

No.

9100109



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

'Pierre'



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 31st day of July in the year of our Lord one thousand nine hundred and ninety-two.

Attest:

Kenneth Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
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) Ferry-Morse Seed Company		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. FM-473	3. VARIETY NAME Pierre
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) 555 Codoni P.O. Box 4938 Modesto, CA 95352		5. PHONE (Include area code) (209) 579-7333	FOR OFFICIAL USE ONLY PVPO NUMBER 9100109
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 April 1990		FILING Date Feb. 15, 1991 Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation		FEE S Filing and Examination Fee: \$250.- Date Feb. 12, 1991	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION California	12. DATE OF INCORPORATION 7 April 1969		RECEIVED Certificate Fee: \$250.- Date June 23, 1992
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Larry Gautney Ferry-Morse Seed Company P.O. Box 1010 San Juan Bautista, CA 95045			
		(408) 637-7461	
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 _____.

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) **U.S. Ferry-Morse Price List of April 12, 1990**

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)] 	CAPACITY OR TITLE Vice President Research	DATE 1 February 1991
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.

VARIETY: Pierre (formerly FM-473, (formerly MV 24-86))

Exhibit A: Origin and Breeding History of the Variety

Pierre originated as a F₅ single plant selection following the pedigree method of selection from the cross of Booz as the seed parent and the pedigreed line, VS 76-79, as the pollen parent. The cross was made in the greenhouse at La Ménitré, France, in November, 1981.

Six F₁ seeds that resulted from the cross were planted in the greenhouse at La Ménitré, France, in January 1982. F₂ seeds were harvested separately from each F₁ plant.

The F₂ seed from the six plants was designated 654 to 659 and planted in consecutive progeny rows in the field at La Ménitré, France, in May, 1982. Overall rating of the rows was very good, particularly for very straight and slender pods. Sixteen F₂ single plant selections were made in the row and their F₃ seed held separately.

F₃ progeny rows, designated 1760 to 1775, were planted in the field at La Ménitré, France, in May, 1983. Six F₃ progeny rows rated good for their nice slender pods with very good color; 45 F₃ single plant selections were made within these six families, and their F₄ seed held separately.

F₄ seed from each selection was planted in progeny rows in La Ménitré, France, in June 1984. The row designated 7432 rated very good for its upright plant habit; nine F₄ single plant selections were made and their F₅ seed held separately.

F₅ seed from each selection was planted in progeny rows in La Ménitré, France, in May 1985. The row designated 24 had a more uniform and longer pod than the others. F₆ seed from the row was bulk-massed and redesignated MV 24-86.

In 1986 MV 24-86 was evaluated in La Ménitré trials. The row had a more concentrated maturity and heavier yield than Booz. F₆ was advanced and increased to the F₇ generation at La Ménitré. No off types were noted amongst 2,000 plants.

In 1987 MV 24-86 was evaluated in trials in La Ménitré, Brittany (western part of France), Arras (northwestern part of France), and Agen (southwestern part of France). MV 24-86 rated very good in each of the trials, particularly for straighter pods and heavier yields than Booz. No off types were again noted in about 5,000 F₇ plants and the line was considered uniform for type.

In 1988 MV 24-86 was trialed in the same French locations as in 1987, but also in the United States under Ferry-Morse Seed Company auspices in Sun Prairie, Wisconsin, and in San Juan Bautista, California. Each trial rated good to very good for upright habit, pod straightness, and heavy yield. Ferry-Morse Seed Company requested and was granted the marketing rights for the potential variety in the fall of 1988 and MV 24-86 was redesignated FM-473.

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In the spring of 1989 Ferry-Morse Seed Company was provided with breeder's seed of FM-473 for advancing the seed increase and further trials in Oregon, New Jersey, Wisconsin, New York, Tennessee, and Florida. The trials all rated good to excellent. The seed increase was carried out in both Idaho and California. No off types were noted in over 40,000 plants, the line was considered genetically stable and reproducible. The decision to introduce FM-473 as a new variety was made on March 15, 1990, and it was named Pierre.

VARIETY: Pierre (formerly FM-473, (formerly MV 24-86))

Exhibit B: Data Indicative of Novelty

Pierre is most similar to cv. Label, but is distinct from Label by having a longer pod length.

A. Pod length was compared over nine trials planted in the United States in different locations and planting dates. Each measurement is the average of five pods randomly picked in paired comparisons of the two varieties. Pods were harvested at maximum diameter just as the seed was beginning to swell in the pods. Pod length is in centimeters.

