

No.



8300096

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 (ACT OF OCTOBER 3, 1918, CH. 116, T. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Beeline'



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

Richard E. Lyng
Secretary of Agriculture

1880



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

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

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY E8269		1b. VARIETY NAME BEELINE		FOR OFFICIAL USE ONLY	
				PV NUMBER 8300096	
2. KIND NAME GARDEN BEAN		3. GENUS AND SPECIES NAME PHASEOLUS VULGARIS L.		FILING DATE 3/28/83	TIME 9:30 A.M. P.M.
4. FAMILY NAME (BOTANICAL) LEGUMINOSAE		5. DATE OF DETERMINATION AUGUST 1981 APRIL 14, 1981 <i>3/2/86 vax per letter</i>		FEE RECEIVED \$ 1,000 \$ 500.	DATE 3/28/83 7/24/86
6. NAME OF APPLICANT(S) FERRY-MORSE SEED COMPANY		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P.O. DRAWER 7274 MOUNTAIN VIEW, CALIFORNIA 94039		8. TELEPHONE AREA CODE AND NUMBER (209) 579-7333 (415) 967-6973	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) CORPORATION			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION CALIFORNIA		11. DATE OF INCORPORATION 4 APRIL 1969
12. NAME AND MAILING 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 4938, MODESTO, CA P.O. DRAWER 7274, MOUNTAIN VIEW, CALIFORNIA 94039 95352-4938					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)

13B. Exhibit B, Novelty Statement.

13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)

13D. Exhibit D, Additional Description of the Variety.

14a. 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). (If "Yes," answer 14B and 14C below.) YES NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? YES NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? FOUNDATION REGISTERED CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? (name of countries and dates.) YES NO (If "Yes," give name of countries and dates.) **3/31/86 vax per letter**

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? YES NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? YES NO

17. The applicant(s) declare(s) that a viable sample of basic seed 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 Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

12 February 1983
 (DATE)

David J. Thompson
 (SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

VARIETY: Beeline (formerly E8269 (formerly 1D-50(C)MsMs (formerly 1C-X1115-A14(W)A2Ms(C)A(W)Ms)))

EXHIBIT A. Origin and Breeding History of the Variety

Beeline arose as a F₇ single plant selection, utilizing the pedigree method of breeding, from the cross number 1C-X1115. Cross 1C-X1115 was made in the early fall of 1970 in the greenhouse at San Juan Bautista, California, between the seed parent, 1C-X548-Ms(F)Ms(C)A, crossed with pollen from the initial Oregon State University release of Oregon 58R.

Two F₁ seed of 1C-X1115 were immediately planted back in the greenhouse in the fall of 1970. Twenty-five F₂ seed from the F₁, plant, 1C-X1115-A, were again planted in the greenhouse in the late spring of 1971; F₃ seed was harvested from each plant separately and planted in progeny rows in Columbus, Wisconsin, in the summer of 1972. The 1C-X1115-A14 row was given a good rating for its upright habit; four single F₃ plants were selected from the row and the F₄ seed from the remaining 29 plants was bulk-massed.

The F₄ seed of the four selections was planted back to progeny rows in Wisconsin in the summer of 1973. The 1C-X1115-A14(W)A row was given a very good rating for its upright habit, good concentration of maturity and high yield of straight, well-filled pods. Again four F₄ plants were selected and the F₅ seed of the remaining plants was bulk-massed.

The F₅ seed of the four selections was planted in progeny rows in Wisconsin in the summer of 1974. The 1C-X1115-A14(W)A2 row rated again very good for its straight, round to creaseback pods; F₆ seed of the row was bulk-massed and planted out in a 30 foot plot in San Juan Bautista, California, in the summer of 1975. The 1C-X1115-A14(W)A2Ms row rated good and 6 F₆ single plant selections were made.

The F₇ seed of these 6 selections was planted to progeny rows in Columbus, Wisconsin, in the summer of 1976. The 1C-X1115-A14(W)A2Ms(C)A row rated very good for its upright habit; the F₈ seed from the 31 plants in the row was bulk-massed. The line was considered a potentially new variety; 1C-X1115-A14(W)A2Ms(C)A(W)Ms was redesignated 1D-50.

