

No.

8300048



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Gallatin Valley Seed Co.

**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 (P.L. 85-625, STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN

'Benton'



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 eighty-six.

Attest:

Kenneth H. ...
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]
Acting Secretary of Agriculture

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 H285A-4-1-1 | | 1b. VARIETY NAME 'Benton' | | FOR OFFICIAL USE ONLY | |
| | | | | PV NUMBER 8300048 | |
| 2. KIND NAME Bean | | 3. GENUS AND SPECIES NAME <u>Phaseolus vulgares</u> | | FILING DATE 1/25/83 | TIME 11:00 A.M. <input checked="" type="checkbox"/> |
| 4. FAMILY NAME (BOTANICAL) Leguminosae | | 5. DATE OF DETERMINATION 1978 | | FEE RECEIVED \$ 1,000 | DATE 1/21/83 |
| 6. NAME OF APPLICANT(S) Gallatin Valley Seed Co. A division of Rogers Brothers Seed Company | | 7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) P. O. Box 80 Idaho Falls, ID 83401 | | 8. TELEPHONE AREA CODE AND NUMBER 208/522-0143 | |
| 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 Delaware | | 11. DATE OF INCORPORATION 2-25-75 |
| 12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Gallatin Valley Seed Co. P. O. Box 80 Idaho Falls, ID 83401 | | | | | |

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? YES NO (If "Yes," give name of countries and dates.)

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.

Dec. 31, 1982
 (DATE)

Calvin R. Lamborn
 (SIGNATURE OF APPLICANT)

(DATE)
 FORM GR-470 (1-78)

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, 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.

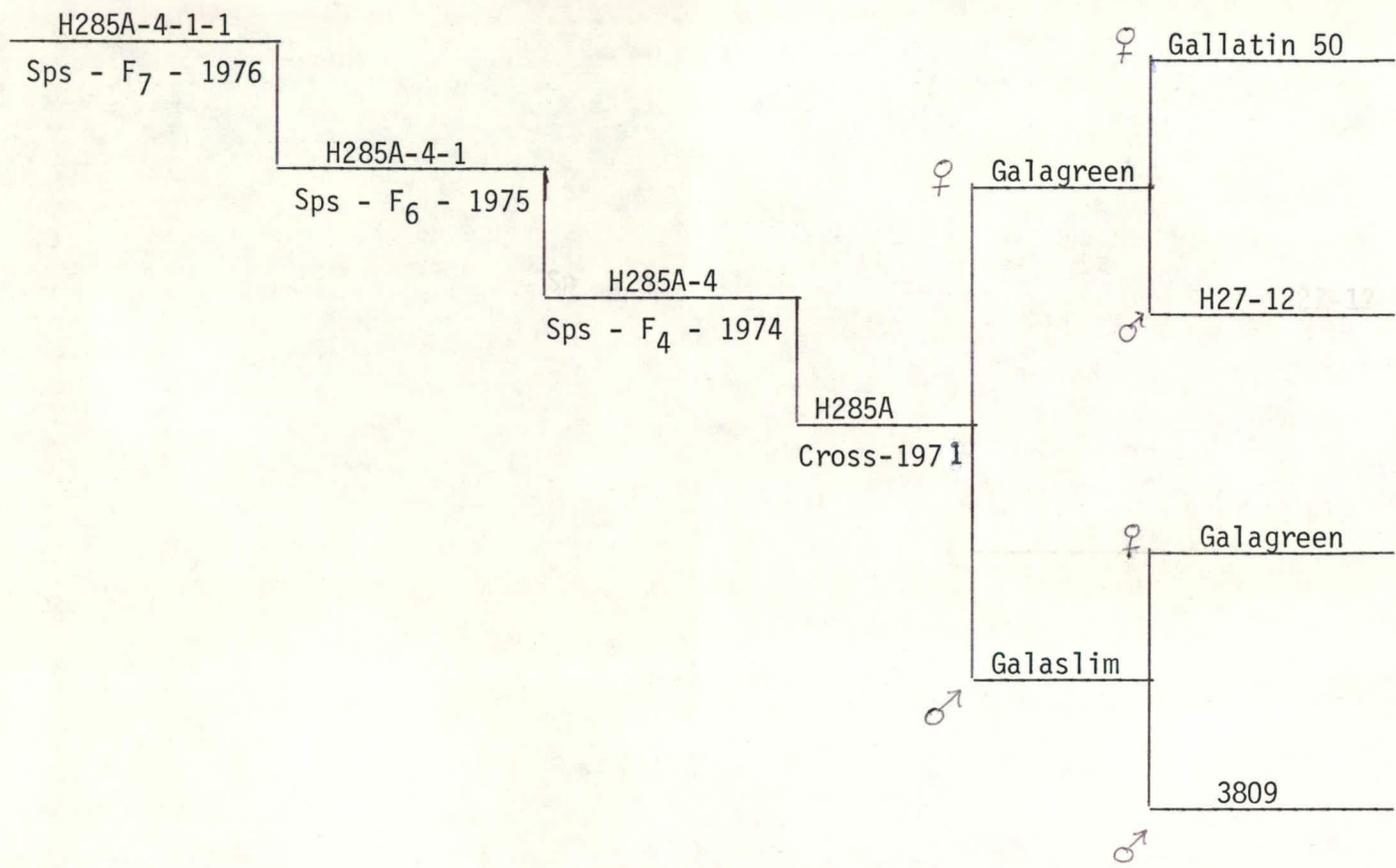
ITEM

- 5 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.
- 13a 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.
- 13b 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 differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d 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.
- 14a 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.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



Exhibit 13A.

