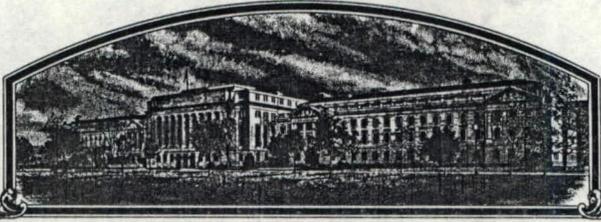


No.

8400147



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Rogers Brothers Seed Company

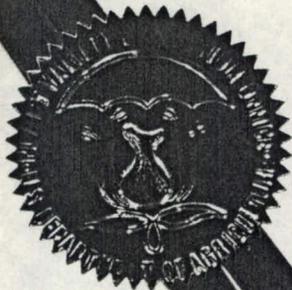
Whereas, THERE HAS BEEN PRESENTED TO THE  
**Secretary of Agriculture**

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 (P.L. 85-625, 70 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

GARDEN BEAN

'Shamrock'

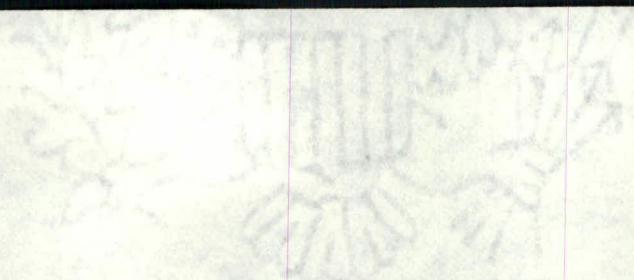


In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 29th day of May in the year of our Lord one thousand nine hundred and eighty-seven.

Attest:

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

*Richard E. Lynn*  
Secretary of Agriculture



1933



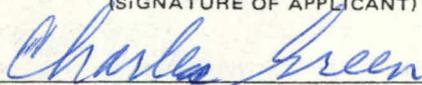
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

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 <b>GP 79151</b>		1b. VARIETY NAME <b>SHAMROCK</b>		FOR OFFICIAL USE ONLY PV NUMBER <b>8400147</b>	
2. KIND NAME <b>Garden</b> <del>Dry Edible</del> Bean		3. GENUS AND SPECIES NAME <b>Phaseolus vulgaris</b>		FILING DATE <b>8/22/84</b>	TIME A.M. <b>8:30</b> <del>XXIX</del>
4. FAMILY NAME (BOTANICAL) <b>Leguminosae</b>		5. DATE OF DETERMINATION <b>Summer 1980</b>		FEE RECEIVED \$ <b>1,800</b> \$ <b>200.00</b>	DATE <b>8/22/84</b> <b>4/6/87</b>
6. NAME OF APPLICANT(S) <b>ROGERS BROTHERS SEED CO.</b>		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>P. O. Box 80 - 4727</b> <del>Idaho Falls, ID 83402</del> <b>BOISE</b>		8. TELEPHONE AREA CODE AND NUMBER <b>(208) 522-0143</b>	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) <b>Corporation</b>		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION <b>Delaware</b>		11. DATE OF INCORPORATION <b>Feb. 25, 1975</b>	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: <b>Mr. Charles Green</b> <b>ROGERS BROTHERS SEED COMPANY</b> <b>P. O. Box 80 - Idaho Falls, ID 83402</b> <b>4727 Boise</b>					
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:					
<input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)					
<input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement.					
<input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)					
<input checked="" type="checkbox"/> 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.) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO			14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input type="checkbox"/> 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? <input checked="" type="checkbox"/> YES <input type="checkbox"/> 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.					

(DATE)  
**5-23-84**  
(DATE)

North American Sales Manager  
 (SIGNATURE OF APPLICANT)  
  
 (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.

SHAMROCK  
EXHIBIT A

ORIGIN AND BREEDING HISTORY OF VARIETY

SHAMROCK, an early to mid-season garden bean variety was derived from the following hand-pollinated cross:

(Rogers GP473 x OSU 58\*) x Rogers GP 66937-A

\* OSU 58 is a Bush Blue Lake variety which was developed by Oregon State University, Corvallis.

The above cross was made during the Fall of 1973 and the subsequent series of selections were made:

<u>YEAR</u>	<u>GENERATION</u>	<u>PLOT</u>	<u>AMOUNT HARVESTED</u>
1973-74	f <sub>1</sub>	Greenhouse	3 oz.
1974	f <sub>2</sub>	741502	5 oz.
1975	f <sub>3</sub>	751785	2 singles
1976	f <sub>4</sub>	761442	6 singles
1976-77	f <sub>5</sub>	Greenhouse	4 oz.
1977	f <sub>6</sub>	771432	2 singles
1978	f <sub>7</sub>	781133	1# 14 oz.
1979	f <sub>8</sub>	79151	4# 14 oz.