The F₈ seed 1D-50 was planted for seed increase in California and in an evaluation row in Wisconsin in the summer of 1977. Both rows rated very good and no off-types were noted in 166 F₈ plants; the F₉ seed bulk-massed in California.

In 1978 the F₉ seed of 1D-50-(C)Ms was again planted in California for further increase and in Wisconsin, New York, and Oregon for evaluation. The line rated well in all trial locations and no off-types were found in 5000 plants in the California row and its F₁₀ seed was bulk-massed as 1D-50-(C)MsMs.

VARIETY: Beeline (formerly 88269) (formerly ID-50(C)MaMa) (formerly IC-X1115-A1A(W)A2Ms(C)A(W)Ms))

EXHIBIT A. Origin and Breeding History of the Variety

Beeline arose as a F7 single plant selection, utilizing the pedigree method of breeding, from the cross number IC-X1115. Cross IC-X1115 was made in the early fall of 1970 in the greenhouse at San Juan Bautista, California, between the seed parent, IC-X1115-A1A(W)A2Ms(C)A, crossed with pollen from the initial Oregon State University release of Oregon 58R.

Two F7 seed of IC-X1115 were immediately planted back in the greenhouse in the fall of 1970. Twenty-five F7 seed from the F7 plant, IC-X1115-A, were again planted in the greenhouse in the late spring of 1971; F7 seed was harvested from each plant separately and planted in progeny rows in Columbus, Wisconsin, in the summer of 1972. The IC-X1115-A1A row was given a good rating for its upright habit; four single F7 plants were selected from the row and the F7 seed from the remaining 20 plants was bulk-massed.

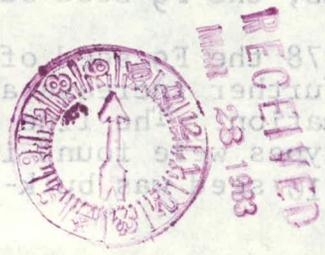
The F7 seed of the four selections was planted back to progeny rows in Wisconsin in the summer of 1973. The IC-X1115-A1A(W)A row was given a very good rating for its upright habit, good concentration of maturity and high yield of straight, well-filled pods. Again four F7 plants were selected and the F7 seed of the remaining plants was bulk-massed.

The F7 seed of the four selections was planted in progeny rows in Wisconsin in the summer of 1974. The IC-X1115-A1A(W)A2 row was again very good for its straight, round to crossback pods; F7 seed of the row was bulk-massed and planted out in a 30 foot plot in San Juan Bautista, California, in the summer of 1975. The IC-X1115-A1A(W)A2Ms row rated good and 6 F7 single plant selections were made.

The F7 seed of these 6 selections was planted to progeny rows in Columbus, Wisconsin, in the summer of 1976. The IC-X1115-A1A(W)A2Ms(C)A row rated very good for its upright habit; the F7 seed from the 31 plants in the row was bulk-massed. The line was considered a potentially new variety; IC-X1115-A1A(W)A2Ms(C)A(W)Ms was redesignated ID-50.

The F8 seed ID-50 was planted for seed increase in California and in an evaluation row in Wisconsin in the summer of 1977. Both rows rated very good and no off-types were noted in 168 plants; the F8 seed bulk-massed in California.

In 1978 the F8 seed of ID-50 was again planted in California for further increase and in Wisconsin, New York, and Oregon for evaluation. It rated well in all trial locations and no off-types were found in 5000 plants in the California row and its F8 seed was bulk-massed as ID-50(C)MaMa.



In the spring of 1979 the decision was made to test 1D-50-(C)MsMs as a new variety and was given the experimental designation E8269. E8269 was planted in trials in Wisconsin, New York, Tennessee, and Oregon and rated good to outstanding in all trials. The 0.5 acre increase at San Juan Bautista, California had a off-type frequency of one oval-podded plant per 100 plants.

In 1980 and 81 E8269 continued to perform well under all trial conditions and the off type frequency held at one slightly oval-podded plant per 100 plants in two consecutive rounds of seed increase (1½ acres in 1980, and 5 acres in 1981 in Hansen, Idaho).