Pedigree Chart For: 'Benton' (H285A-4-1-1) Bean
By: Gallatin Valley Seed Co.



8300048

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JAN 25 1983



December 31, 1982

Exhibit 13A. (continued)

Origin and Breeding History of 'Benton'

'Benton' (H285A-4-1-1) is the result of a hand pollinated cross (made in 1971) between 'Galagreen' and 'Galaslim'. 'Benton' was selected as a single plant selection (H285A-4-1-1) in 1976. 'Benton' was observed one year and the first increase planting occurred in 1978.

One trial sale of 6,000 pounds of seed occurred in 1981. Three trials (a total of 16,205 pounds of seed) were sold in 1982. Commercial sales will begin in 1983.

'Benton' has been observed each year of increase and has been found to be stable. The only variant plants observed have been a trace of flat pods and pods with strings which are common mutants found in all snap bean varieties.

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December 31, 1982

Exhibit 13B.

Novelty Statement

'Benton' is most similar to its parent 'Galagreen'. NOTE: Processors have lost interest in 'Galagreen' because it has a general tendency to produce its pods in split sets. 'Benton' doesn't seem to have the same problem. We assume this difference is quite nebulous and may not be adequate for Plant Variety Protection. We are making this application with the understanding we will have to find a more significant difference between 'Benton' and 'Galagreen'.

Please let us know what other varieties we will have to distinguish from 'Benton'.

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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) Gallatin Valley Seed Co. | FOR OFFICIAL USE ONLY | |
| | PVPO NUMBER | 8300048 |
| ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P. O. Box 80 Idaho Falls, ID 83401 | VARIETY NAME OR TEMPORARY DESIGNATION | |
| | 'Benton' (H285A-4-1-1) | |

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

| | | | |
|---|--------------------------------|--|---|
| <input type="text"/> <input type="text"/> No. days earlier than | <input type="text"/> | } 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) |
| Same as | <input type="text"/> | | |
| <input type="text"/> <input type="text"/> No. days later than | <input type="text" value="1"/> | | |

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

| | | |
|---|----------------------|---------------------------------|
| <input type="text"/> <input type="text"/> cm shorter than | <input type="text"/> | } comparison variety from above |
| Same as | <input type="text"/> | |
| <input type="text"/> <input type="text"/> cm taller than | <input type="text"/> | |

| | |
|---|--|
| <input type="text" value="4"/> <input type="text" value="2"/> cm spread | <input type="text"/> <input type="text"/> <input type="text"/> Number primary branches near base |
| <input type="text"/> <input type="text"/> cm narrower than | } comparison variety from above |
| width same as | |
| <input type="text"/> <input type="text"/> cm wider than | |

Branching habit:
1 = compact 2 = open

Main stalk: 1 = brittle 2 = wiry

1 = stout 2 = thin

3. PLANT: (Cont'd)

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

4 Bush form (illustrated below):



1 = spherical bush form

2 = stem bush form

3 = wide bush form

4 = high bush form

5 = other (specify) _____

4. LEAVES:

1 1 = smooth 2 = wrinkled

1 1 = dull 2 = glossy

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

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

5. FLOWERS:

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

Days to 50% bloom

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

2 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 |
|---|------|---|------|------|-----|
| | 11.5 | | 46.7 | 40.1 | 1.7 |

| | | | | | | |
|---------|---|-----------|---|----------|---|--------------|
| 3 sieve | <input type="checkbox"/> <input type="checkbox"/> | cm length | <input type="checkbox"/> <input type="checkbox"/> | mm width | <input type="checkbox"/> <input type="checkbox"/> | mm thickness |
| 4 sieve | <input type="checkbox"/> <input type="checkbox"/> | cm length | <input type="checkbox"/> <input type="checkbox"/> | mm width | <input type="checkbox"/> <input type="checkbox"/> | mm thickness |
| 5 sieve | <input type="checkbox"/> <input type="checkbox"/> | cm length | <input type="checkbox"/> <input type="checkbox"/> | mm width | <input type="checkbox"/> <input type="checkbox"/> | mm thickness |
| 6 sieve | <input type="checkbox"/> <input type="checkbox"/> | cm length | <input type="checkbox"/> <input type="checkbox"/> | mm width | <input type="checkbox"/> <input type="checkbox"/> | mm thickness |

