

No.

840091



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, 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 (T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Miriad'

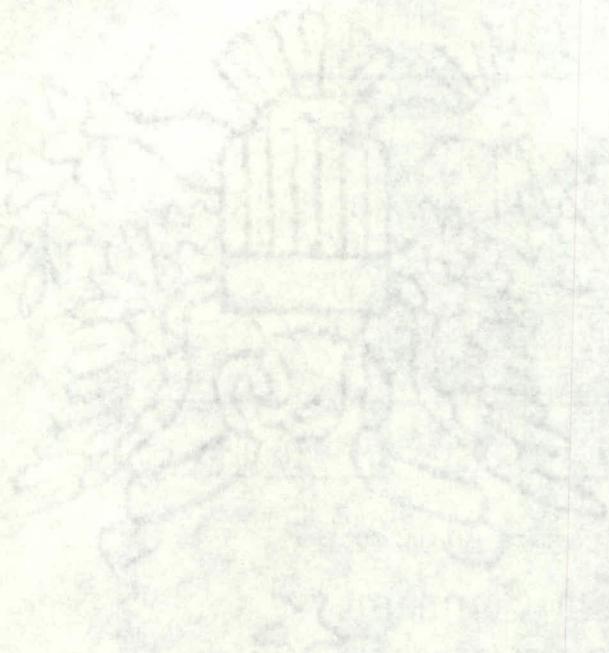
In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 31st day of August in the year of our Lord one thousand nine hundred and eighty-six.

Attest

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Livestock, Meat, Grain & Seed Division
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

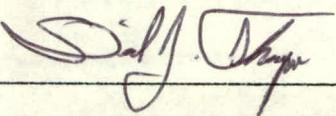




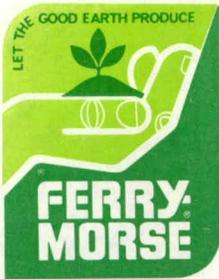
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S) FERRY-MORSE SEED COMPANY		2. TEMPORARY DESIGNATION FMX 92		3. VARIETY NAME MIRIAD	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P.O. BOX 7274 1938 MOUNTAIN VIEW, CA 94039 MODESTO 95352-1938		5. PHONE (Include area code) (415) 967-6973 (209) 579-7333		FOR OFFICIAL USE ONLY PVPO NUMBER 8400091	
6. GENUS AND SPECIES NAME PHASEOLUS VULGARIS L.		7. FAMILY NAME (Botanical) LEGUMINASAE		FILING DATE 4/25/84 TIME 2:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
8. KIND NAME GARDEN BEAN		9. DATE OF DETERMINATION APRIL, 1983		FEES RECEIVED AMOUNT FOR FILING \$ 1,000 1800 6/25/86 DATE 4/25/84 AMOUNT FOR CERTIFICATE \$ 200.00 DATE August 4, 1986	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) CORPORATION				12. DATE OF INCORPORATION 4 April 1969	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION CALIFORNIA					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. David J. Thompson, Vice President Ferry-Morse Seed Company P.O. Box 7274, Mountain View , CA 94039 1938, MODESTO 95352-4938					
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.)		c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)			
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement		d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of the Variety			
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? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified			
18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No					
19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" 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 10 April 1984	
SIGNATURE OF APPLICANT				DATE 1	

1870



SEED COMPANY

P. O. Box 1010, San Juan Bautista, Calif. 95045 • Phone (408) 637-7461

8400091

June 13, 1986

ADDENDUM TO APPLICATION
6/23/86ML

Virginia A. Lerch, Examiner
Plant Variety Protection Office
U.S.D.A. - A.M.S.
National Agricultural Library Building
Beltsville, MD. 20705

Dear Ms. Lerch:

Subject: Green Bean Application No. 8400091, 'Miriad'.

In response to your letter of May 27, 1986,

- 1) Miriad was first listed for sale in the U.S. in our price list of December 15, 1985.
- 2) Herewith is an addendum to Exhibit A stating uniformity and stability of the variety.