The decision to introduce E8269 as new variety was made in the summer of 1981; E8269 was named Beeline.

In the spring of 1979 the decision was made to test ID-50-(C)MaMa as a new variety and was given the experimental designation E8269. E8269 was planted in trials in Wisconsin, New York, Tennessee, and Oregon and rated good to outstanding in all trials. The 0.5 acre increase at San Juan Bautista, California had a off-type frequency of one oval-budded plant per 100 plants.

In 1980 and 81 E8269 continued to perform well under all trial conditions and the off type frequency held at one slightly oval-budded plant per 100 plants in two consecutive rounds of seed increase (1/2 acres in 1980, and 5 acres in 1981 in Hansen, Idaho).

The decision to introduce E8269 as new variety was made in the summer of 1981; E8269 was named Belina.



VARIETY: Beeline (formerly E8269 (formerly 1D-50(C)MsMs (formerly 1C-X1115-A14 (W)A2Ms(C)A(W)Ms)))

EXHIBIT A: Origin and Breeding History of the Variety

ADDENDUM: Stability and Uniformity of the Variety

F₁₁ seed was produced in an 0.5 acre increase planting at San Juan Bautista, California in 1979 and was determined and accepted as stable and uniform for type (1 oval podded plant/100 plants). This seed served as foundation seed for the 1.5 acre production of F₁₂ Select Stock seed in 1980 and 5 acres of Stock Seed in 1981. The off-type frequency of one slight oval podded plant per 100 plants remained stable and was considered commercially acceptable. Commercial seed production began in 1982 and was first sold in 1983.

REGISTERED
P.L.

**REGISTERED
MAIL**

RECEIVED

MAR 31 1966

U. S. DEPARTMENT



CULTURE

AMS

PVPO

VARIETY: Beeline (formerly E8269 (formerly 1D-50(C)MsMs (formerly 1C-X1115-A14(W)A2Ms(C)A(W)Ms)))

EXHIBIT B: Data Indicative of Novelty

Beeline most closely resembles the variety Oregon 58R, its male parent. It is distinct from Oregon 58R in having a shorter pod and narrower pod width (suture to suture).

A. Measurements were taken from a field plot planted on May 19, 1981, at Sun Prairie, Wisconsin.

	<u>Beeline</u>	<u>Oregon 58R</u>	<u>t</u>	<u>p</u>
1. Pod length (cm) (100 measurements)	13.9	15.1	6.00	<.001
2. Pod width (mm)	8.6	9.6	9.66	<.001

B. Measurements were taken from a field plot planted June 4, 1981, at Sun Prairie, Wisconsin.

	<u>Beeline</u>	<u>Oregon 58R</u>	<u>t</u>	<u>p</u>
1. Pod length (cm) (100 measurements)	15.5	16.1	2.36	.025-.010
2. Pod width (mm) (100 measurements)	10.2	10.4	1.71	0.10-0.05

C. Measurements were taken from a field plot planted June 8, 1981, at San Juan Bautista, California.

	<u>Beeline</u>	<u>Oregon 58R</u>	<u>t</u>	<u>p</u>
1. Pod length (cm) (100 measurements)	12.2	14.5	8.46	<.001
2. Pod width (mm) (100 measurements)	9.6	10.2	3.69	<.001

D. Measurements were taken from a field plot planted May 20, 1982, at Sun Prairie, Wisconsin

	<u>Beeline</u>	<u>Oregon 58R</u>	<u>t</u>	<u>p</u>
1. Pod length (cm) (100 measurements)	14.1	14.5	2.71	.01-.005
2. Pod width (mm) (100 measurements)	10.1	10.9	2.06	.05-0.25

VARIETY: Beeline (formerly E8269) (formerly ID-20(C)M2M) (formerly
 IC-X1112-A14(W)A2M2(C)A(W)M2))

EXHIBIT B: Data Indicative of Novelty

Beeline most closely resembles the variety Oregon 58R, its male parent. It is distinct from Oregon 58R in having a shorter pod and narrower pod width (suture to suture).