6. FRESH PODS: (Cont'd)

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

7. SEED COAT COLOR:

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

8. SEED SHAPE AND SIZE:

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

U. S. DEPARTMENT

DEC 10 1985

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AMS

PVP0

OFFICE OF THE ATTORNEY GENERAL

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

1 = truncate ends 2 = rounded ends

2 9 gm/100 seed

gm/100 seed lighter than }

gm/100 seed same as }

gm/100 seed heavier than }

comparison variety from page one

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

Flowers

Stems

Pods

Seeds

Leaves

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

Anthracnose (specify race below) _____

Rust (specify race below) _____

Powdery mildew

Fusarium root rot

Pythium root rot

Rhizoctonia root rot

Pythium wilt

Angular leaf spot

Bacterial wilt

Halo blight (specify race below) _____

Fuscous blight

Red node virus

Pod mottle virus

Bean common mosaic virus (specify strain below) _____

Mosaic mottle

Black root

Bean yellow mosaic virus

Curly top

Other (specify below) _____

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

Aphids

Leaf hopper

Lygus

Pod borer

Root knot nematode

Seed corn maggot

Thrips

Weavils

Other (specify below) _____

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

Heat

Cold

Drought

Air pollution

13. COMMENTS:

6. FRESH PODS: (Cont'd)

- 3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 2 Creaseback: 1 = present 2 = absent
- 2 Pubescence: 1 = none 2 = sparse 3 = considerable
- 2 Spur: 1 = straight 2 = slightly curved 3 = curved
- 1 Constrictions: 1 = none 2 = slight 3 = deep
- 2 Pod flesh: 1 = light 2 = medium 3 = dark
- mm spur length
- 2 Fiber: 1 = none 2 = sparse 3 = considerable
- 7 Number of seeds per pod:
- 1 Surface: 1 = smooth 2 = rough
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- 2 Seed development (Snap Bean): 1 = slow 2 = medium 3 = fast
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(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:

- 2 1 = Monochrome 2 = Polychrome 1 1 = shiny 2 = dull
- 1 Primary color: 1 = white 2 = yellow 3 = buff 4 = tan
- Secondary color: 5 = brown 6 = pink 7 = red 8 = purple
9 = blue 10 = black 11 = other (specify) _____
- 1 Color Pattern: 1 = none 2 = splashed 3 = mottled 4 = striped 5 = flecked 6 = dotted
- Secondary color location: 1 = hilar ring 2 = ventral surface
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- Hilar ring on colored seeds: 1 = absent 2 = narrow 3 = butterfly shaped

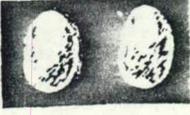
8. SEED SHAPE AND SIZE:

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

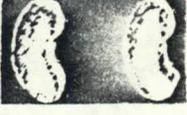
1 Side view:



1 = oval to oblong



2 = round



3 = reniform

December 31, 1982

Exhibit D.

Additional Description of The Variety

'Benton' is a mid to late, moderate sieve size (10 - 12 mm.) snap bean. It produces pods that are 15 - 16 cm. in length and are a bright, darker green color (RHS 141C for 'Benton', vs. 143A for 'Galapagos') *per letter of 4-24-84. CMB*

The bush is an upright bush (40 - 42 cm.) with the pods held mid to high in the bush.

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GALLATIN VALLEY SEED CO.
-A Montana Corporation-

CONSENT TO ADOPTION OF RESOLUTION
BY

SOLE SHAREHOLDER OF CORPORATION ACTING WITHOUT A MEETING
PURSUANT TO SECTION 15-22-134, RCM 1947

* * * *

KNOW ALL MEN BY THESE PRESENTS: That ROGERS BROTHERS SEED COMPANY, a corporation organized and existing under the Laws of the State of Delaware, as owner and holder of all of the 2,005 issued and outstanding shares of the capital stock of GALLATIN VALLEY SEED CO., a corporation organized and existing under the laws of the State of Montana, acting without a meeting of shareholders of said Montana corporation pursuant to and as authorized by Section 15-22-134 of the Montana Business Corporation Code, hereby consents to the adoption of the following resolutions with like effect as if adopted by a unanimous vote of the shareholders of said Montana corporation at a meeting of its shareholders duly called and noticed for the purpose of considering the adoption of said resolution, to-wit:

WHEREAS, the shareholder of this corporation purchased all of the issued and outstanding shares of this corporation on April 1, 1975 and;

WHEREAS, pursuant to a resolution of its Board of Directors dated March 25, 1977, the shareholder of this corporation has resolved to liquidate this corporation under a plan of liquidation which complies with Section 334(b) (2) of the Internal Revenue Code of 1954; and

()
WHEREAS, pursuant to Section 15-2276 of the Montana Business Corporation Code the shareholder of this corporation has consented to the voluntary dissolution of the corporation;

NOW THEREFORE, BE IT RESOLVED, that the following plan of liquidation is hereby adopted by this corporation:

The dissolution and liquidation of this corporation shall be carried out by transfer of its assets, in complete cancellation of its stock, to Rogers Brothers Seed Company, the owner of all of its issued and outstanding stock, and in further consideration of the assumption by Rogers Brothers Seed Company of all of the debts, obligations and liabilities of this corporation outstanding at the time of such transfer. Such liquidating distribution to Rogers Brothers Seed Company shall take place no later than March 24, 1978 and further,

RESOLVED, that the liquidation of this corporation pursuant to the foregoing plan of liquidation shall be carried out in such manner as to cause such liquidation and the distribution of the assets of this corporation to qualify under and be treated in accordance with Sections 332 and 334 (b)(2) of the Internal Revenue Code of 1954, as amended, and the regulations promulgated thereunder, and further,

U
RESOLVED, that the directors and officers of this corporation be and they hereby are authorized to take any and all actions necessary to carry out the foregoing resolutions in accordance with their purpose and intent.