Thank you for your careful help on this application.

Sincerely,

Dr. David J. Thompson
President



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TWX or Telex: (910) 379-6434

Cable: Morseed MountainView SantaClaraCo

In lieu of all other warranties, expressed or implied (including any implied warranty of merchantability or fitness for a particular purpose), and all other obligations or liabilities, we warrant to the extent of the purchase price that the seeds we sell are as described by us on our container within recognized tolerances. Our liability whether contractual, for negligence or otherwise, is limited in amount to the purchase price of the seeds under all circumstances and regardless of the nature, cause or extent of the loss, and as a condition to any liability on our part, we must receive notice by registered mail of any claim that the seed is defective within 30 days after the defect in the seed becomes apparent. Seeds not accepted under these terms and conditions must be returned at once in original unopened containers and the purchase price will be refunded.



4/10/84

VARIETY: Miriad (formerly FMX-92 (formerly ID-92 (formerly ID-X109-MsB3B(MT)2(W)AMs(C)Ms)))

Exhibit A: Breeding History of the Variety

Miriad originated as an F₇ single plant selection from the cross Provider x Internor following the pedigree method of breeding. The cross was made in the greenhouse at Sun Prairie, Wisconsin, in the fall of 1974; the resulting fifteen F₁ seed were designated ID-X109 and planted back to the greenhouse in the spring of 1975.

The F₂ seed, ID-X109Ms, was bulk-massed in the summer of 1975. The row of F₂ plants was given a good field rating and noted to have a pod length similar to Internor but with not as slim a diameter. Two single plant selections were made and the F₃ seed held separately.

Two progeny rows were planted back to the field at Wisconsin in 1976. The second row, ID-X109-MsB, was rated very good and five F₃ selections were taken and the F₄ seed held separately.

Five progeny rows were planted in Wisconsin in 1977 in the field. The third row, ID-X109-MsB3, was rated good and four F₄ selections were made in the row.

Five F₅ seed from each of the selections were planted in the greenhouse in the fall of 1977 and each emerging seedling was inoculated with the NY-15 strain of Common Bean Mosaic Virus (BV-1A). The resistant plants had their F₆ seed saved separately. The F₆ seed was planted back as progeny rows to the field in Wisconsin in the summer of 1978. The progeny row, 1C-X109-MsB3B(MT)2, was rated very good for its upright habit, very heavy yield, very well-anchored plant with 3 1/2 inch well-filled pods. Five F₆ plants were selected and F₇ seed held separately.

Five F₇ progeny rows were field planted in Wisconsin in 1979. The first row, ID-X109-MsB3B(MT)2(W)A, again was rated very good and three F₇ selections were made in the row and the F₈ seed massed.

The F₈ massed seed was grown in California in a single row in the field in 1980. It was given an excellent rating for its upright habit, heavy yield and excellent pod placement. The line appeared quite uniform, so its F₉ seed was bulk-massed.

The F₉ seed, 1C-X109-MsB3B(MT)2(W)AMs(C)Ms, was redesignated ID-92 in the winter of 1980-81 in anticipation of intensive evaluation and increasing seed of the line as a potential new variety.

ID-92 was grown in trial in Wisconsin in 1981 while it was being increased in California the same year. The Wisconsin trial was rated good, but three individual rows of increase in California were throwing light green podded off-types (12 plants rogued/100 plants). After careful roguing, one row was harvested and planted for stock seed increase in 1982. Off types were not noted nor needed roguing from the half acre increase at San Juan Bautista, California.

ID-92 had been sampled as FMX-92 outside the company in 1982. In April of 1983 the decision was made to name the variety Miriad and to introduce it as a new whole pack type processing variety.