A. Measurements were taken from a field plot planted on May 19, 1981, at Sun Prairie, Wisconsin.

	<u>Beeline</u>	<u>Oregon 58R</u>	t	p
1. Pod length (cm) (100 measurements)	13.9	15.1	6.00	<.001
2. Pod width (mm) (100 measurements)	8.6	9.6	9.66	<.001

B. Measurements were taken from a field plot planted June 4, 1981, at Sun Prairie, Wisconsin.

	<u>Beeline</u>	<u>Oregon 58R</u>	t	p
1. Pod length (cm) (100 measurements)	15.5	16.1	2.38	.025-.010
2. Pod width (mm) (100 measurements)	10.2	10.4	1.71	.010-0.05

C. Measurements were taken from a field plot planted June 8, 1981, at San Juan Bautista, California.

	<u>Beeline</u>	<u>Oregon 58R</u>	t	p
1. Pod length (cm) (100 measurements)	12.2	14.5	8.46	<.001
2. Pod width (mm) (100 measurements)	9.6	10.2	3.69	<.001

D. Measurements were taken from a field plot planted May 20, 1982, at Sun Prairie, Wisconsin.

	<u>Beeline</u>	<u>Oregon 58R</u>	t	p
1. Pod length (cm) (100 measurements)	14.1	14.5	2.71	.01-.005
2. Pod width (mm) (100 measurements)	10.1	10.9	2.06	.05-0.25



E. Measurements were taken from a field plot planted June 14, 1982 at San Juan Bautista, CA.

	<u>Beeline</u>	<u>Oregon 58R</u>	<u>t</u>	<u>p</u>
1. Pod length (cm) (100 measurements)	14.2	15.3	3.93	<.001
2. Pod width (mm) (100 measurements)	9.7	10.3	4.09	<.001

REVISED

E. Measurements were taken from a field plot planted June 14, 1982 at San Juan Bautista, CA.

	Oregon 58R	Baseline	
1. Pod length (cm) (100 measurements)	15.3	14.2	3.93 < .001
2. Pod width (mm) (100 measurements)	10.3	9.7	4.09 < .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)

FOR OFFICIAL USE ONLY

FERRY-MORSE SEED COMPANY

PVPO NUMBER

8300096

ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)

P.O. DRAWER 7274

MOUNTAIN VIEW, CALIFORNIA 94039

VARIETY NAME OR TEMPORARY DESIGNATION

Beeline

Place numbers in the boxes (e.g. 0 8 9) 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:

2 1 = Field (dry-edible)

2 = Garden

2. MARKET MATURITY:

5 3 Days to edible pods

- - Days to green shells

- - - Days to dry seeds

1 0 3 2 Heat units to edible pods

- - - - Heat units to green shells

- - - - Heat units to dry seeds

0 3 No. days earlier than

1

Same as ..

-

0 1 No. days later than

8

- 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)

Oregon 58

3. PLANT:

1 1 = Determinate 2 = Indeterminate

0 3 6 cm height

- - cm shorter than

-

Same as ..

-

comparison variety from above

0 6 cm taller than

8

3 8 cm spread

0 0 5 Number primary branches near base

- - cm narrower than

-

1 Branching habit:
1 = compact 2 = open

width same as ..

-

comparison variety from above

0 8 cm wider than

8

1 Main stalk: 1 = brittle 2 = wiry

1 1 = stout 2 = thin

7

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

2 1 = truncate ends 2 = rounded ends

4 0 gm/100 seed

3 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 Fuscous blight

* 2 Rust (specify race below) **Rust collections 16, 23, 32**

0 Red node virus

0 Powdery mildew

0 Pod mottle virus

0 Fusarium root rot

2 Bean common mosaic virus (specify strain below) **BV-1A**

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)

0 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:

* Rust reaction was determined by J.P. Meiners, USDA-SEA, Beltsville, Md., in 1979 and was expressed as moderate resistance and slow rusting.

VARIETY: Beeline (formerly E8269 (formerly 1D-50(C)MsMs (formerly 1C-X1115-A14(W)A2Ms(C)A(W)Ms)))

EXHIBIT D: Botanical Description of the Variety

Seed germination is rapid with a medium vigorous seedling emerging. Flowering occurs medium early and is continuous and concentrated until a full load of pods have formed.