IN WITNESS WHEREOF, said corporation has caused its corporate name to be subscribed and its corporate seal to be affixed by its proper officers, hereunto duly authorized this 22nd day of February, 1978.

ROGERS BROTHERS SEED COMPANY

By Harvey W. Mauth
Harvey W. Mauth
President

Attest:

Alden E. Hill
Alden E. Hill
Secretary

STATE OF IDAHO)
) ss
County of Bonneville)

On this 22nd day of February, 1978, before me, the undersigned, a Notary Public in and for the State of Idaho, personally appeared HARVEY W. MAUTH, known to me to be the President of ROGERS BROTHERS SEED COMPANY, a Delaware corporation, the corporation that executed the within and foregoing instrument, and acknowledged to me that said corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

Harlow J. McNamee
Notary Public for the State of Idaho
My Commission expires: Lifetime

(SEAL OF)
(SAID)
(NOTARY)

C E R T I F I C A T E

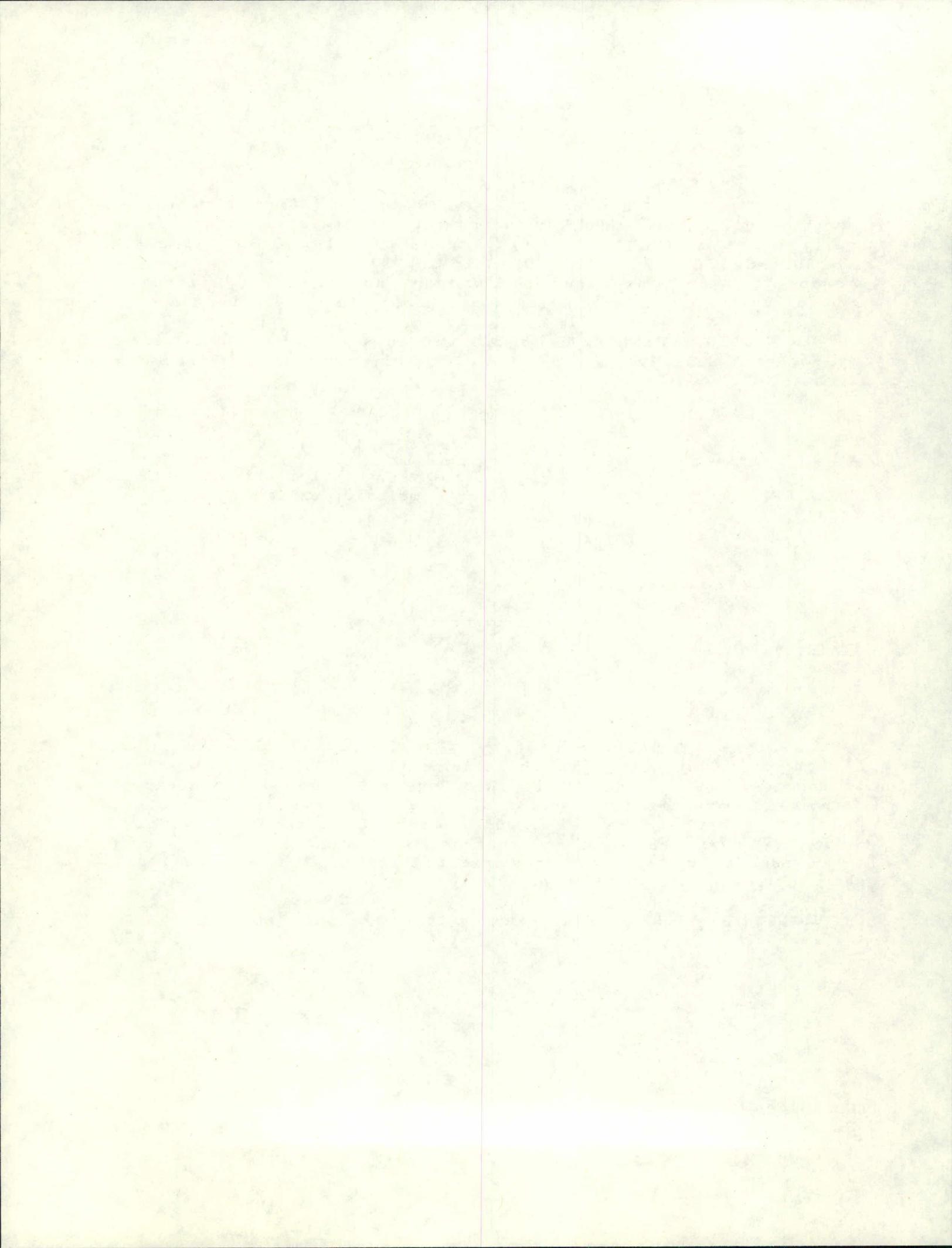
STATE OF IDAHO)
) ss.
County of Bonneville)

I, ALDEN E. HILL, Secretary of GALLATIN VALLEY SEED CO.,, a corporation organized and existing under the laws of the State of Montana, DO HEREBY CERTIFY that Rogers Brothers Seed Company, a corporation organized and existing under the laws of the State of Delaware, is the owner of 2,005 shares of the capital stock of Gallatin Valley Seed Co., and that said 2,005 shares represents the total issued and outstanding Capital Stock of the Corporation as shown by the books of said Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of said Corporation this _____ day of _____, 1977.