VARIETY: Miriad (formerly FMX-92(formerly 1D-92(formerly 1D-X109-MsB3B
(MT)2(W)AMs(C)Ms)))

Exhibit A: Breeding History of the Variety

ADDENDUM: Statement of uniformity and stability

The first stock seed increase from breeders seed of Miriad (FM-92) was at San Juan Bautista, California in 1982. No off types were found in approximately 25,000 plants and the planting was quite uniform for type; 390 lbs. of F₁₁ seed was harvested from the planting and designated 10534-C2835.

10534-C2835 was planted in 2.5 acres in Idaho in 1983. No offs were rogued and in the trial grounds report no offs were found in 204 plants, nor in 214 plants; the line was highly uniform for type; this F₁₂ seed was designated 10534-H3068.

This F₁₂ Miriad seed, 10534-H3068, was further increased in 1984 in a 14 acre planting in Idaho. Again Miriad demonstrated good uniformity and freedom from off-types; the F₁₃ Miriad seed was harvested as 10534-10750.

The seed increases of 1982, 1983, and 1984 continued highly uniform and free of the pod off-types normally associated with round podded beans. The three generations of seed increase demonstrated conclusively the uniformity and genetic stability of Miriad.



1. USA



VARIETY: Miriad (formerly FMX-92 (formerly 1D-92 (formerly 1C-X109-MsB3B(MT)2(W)
AMs(C)Ms)))

Exhibit B: Data Indicative of Novelty

Miriad resembles most closely its male parent cv. Internor, but can be distinguished from Internor by fewer days to 1st flower after planting, a shorter leaf length, and a narrower seed width.

I. San Juan Bautista, California. Planted June 10, 1983.

- A. Days from planting to first open flower.
(25 measurements for each variety)

<u>Miriad</u>	<u>Internor</u>	<u>difference</u>	<u>t-value</u>	<u>d.f.</u>	<u>P</u>
47.0	49.0	2.0	111.27	48	<.001

- B. Leaf Length cm (middle leaflet of 2nd trifoliate leaf at pod maturation).
(100 measurements for each variety)

<u>Miriad</u>	<u>Internor</u>	<u>difference</u>	<u>t-value</u>	<u>d.f.</u>	<u>P</u>
6.67	8.42	1.75	10.0	198	<.001

- C. Seed width mm.
(100 measurements for each variety)

<u>Miriad</u>	<u>Internor</u>	<u>difference</u>	<u>t-value</u>	<u>d.f.</u>	<u>P</u>
4.23	4.84	0.61	8.67	198	<.001

II. Sun Prairie, Wisconsin. Planted June 29, 1984.

- A. Days from planting to first open flower.
(25 measurements for each variety)

<u>Miriad</u>	<u>Internor</u>	<u>difference</u>	<u>t-value</u>	<u>d.f.</u>	<u>P</u>
35.2	36.2	1.0	4.836	48	<.001

- B. Seed width mm.
(100 measurements for each variety)

<u>Miriad</u>	<u>Internor</u>	<u>difference</u>	<u>t-value</u>	<u>d.f.</u>	<u>P</u>
4.65	4.92	0.27	3.87	98	<.001

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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 8400091
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 111 Ferry-Morse Way P.O. Drawer 7274 Box 4938 Mountain View, CA 94039-95352-4938	VARIETY NAME OR TEMPORARY DESIGNATION MIRIAD

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

4 No. days earlier than

..... Same as ..

No. days later than

- 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)
Interior

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

cm shorter than

Same as ..

cm taller than

cm spread

cm narrower than

width same as ...

cm wider than

Number primary branches near base

Branching habit:
1 = compact 2 = open

Main stalk: 1 = brittle 2 = wirey

1 = stout 2 = thin

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

1 = truncate ends 2 = rounded ends



2 0 gm/100 seed

2 gm/100 seed lighter than 8

gm/100 seed same as

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):

0 Anthracnose (specify race below) _____

0 Fuscos blight

0 Rust (specify race below) _____

0 Red node virus

0 Powdery mildew

0 Pod mottle virus

0 Fusarium root rot

2 Bean common mosaic virus (specify strain below)
NY-15

0 Pythium root rot

2 Mosaic mottle

0 Rhizoctonia root rot

0 Black root

0 Pythium wilt

0 Bean yellow mosaic virus

0 Angular leaf spot

0 Curly top

0 Bacterial wilt

0 Other (specify below) _____

1 Halo blight (specify race below) _____

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 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:

9

8400091

VARIETY: Miriad (formerly FMX-92 (formerly 1D-92 (formerly 1D-X109-MsB3B(MT)2(W)
AMs(C)Ms)))

Exhibit D: Botanical Description of the Variety

Germination and emergence is medium rapid and medium vigorous. Seedling growth is medium vigorous, flowering is medium early and concentrated into a short period. Pods develop at an early to intermediate maturity. Seed and fiber development are medium slow.

Bush is upright, medium tall, well-anchored, with pods high on plant. Leaf size is medium to small, medium in number, medium dark green, deltoid ovate shape, medium smooth, and slightly pubescent.

Flowers are white, developing from the apex and leaf axils, and are in clusters of 4-8 flowers per inflorescence. Flower development and pod setting are concentrated. Maturity is early midseason.

Pods are 7-10 cm long, 9 mm x 8 mm in diameter, dark green, generally smooth, slightly pubescent, round, with a spur of medium length, and slightly curved. Pod interior is medium in firmness, dark green, with only slight interlocular cavitation. Seed and fiber development are slow with sparse sidewall fiber development.

Seed are white, small in size, oval in cross-section and side-view with truncated ends.

EXHIBIT "E"

Plant Variety Protection Application

No: 8400091

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, _____
Bean, 'Miriad',
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

23 day of April, 19 86.

BREEDER

George C. Emery

12/72
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U. S. DEPARTMENT



OF AGRICULTURE

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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

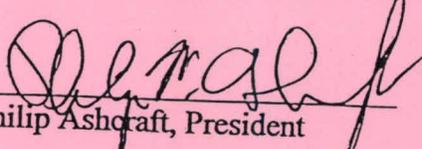
WHEREAS, on the date hereof, Assignee has changed its name to "Harris Moran Seed Company";

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)

1400010

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

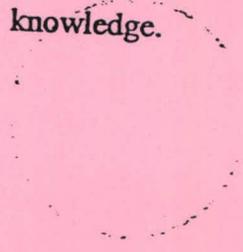
Pursuant to the provisions of the General Corporation Law of the State of California, the undersigned officers of FERRY-MORSE SEED COMPANY (CALIFORNIA), a California corporation (the "Corporation"), do hereby certify as follows:

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.