Plant is determinate, upright, bush, tall to medium tall, medium narrow with medium resistance to lodging. Leaves are a medium size, slightly rugose, slightly pubescent, dark green, deltoid ovate in shape with rounded to truncated bases. Stems and petioles are medium in thickness, stiff, and brittle; petioles are medium in length. Inflorescences arise at the stem apex and axils of the leaves, remain generally below the foliage cover, and bear 4 to 8 white flower buds. Pods are borne high in the plant, but are well spread out from the center of the plant.

Pods are medium in length, dark green, round, to slightly crease-back, slightly rough surface, with a medium short pedicel, and a medium short pod spur. The pods hold their straightness well and seldom curve. Seed setting occurs over a wide temperature range; as a result pod fill is good and pod blanking infrequent. The seed are oblong, round in cross section, and white, medium in size.

IC-XIII-A-14(W)ASMs(C)(A(W)Ms)))
VARIETY: Beeline (formerly E8259) (formerly ID-50(C)MsMs) (formerly

EXHIBIT D: Botanical Description of the Variety

Seed germination is rapid with a medium vigorous seedling emerging. Flowering occurs medium early and is continuous and concentrated until a full load of pods have formed.

Plant is determinate, upright bush, tall to medium tall, medium narrow with medium resistance to lodging. Leaves are a medium size, slightly rugose, slightly pubescent, dark green, deltoid ovate in shape with rounded to truncated bases. Stems and petioles are medium in thickness, stiff, and brittle; petioles are medium in length. Inflorescences arise at the stem apex and axils of the leaves, remain generally below the foliage cover, and bear 4 to 8 white flower buds. Pods are borne high in the plant, but are well spread out from the center of the plant.

Pods are medium in length, dark green, round, to slightly crease-back, slightly rough surface, with a medium short pedicel, and a medium short pod suture. The pods hold their straightness well and seldom curve. Seed setting occurs over a wide temperature range; as a result pod fill is good and pod blanking infrequent. The seed are oblong, round in cross section, and white, medium in size.



EXHIBIT "E"

Plant Variety Protection Application

No: 830096, Beeline

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, Beeline, 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 24th day of March, 19 86.

BREEDER

George C. Emery

12/72

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**REGISTERED
MAIL**

RECEIVED

MAR 31 1986

U.S. DEPARTMENT



OF AGRICULTURE

AMS

EVPO

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

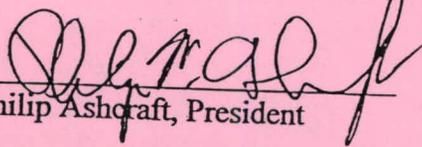
WHEREAS, on the date hereof, Assignee has changed its name to "Harris Moran Seed Company";