Alden E. Hill
Secretary

(CORPORATE)
(SEAL)



Foreign-Montana

No. 14236-1

GALLATIN VALLEY SEED CO.

Certificate of Withdrawal

STATE OF IDAHO
Department of State
Boise, Idaho

Approved, filed and admitted to the
records of articles of Incorporation
of the State of Idaho this 24th
day of March 19 78
at 9:30 o'clock A. M.

FEEs PAID

Filing \$ 4.00

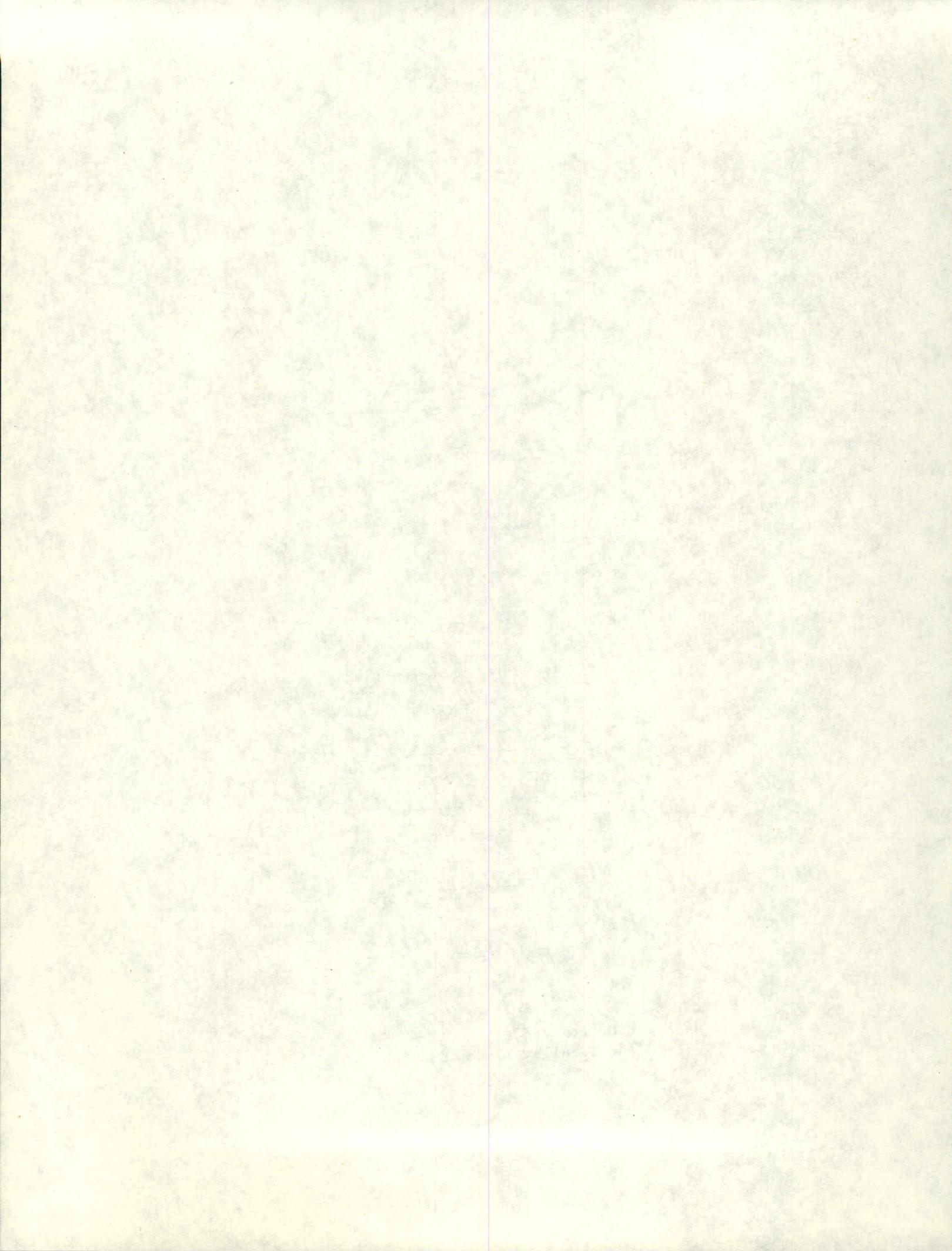
Pete T. Cenarrusa

SECRETARY OF STATE

BY

Megan Tapp
CORPORATION CLERK

Filed by: Rogers Brothers Seed Co,
P.O. Box 1647
Idaho Falls, Idaho 83401



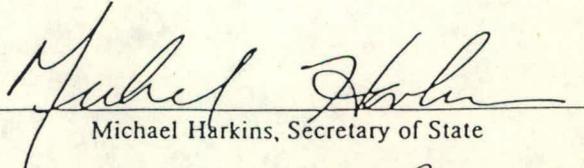
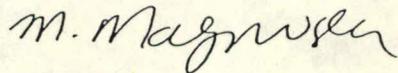
State of Delaware