The 1# 14 oz. harvest from plot 781133 was planted in plots 79151 and 79853 during the summer of 1980 and the increase from these plantings has been multiplied and used as the source of field trials and basic seed stock for the variety Shamrock.

Shamrock is genetically uniform and stable except for the occurrence of approximately one flat pod rogue per 7,000 plants in the original population.



SHAMROCK  
EXHIBIT B

DATA INDICATIVE OF NOVELTY

Shamrock most closely resembles the garden bean variety Slendertte, but the pod length of Shamrock is longer than the pods of Slenderette.

POD LENGTH

SHAMROCK

16.7 cm

SD = 0.77

Var. = 0.57

SLENDERETTE

13.6 cm

SD = 0.57

Var. = 0.31

The pod measurements were based upon the length of 20 pods for each variety and represents the longest pods from each of 20 plants per variety, selected at prime fresh harvest stage.

1944

SHAROCK  
EXHIBIT B

DATA INDICATIVE OF NOVELTY

Sharock was closely resembled the garden bean variety slender, but the pod length of Sharock is longer than the pods of slender.

POD LENGTH

SHAROCK	SLNDER
16.7 cm	12.0 cm
SD = 0.77	SD = 0.37
Var. = 0.57	Var. = 0.11

The pod measurements were based upon the length of 20 pods for each variety and represent the average pod length of 10 plants per variety, selected at random from harvest stage.

as per Dec. 19, 1985 letter  
from Charles Green

## SHAMROCK

### EXHIBIT B - SUPPLEMENT

#### DATA INDICATIVE OF NOVELTY

The variety "Shamrock" differs from the varieties Lake Superior, Plateau Provider and Resisto in as much as the pods of "Shamrock" are longer than those of the other three varieties.

The four varieties listed above were grown at Homestead, Florida during the Fall of 1985. At full maturity for fresh pod stage, the longest pods of each of 25 plants per variety were measured for length. The results of these measurements are as follows:

#### POD LENGTH (CM)

	<u>SHAMROCK</u>	<u>LAKE SUPERIOR</u>	<u>PLATEAU PROVIDER</u>	<u>RESISTO</u>
-				
X	16.17	13.88	14.37	14.30
SD	0.64	0.83	0.68	0.76
VAR.	0.40	0.66	0.45	0.56

Also, the average pod diameter of the 25 pods of "Shamrock" was smaller than those of Lake Superior, Plateau Provider and Resisto. The data is as follows:

#### POD DIAMETER (MM)

	<u>SHAMROCK</u>	<u>LAKE SUPERIOR</u>	<u>PLATEAU PROVIDER</u>	<u>RESISTO</u>
-				
X	10.65	11.62	11.38	11.49
SD	0.51	0.74	0.66	0.49
VAR.	0.25	0.53	0.42	0.23

Dr. John Morris  
Director of Pea and Bean Research

JM/mp

RECEIVED

DEC 30 1985

OF AGRICULTURE



AMS  
PVPO

1985 DEC 30

as per Dec 19, 1985 letter  
from Charles Green

**SHAMROCK**

EXHIBIT B - SUPPLEMENT

DATA INDICATIVE OF NOVELTY

"Shamrock" differs from the varieties Resisto and Prevato as follows:

Resisto - "Resisto" is highly tolerant and resistant to several Rust strains common to the Eastern-Seaboard of the U.S. and Florida while Shamrock is not. These predominant races are Race 16 and Race 23.

Prevato - "Prevato" is resistant to several races of Anthracnose while Shamrock is not. The pod length of "Prevato" is 12 cm while the pod length of Shamrock is 16 cm.

Dr. John Morris  
Director of Pea and Bean Research

JM/mp

RECEIVED

DEC 30 1985

DEPARTMENT OF AGRICULTURE



U.S. DEPARTMENT

AMS

PVPO

SHAMROCK

EXHIBIT B - SUPPLEMENT

DATA INDICATIVE OF NOVELTY

The garden bean variety 'Shamrock' differs from the varieties 'Lake Superior', 'Resisto' and 'Plateau Provider' in as much as the pods of 'Shamrock' are longer than those of the other three varieties, and the pod diameter is smaller.

The four varieties listed above were grown near Homestead, Florida, during the fall of 1985. At prime maturity for fresh pod stage, the longest pods from each of 25 plants per variety, selected at random, were measured for length and diameter. The results of these measurements are as follows:

Pod Length: (cm.)