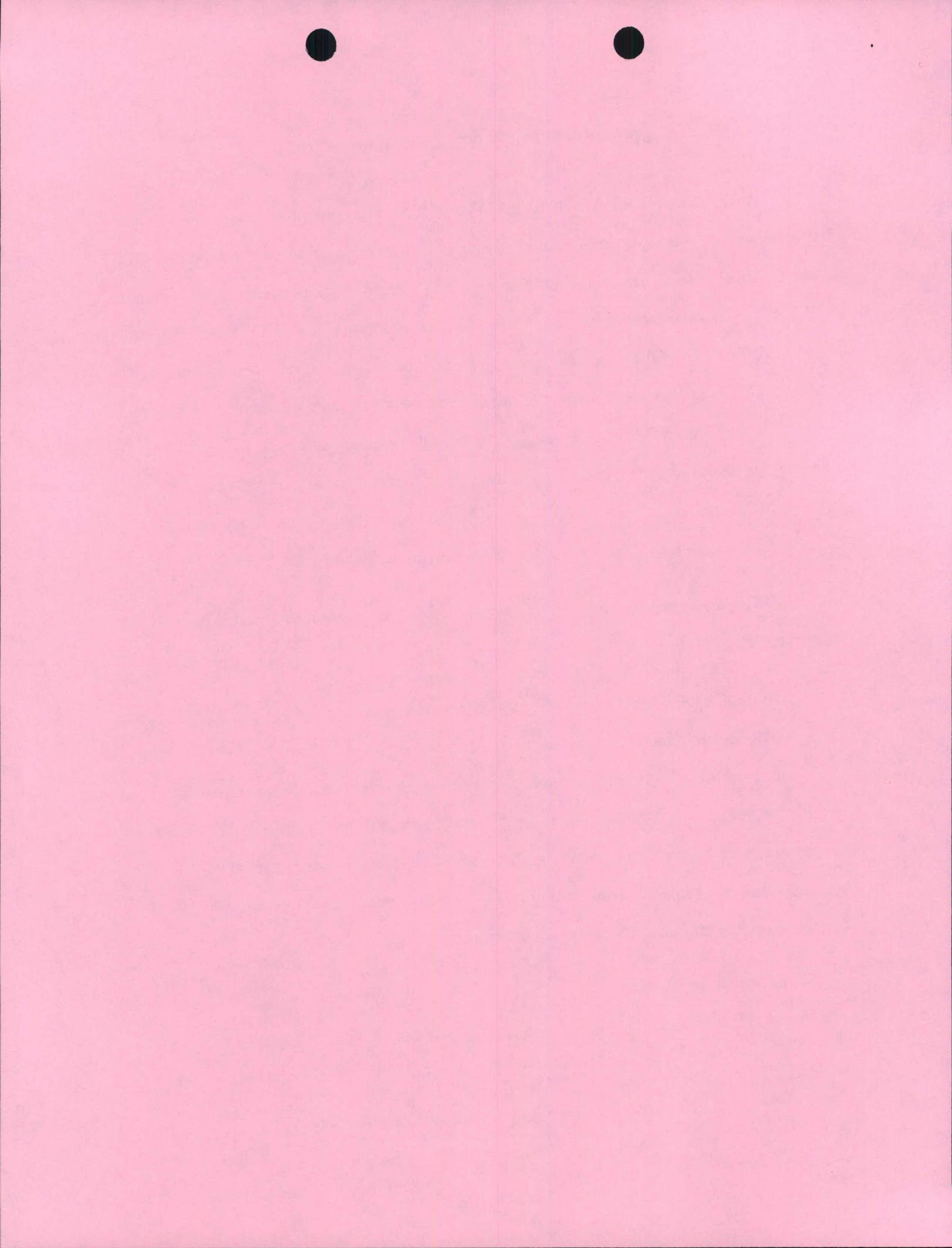
NOW, THEREFORE, effective by this instrument as of the close of business on June 30, 1997, and for good and valuable consideration, receipt of which is hereby acknowledged, Assignor hereby assigns to Assignee any and all right, title and interest worldwide in and to the Property and any and all recordations 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

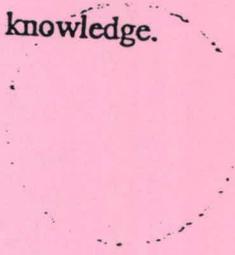
To the Secretary of State
State of California

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.