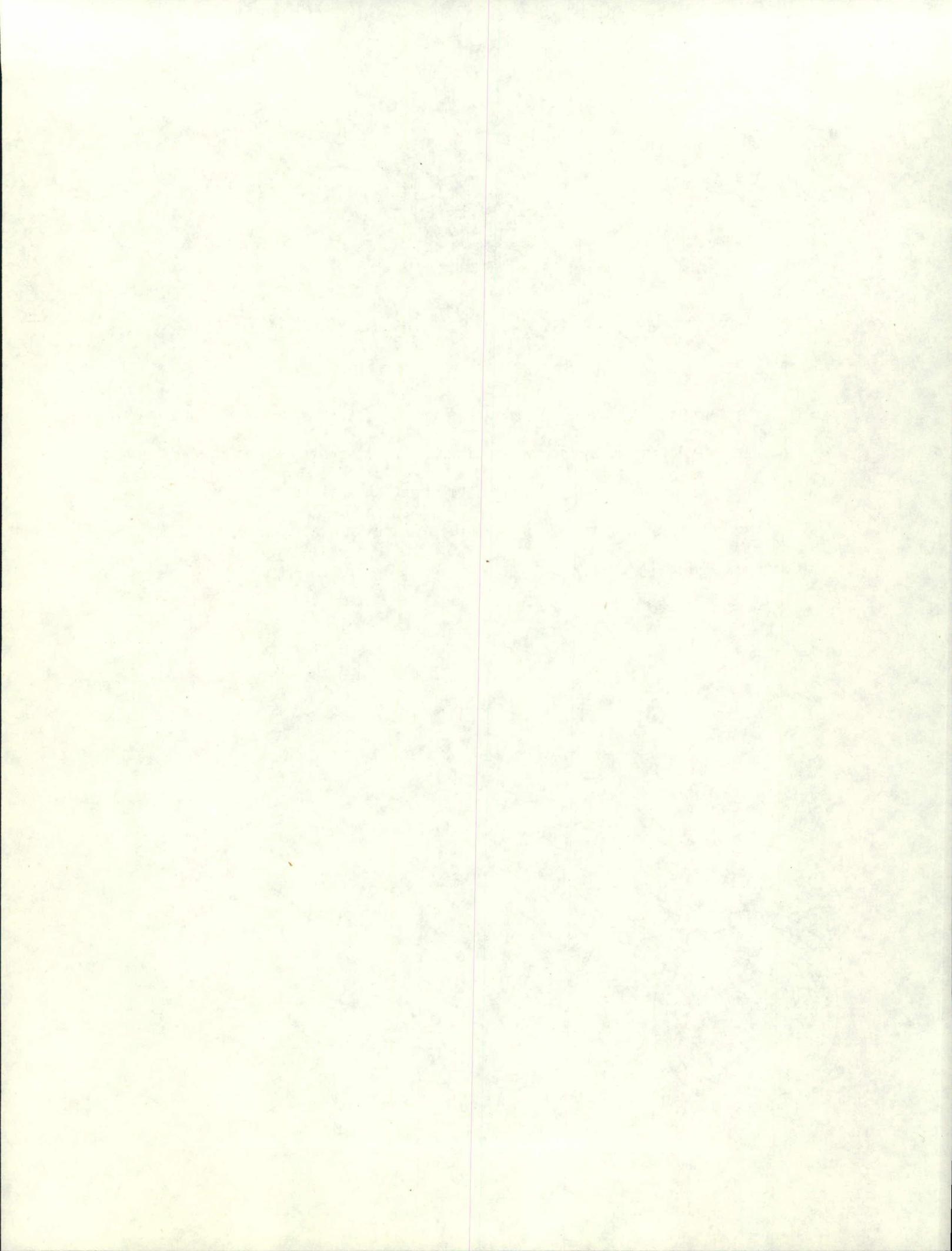


Office of Secretary of State

I, MICHAEL HARKINS, SECRETARY OF STATE OF THE STATE OF DELAWARE
DO HEREBY CERTIFY THAT "ROGERS BROTHERS SEED COMPANY", FILED A
CERTIFICATE OF AMENDMENT, CHANGING ITS CORPORATE TITLE TO "ROGERS
NK SEED CO.", ON THE TWENTY-SIXTH DAY OF DECEMBER, A.D. 1990, AT 10:01
O'CLOCK A.M.




Michael Harkins, Secretary of State
AUTHENTICATION: 
DATE: 10/08/1991



DO NOT WRITE IN THIS SPACE

AMENDED
STATEMENT AND DESIGNATION
BY
FOREIGN CORPORATION

ROGERS NK SEED CO.