Shamrock	16.12	a
Lake Superior	13.88	b
Resisto	14.26	b
Plateau Provider	14.37	b

Those varieties having the mean length followed by different letters are significantly different at the .01 level of Significance. LSD .01 = 0.56

ANALYSIS OF VARIANCE FOR POD LENGTH

SOURCE OF VARIATION	DEGREES OF FREEDOM (DF)	SUM OF SQUARES (SS)	MEAN SQUARE (MS)	OBSERVED F	REQUIRED F	
					5%	1%
TOTAL	99	129.22				
TREATMENTS	3	74.34	24.78			
ERROR	96	54.88	0.57	43.47	2.70	3.99



EXHIBIT B - SUPPLEMENT

EXHIBIT B - SUPPLEMENT

DATA INDICATIVE OF NOVELTY

The garden bean variety 'Spencer's Wonder' differs from the varieties 'Lala Superior', 'Rosalie', and 'Wilson's Wonder' in as much as the pods of 'Spencer's Wonder' are longer and have a different shape, color, and the pod character is similar.

The four varieties listed above were grown near Homestead, Florida, during the fall of 1987. At first, maturity was reached and pods were harvested from a group of 25 plants per variety. Selected at random, were measured for length and diameter. The results of these measurements are as follows:

Pod length (cm)	Pod diameter (cm)
14.37	Spencer's Wonder
13.88	Lala Superior
14.37	Rosalie
14.37	Wilson's Wonder

Those varieties having the measured pod length at the 0.01 level of significance, 129.01 - 0.52

ANALYSIS OF VARIANCE FOR POD LENGTH

SOURCE OF VARIATION	DF	SS	MS	F	P
TOTAL	99	129.12			
TREATMENTS	4				
ERROR	95				



Added 3-16-87, AB

Mr. Burgoon

-3-

Feb. 6, 1987

Pod Diameter: (mm.)

Shamrock	10.65	a
Lake Superior	11.62	b
Resisto	11.49	b
Plateau Provider	11.38	b

Those varieties having the mean length followed by different letters are significantly different at the .01 level of significance. LSD .01 = 0.34

ANALYSIS OF VARIANCE FOR POD LENGTH

SOURCE OF VARIATION	DEGREES OF FREEDOM (DF)	SUM OF SQUARES (SS)	MEAN SQUARE (MS)	OBSERVED F	REQUIRED F	
					5%	1%
TOTAL	99	34.00				
TREATMENTS	3	14.10	4.70	22.38	2.70	3.99
ERROR	96	19.90	0.21			



7-1-87

Mr. Turgeon

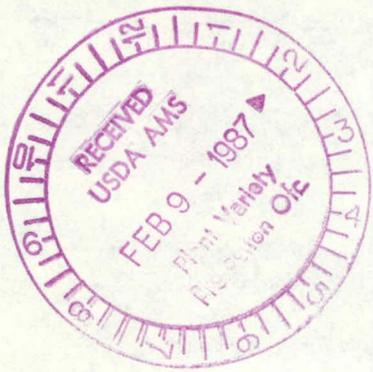
Bob D. ... (Mr.)

10.00  
 11.00  
 11.50  
 11.50

Those statistics having the same length followed by different  
 letters are statistically different at the 5% level of  
 significance.

ANALYSIS OF VARIANCE FOR ...

SOURCE OF VARIATION	DEGREES OF FREEDOM	MEAN SQUARE	F	P
TOTAL	99	34.00		
TREATMENT	3	14.10	4.70	0.01
ERROR	96	0.35		



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) ROGERS BROTHERS SEED COMPANY	FOR OFFICIAL USE ONLY
	PVPO NUMBER 8400147
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P. O. Box 80 Idaho Falls, ID 83402	VARIETY NAME OR TEMPORARY DESIGNATION SHAMROCK

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 ..

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)  
Early Galatin

9 = Slenderette

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 .....

Main stalk: 1 = brittle      2 = wirey

comparison variety from above

comparison variety from above

Number primary branches near base

Branching habit:  
1 = compact      2 = open

1 = stout      2 = thin

8

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

2 1 = truncate ends 2 = rounded ends

2  7 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)

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

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)  
BV-1 and NY-15

0 Pythium root rot

0 Mosaic mottle

0 Rhizoctonia root rot

0 Black root

0 Pythium wilt

0 Bean yellow mosaic virus

0 Angular leaf spot

1 Curly top

0 Bacterial wilt

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:

11

## SHAMROCK

EXHIBIT DADDITIONAL DESCRIPTION OF THE VARIETY

SHAMROCK is a green podded, mid season snap bean variety that reaches fresh harvest stage in approximately 68 days at Twin Falls, Idaho. (Will be cataloged as a 57 day bean). SHAMROCK is a slender podded type of the Slenderette class and has a bright green pod color. The pods are round, and smooth with a slight to moderate curve. SHAMROCK has longer pods than Slenderette with a slightly larger sieve size range. The yield of SHAMROCK is as good as, or exceeds the yield of Slenderette. The bush height and structure of SHAMROCK is similar to the bush of Slenderette.