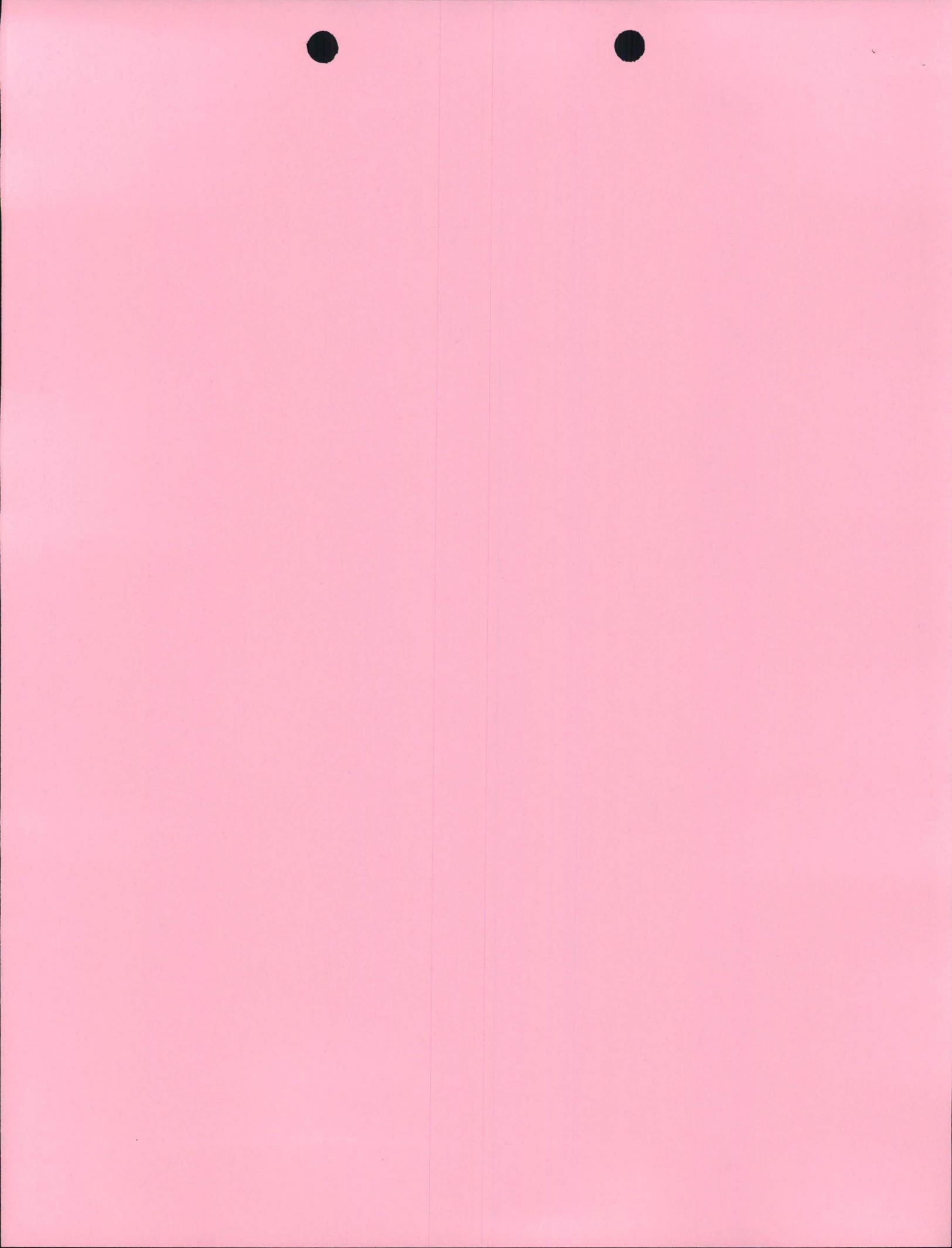


Yves Queste

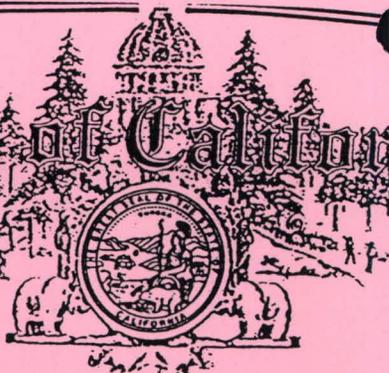
Yves Queste, President

Helen Andritsakis

Helen Andritsakis, Secretary



State of California



SECRETARY OF STATE



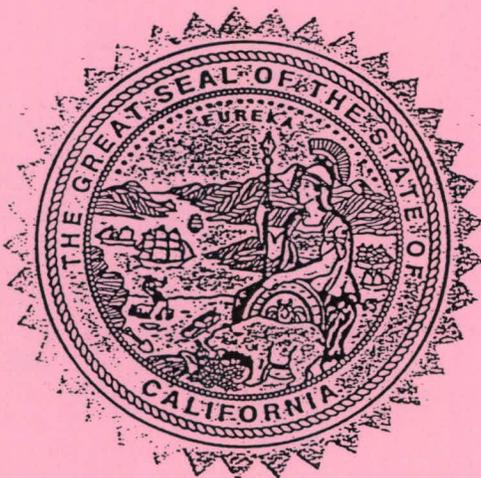
2 PAGES

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



Bill Jones

Secretary of State