_____, a corporation
organized and existing under the laws of Delaware,
and which is presently qualified for the transaction of intrastate business in the
State of California, makes the following statements and/or designation:

That the name of the corporation has been changed to that hereinabove set forth
and that the name relinquished at the time of such change was _____

ROGERS BROTHERS SEED COMPANY

ROGERS NK SEED CO.
(Name of Corporation)

William B. Albers
(Signature of corporate officer)

William B. Albers, President
(Typed name and title of officer signing)

INSTRUCTIONS:

1. If this Amended Statement shows a change of corporate name, there must be attached to this Amended Statement a certificate of an authorized public official of the state or place of incorporation, that such change of name was made in accordance with the laws of that state or place.
2. For filing this Amended Statement there is a fee of \$15.00.

State of Delaware

PAGE 1

Office of the Secretary of State

I, WILLIAM T. QUILLEN, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT THE SAID "ROGERS NK SEED CO.", FILED A CERTIFICATE OF AMENDMENT, CHANGING ITS NAME TO "ROGERS SEED CO.", THE FIFTH DAY OF MAY, A.D. 1994, AT 9 O'CLOCK A.M.



William T. Quillen

William T. Quillen, Secretary of State

0810041 8320

AUTHENTICATION: 7120759

DATE: 05-16-94

044000001

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CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
ROGERS NK SEED CO.

Adopted in accordance with the provisions
of Section 242 of the General Corporation
Law of the State of Delaware

EFFECTIVE DATE: June 1, 1994

We, Willem van Overschot, President, and Richard B. Geller, Secretary, of Rogers NK Seed Co., a corporation existing under the laws of the State of Delaware, do hereby certify as follows:

FIRST: The Certificate of Incorporation of the corporation was filed on 2/27/75.

SECOND: The Certificate of Incorporation of said corporation has been amended as follows:

By striking out the whole of Article I thereof as it now exists and inserting in lieu and instead thereof, a new Article I, reading as follows:

ARTICLE I

Name

The name of the Corporation is ROGERS SEED CO.

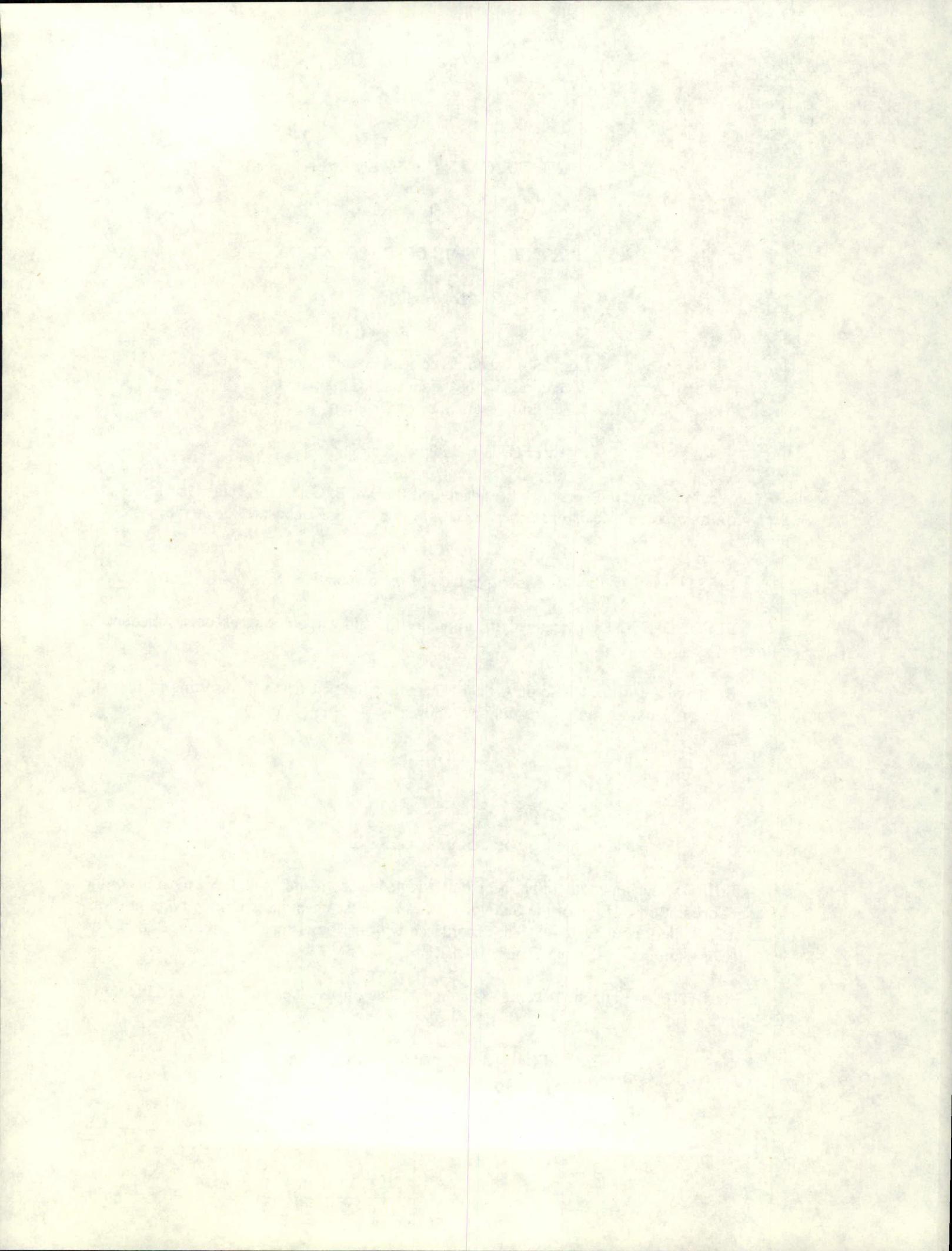
THIRD: Such amendment has been duly adopted in accordance with the provisions of the General Corporation Law of the State of Delaware, by the unanimous written consent of all of the stockholders entitled to vote in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