FOUR STAR BOND  
SOUTHWORTH COUSA  
25% COTTON FIBER



*as per Dec. 19, 1985  
letter from Charles Green*

SHAMROCK

EXHIBIT E

STATEMENT OF OWNERSHIP

"Shamrock" snap bean cultivar was bred and developed by Rogers Brothers Seed Company and is owned in full by Rogers Brothers Seed Company.

Charles Green  
North American Sales Manager

CG/mp

FOUR STAR BOND  
SOUTHADDER & CO. INC.  
20% COTTON FIBER

RECEIVED

DEC 30 1985



U.S. DEPARTMENT OF AGRICULTURE

AMS

PVPO

# State of Delaware

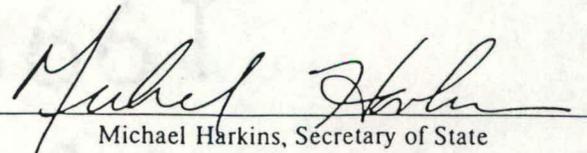


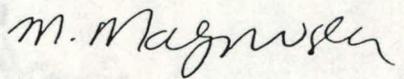
## Office of Secretary of State

---

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



1000



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.



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

944080001

DATE: 05-16-94

16



1000



**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.

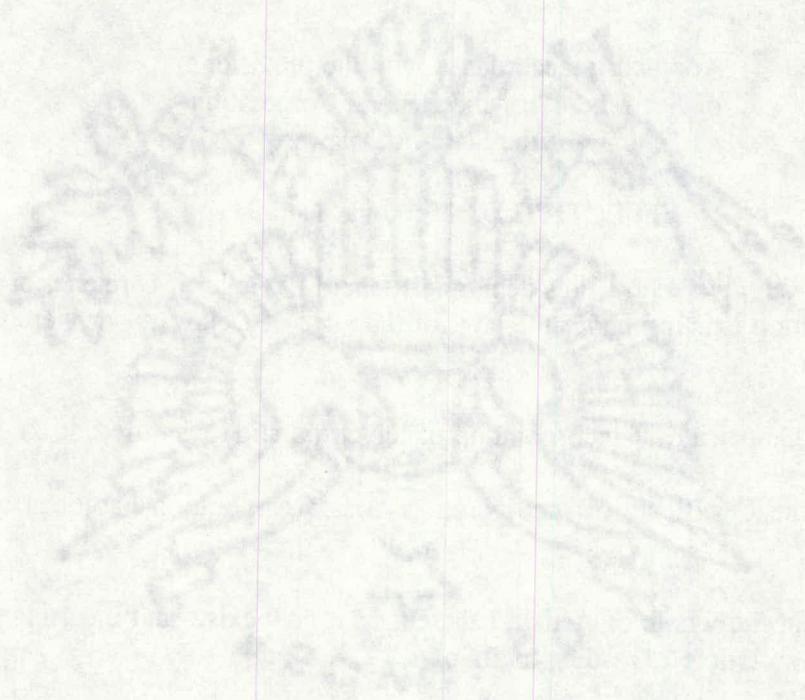
FOURTH: See attached Written Consent of Sole Shareholder and Board of Directors' Resolution.

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

Willem van Overschot  
Willem van Overschot, President

Richard B. Geller  
Richard B. Geller, Secretary

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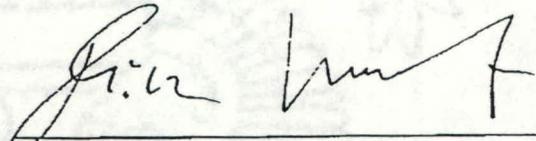
ROGERS NK SEED CO.

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

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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

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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.

1998



*Edward J. Freel*

Edward J. Freel, Secretary of State

0829320 8100M  
971211787

AUTHENTICATION: 8531908  
06-26-97

DATE:

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1998

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:

<b>NAME</b>	<b>STATE OF INCORPORATION</b>
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.

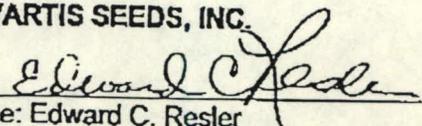
**FIFTH:** That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

**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