<u>Trial Location</u>	<u>Planting Date</u>	<u>Pod Length</u>	
		<u>Pierre</u>	<u>Label</u>
Salem, Oregon	May 3, 1989	13.5	13.0
Vineland, New Jersey	May 23, 1989	14.0	12.0
Hancock, Wisconsin	June 3, 1989	15.0	14.0
Crossville, Tennessee	July 12, 1989	15.0	13.0
Geneva, New York	July 3, 1989	15.0	15.5
Sun Prairie, Wisconsin	May 23, 1989	15.0	12.5
Sun Prairie, Wisconsin	June 2, 1989	14.0	13.5
Sun Prairie, Wisconsin	June 5, 1989	15.0	13.5
Sun Prairie, Wisconsin	June 12, 1989	15.5	13.0
	mean	14.7±.22	13.2±.35
	s	0.661	1.03
	Coefficient of variation	4.50	7.80

Mann-Whitney Test for Significant Difference

U = 11

Probability = 0.01

B. San Juan Bautista, California; Planted June 21, 1989.

Experimental Design: Plants of each variety to be compared were grown in plots side by side. Plot length was 30 foot, width was 40 inches from center to center of double row beds. When pods reached full diameter and advanced seed development could be felt in the pod, 1 full pod (no missing seed) was harvested from each of 100 plants.

	<u>Pod Length</u>	
	<u>Pierre</u>	<u>Label</u>
mean	14.6±.11	12.6±.07
s ²	1.255	0.440
s	1.120	0.660
range	12.3-17.4	11.3-14.2
Coefficient of variation	7.67	5.24
Difference of means		2.0
Test for homogeneity of variance		
F		2.78
Probability		<.01
Test for normality		
skewness	0.4009	-0.0702
T-value	1.6609	0.2909
Probability	0.0499	0.3859
kurtosis	-0.6504	-0.7974
T-value	-1.3596	-1.6670
Probability	0.0885	0.0493
T-test of difference of means		
T-value		15.208
Probability		<.001
Mann-Whitney Test		
Test criterion (U)		500.0000
Normal deviation (z)		10.9997
Probability		<.001

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 9100109
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 555 Codoni P.O. Box 4938 Modesto, CA 95352	VARIETY NAME OR TEMPORARY DESIGNATION FM-473

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 _____ . 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 ... }
 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)
 Label

No. days later than

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

Main stalk: 1 = brittle 2 = wirey Branching habit:
 1 = compact 2 = open

1 = stout 2 = thin

6

3. PLANT: (Cont'd)

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

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 = 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
10	40	50	0	0	0

2 ~~3~~ sieve cm length mm width mm thickness

3 ~~4~~ sieve cm length mm width mm thickness

5 sieve cm length mm width mm thickness

6 sieve cm length mm width mm thickness

7

6. FRESH PODS: (Cont'd)

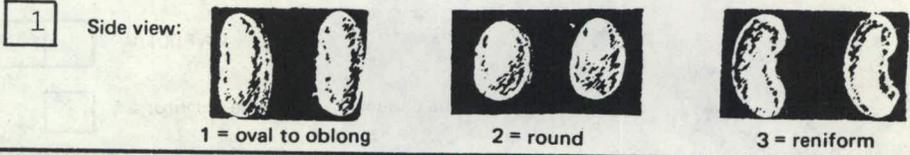
- 3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 1 Creaseback: 1 = present 2 = absent
- 1 Pubescence: 1 = none 2 = sparse 3 = considerable
- 3 Spur: 1 = straight 2 = slightly curved 3 = curved
- 2 Constrictions: 1 = none 2 = slight 3 = deep
- 2 Pod flesh: 1 = light 2 = medium 3 = dark
- 1 5 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 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 1 1 = shiny 2 = dull
- 1 Primary color: } 1 = white 2 = yellow 3 = buff 4 = tan
- 0 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
- 0 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) _____
- 0 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



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VARIETY: Pierre (formerly FM-473, (formerly MV 24-86))

Exhibit D: Botanical Description of the Variety

Seed germination is moderately vigorous and rate of emergence moderate; seedling growth is moderately vigorous and uniform under moderately warm conditions. Flowering is late midseason, heavy, but continuous over a long period (later, heavier, and for a longer period than Tendercrop). Pods reach maturity later and at a slower rate than Tendercrop.

Plants are bush, upright, relatively narrow, medium height (shorter and narrower than Tendercrop). Leaves are small, numerous, medium to medium dark green (larger, more numerous, and slightly darker than Tendercrop). Leaves in shape are deltoid ovate, acuminate, with round to truncated bases. Leaves are smooth and slightly pubescent (smoother and less pubescent than Tendercrop).

Inflorescences arise at the apex and leaf axils and contain 4 to 8 small, white flowers. Resulting pods develop throughout the plant but hang well off the ground. Pod setting is most concentrated under moderately warm temperatures (20-25°C).

Pods vary from 13 to 16 cm in length, 5.5 to 7.4 mm diameter from suture to suture and 5.2 to 7.7 mm from sidewall to sidewall; shape of the pod is round to creaseback (pods are long, but much slimmer, with a similar shape and color as Tendercrop). Pods are moderately straight, medium smooth, medium to medium dark, but very uniform green color; the spur is medium long and curved. The pod flesh is firm, free of interlocular cavitation (more so than Tendercrop) with a small seed cavity, and no fiber development. Seed development is slow (slower than Tendercrop).

Seeds are white, oblong, oval in cross-section (as long, but narrower than Tendercrop seed).

EXHIBIT "E"

Plant Variety Protection Application

No:

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, PIERRE, (Garden) Bean 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 4th day of February, 1991.


Secretary

SEAL