FOURTH: See attached Written Consent of Sole Shareholder and Board of Directors' Resolution.

IN WITNESS WHEREOF, we have signed this certificate this 13th day of April,
1994.

Willem van Overschot
Willem van Overschot, President

Richard B. Geller
Richard B. Geller, Secretary



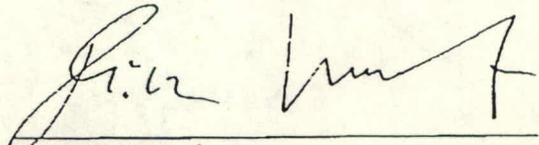
ROGERS NK SEED CO.

WRITTEN CONSENT OF SOLE SHAREHOLDER

SANDOZ CORPORATION, owner of all of the issued and outstanding shares of ROGERS NK SEED CO., hereby consents, pursuant to Section 228 of the Delaware General Corporation Law, to the adoption of the following resolution as and for the act of the shareholder:

RESOLVED, that SANDOZ CORPORATION, as sole shareholder, approves the amendment to Article I of the Certificate of Incorporation of ROGERS NK SEED CO., changing its name to **ROGERS SEED CO.**

Dated: April 22, 1994


Heinz P. Imhof,
Chief Executive Officer
Sandoz Corporation

ROGERS NK SEED CO.

RESOLUTION

RESOLVED, that according to Section 242 of the General Corporation Law of the State of Delaware, that Article I of the Certificate of Incorporation be amended, effective June 1, 1994, to read as follows: The name of the Corporation is **ROGERS SEED CO.**; and, further,

RESOLVED, that the appropriate officers of Rogers NK Seed Co. be, and they hereby are, authorized to take any and all further action and execute and deliver any and all further documents that may be necessary or desirable in order to carry out and effectuate fully the purposes set forth in the foregoing resolution.

ADOPTED UNANIMOUSLY BY THE BOARD
MARCH 31, 1994

Richard B. Geller

Richard B. Geller, Secretary

State of Delaware
Office of the Secretary of State PAGE 1

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"ROGERS SEED CO.", A DELAWARE CORPORATION,
WITH AND INTO "NOVARTIS SEEDS, INC." UNDER THE NAME OF "NOVARTIS SEEDS, INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-FIFTH DAY OF JUNE, A.D. 1997, AT 9 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



Edward J. Freel

Edward J. Freel, Secretary of State

0829320 8100M
971211787

AUTHENTICATION: 8531908
06-26-97

DATE:

STATE OF DELAWARE
 SECRETARY OF STATE
 DIVISION OF CORPORATIONS
 FILED 09:00 AM 06/25/1997
 971211787 - 0829320

**CERTIFICATE OF MERGER
 OF
 ROGERS SEED CO.
 INTO
 NOVARTIS SEEDS, INC.**

The undersigned corporation organized and existing under and by virtue of the General Corporation Law of Delaware,

DOES HEREBY CERTIFY:

FIRST: That the name and state of incorporation of each on the constituent corporations of the merger is as follows:

| NAME | STATE OF INCORPORATION |
|----------------------|-------------------------------|
| Novartis Seeds, Inc. | Delaware |
| Rogers Seed Co. | Delaware |

SECOND: That an Agreement and Plan of Merger between the parties to the merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations in accordance with the requirements of section 251 of the General Corporation Law of Delaware

THIRD: That the name of the surviving corporation is Novartis Seeds, Inc.

FOURTH: That the Certificate of Incorporation of Novartis Seeds, Inc., a Delaware corporation which will survive the merger, shall be the Certificate of Incorporation of the surviving corporation.

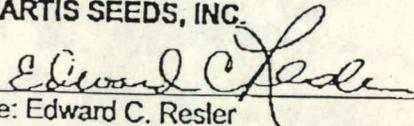
FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

SIXTH: That a copy of the Agreement and Plan of Merger will be furnished by the surviving corporation, on request and without cost, to any stockholder of any constituent corporation.

SEVENTH: That this Certificate of Merger shall be effective on July 1, 1997.

Dated June 23, 1997

NOVARTIS SEEDS, INC.

By: 
 Name: Edward C. Resler
 Title: Vice President & General Counsel