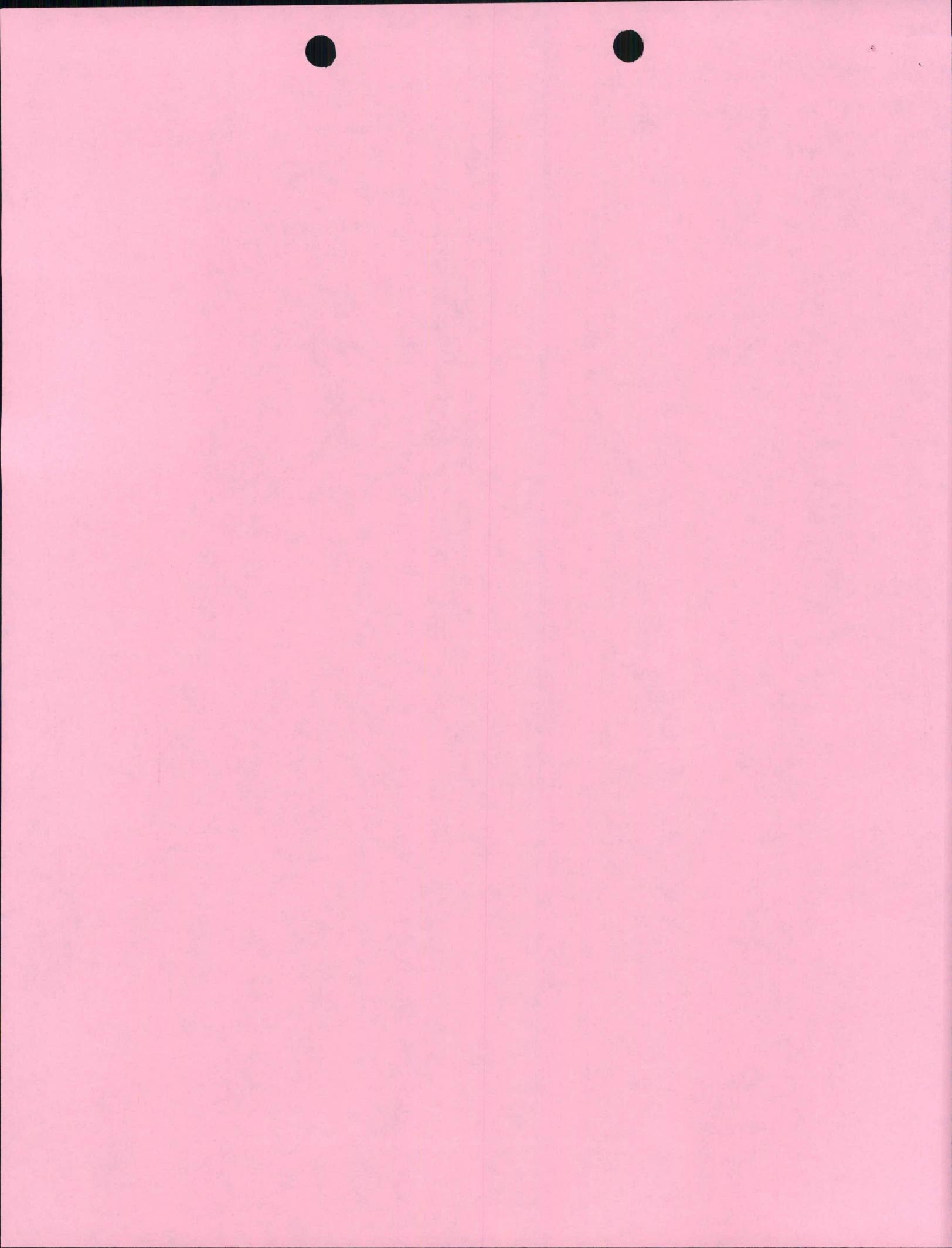
IN WITNESS WHEREOF, each of the undersigned does hereby declare under the penalty of perjury that he or she signed the foregoing Certificate of Amendment as of June 30,

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.



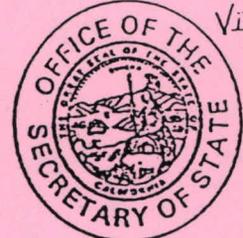
Yves Queste
Yves Queste, President

Helen Andritsakis
Helen Andritsakis, Secretary



State of California

SECRETARY OF STATE



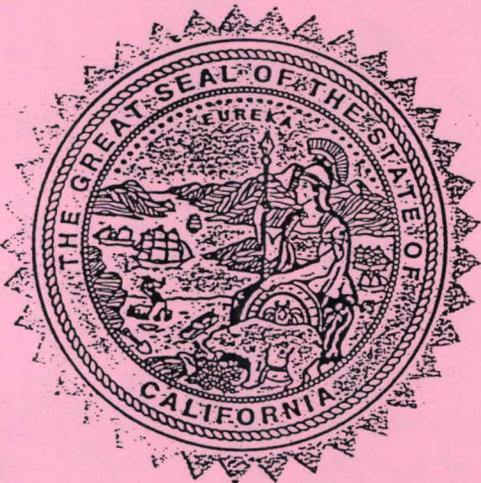
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I, *BILL JONES*, Secretary of State of the State of California, hereby certify:

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

