounded to truncated bases. Leaves are moderately smooth, and pubescent. Stems are medium in thickness and smooth. Inflorescences arise from the apex and leaf axils and contain 4 to 6 moderately small white flowers. Pods are medium high and are spread throughout the plant but under the foliage.

Pods vary from 8 to 12 cm in length, 7 to 8 mm diameter from suture to suture, and 7 to 9.5 mm diameter from sidewall to sidewall. Pods are generally round, early, becoming slightly creaseback at a late maturity, straight, slight bumpiness over the seed cavity, moderately pubescent, medium to medium dark green in color (slightly lighter green than Tendercrop) with a medium short spur (8 to 13 mm). Pod flesh is very firm, small tight seed cavities with very little interocular cavitation, (much firmer flesh and much less tendency to cavitation than Tendercrop). Seed and fiber development is moderately slow.

Seeds are white, oblong, oval in cross-section and small in size.

EXHIBIT "E"

Plant Variety Protection Application

9000057

No: \_\_\_\_\_

ASSIGNMENT

I, George C. Emery, agree and hereby  
do transfer and assign to FERRY-MORSE SEED COMPANY all of my rights,  
title, and interest in and to that certain variety namely, \_\_\_\_\_  
bush snap bean, SATIN,  
for which application for Plant Variety Protection Certificate has been  
filed. This agreement shall be binding on my administrators, successors  
and assigns.

In Witness Whereof, I have executed this agreement this  
1st day of November, 19 89.

BREEDER

George C. Emery

EXHIBIT "E"

Plant Variety Protection Application

No: 9000057

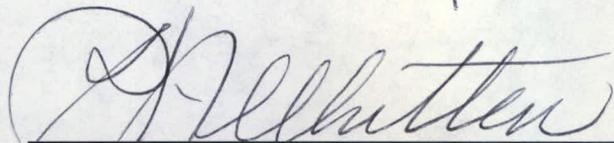
STATEMENT OF OWNERSHIP

I, George R. Allbritten, Secretary of Ferry-Morse Seed Company do hereby certify that Ferry-Morse Seed Company is the breeder and owner of that certain variety namely, Bean, Satin

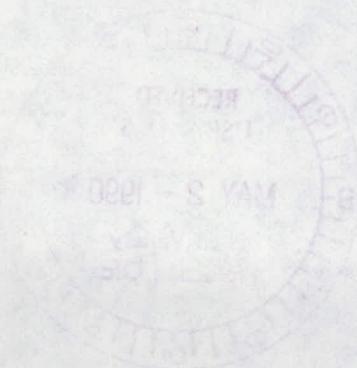
\_\_\_\_\_

for which an application for Plant Variety Protection has been filed.

In witness whereof I have executed this statement of ownership and caused the Ferry-Morse Corporate Seal to be affixed this 27 day of April, 1990.

  
Secretary

SEAL



//

## ASSIGNMENT OF INTELLECTUAL PROPERTY

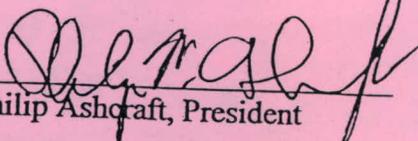
WHEREAS, HARRIS MORAN SEED COMPANY, a corporation duly organized and existing under the laws of the State of Maryland, having its principal place of business at 4511 Willow Road, Suite 3, Pleasanton, California 94588 ("Assignor"), has, pursuant to that certain Bill of Sale and Assignment dated as of June 30, 1997, transferred to FERRY-MORSE SEED COMPANY (CALIFORNIA), a corporation duly organized and existing under the laws of the State of California, having its principal place of business at 555 Codoni Avenue, P.O. Box 4938, Modesto, California 95352-4938 ("Assignee"), all of the intellectual property Assignor had adopted, used and was using as of the effective date of this Assignment, including without limitation, the intellectual property represented by the United States Plant Variety Protection Certificates of Assignor identified on Schedule A hereto (collectively, the "Property"); and

WHEREAS, on the date hereof, Assignee has changed its name to "Harris Moran Seed Company";

NOW, THEREFORE, effective by this instrument as of the close of business on June 30, 1997, and for good and valuable consideration, receipt of which is hereby acknowledged, Assignor hereby assigns to Assignee any and all right, title and interest worldwide in and to the Property and any and all recordations thereof, including, but not limited to, the use of the Property in any manner, all benefit of any and all prior use of the Property, and any and all rights to initiate claims or proceedings for past, present or future infringements of Assignor's rights, title and interest in and to the Property.

Dated: as of June 30, 1997

HARRIS MORAN SEED COMPANY

By: 

Philip Ashcraft, President

CERTIFICATE OF AMENDMENT  
OF THE  
ARTICLES OF INCORPORATION  
OF

FERRY-MORSE SEED COMPANY (CALIFORNIA)  
(a California corporation)

1430010

ENDORSED  
FILED

In the office of the Secretary of State  
of the State of California

JUN 30 1997

*Bill Jones*  
BILL JONES, Secretary of State

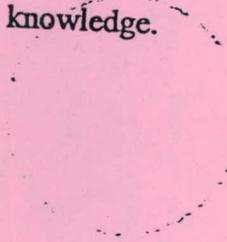
To the Secretary of State  
State of California

Pursuant to the provisions of the General Corporation Law of the State of California, the undersigned officers of FERRY-MORSE SEED COMPANY (CALIFORNIA), a California corporation (the "Corporation"), do hereby certify as follows:

1. The name of the Corporation is Ferry-Morse Seed Company (California).
2. Article One of the Corporation's Articles of Incorporation, which relates to the name of the Corporation, is hereby amended in its entirety to read as follows:
  - One. The name of this Corporation is:  
HARRIS MORAN SEED COMPANY.
3. The amendment herein provided for has been approved by the Corporation's Board of Directors.
4. The amendment herein provided for was approved by the written consent of the Corporation's sole shareholder in accordance with the provisions of Section 902 of the California General Corporation Law. The total number of outstanding shares of the corporation is 5,000.

IN WITNESS WHEREOF, each of the undersigned does hereby declare under the penalty of perjury that he or she signed the foregoing Certificate of Amendment as of June 30,

1997, in the Town of Modesto, State of California, in the official capacity set forth beneath his or her signature and that the statements set forth in this certificate are true of his or her own knowledge.

  
Yves Queste  
Yves Queste, President

Helen Andritsakis  
Helen Andritsakis, Secretary

# State of California

SECRETARY OF STATE



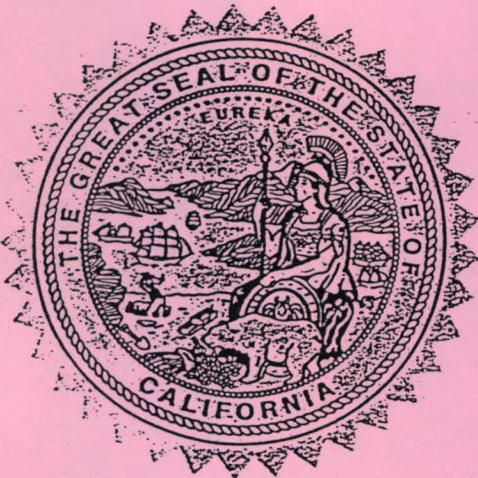
JPAGE

I, *BILL JONES*, Secretary of State of the State of California, hereby certify:

That the attached transcript has been compared with the record on file in this office, of which it purports to be a copy, and that it is full, true and correct.

*IN WITNESS WHEREOF*, I execute this certificate and affix the Great Seal of the State of California this

JUN 30 1997



Secretary of State