

No.

9000106



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

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

BEAN

'Calgreen'



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

Attest:

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

Edward Madison
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Rogers Brothers Seed Company		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. GP81381-2-8	3. VARIETY NAME Calgreen
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) P.O. Box 4727 Boise, Idaho 83711		5. PHONE (Include area code) 208-322-7272	FOR OFFICIAL USE ONLY PVPO NUMBER 9000106
6. GENUS AND SPECIES NAME Phaseolus vulgaris		7. FAMILY NAME (Botanical) Leguminosae	
8. CROP KIND NAME (Common Name) Snap bean		9. DATE OF DETERMINATION 1985	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation		F I L I N G Date Feb. 23, 1990 Time <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Deleware		12. DATE OF INCORPORATION February 25, 1975	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Mr. Charles Green Rogers Brothers Seed Company P.O. Box 4727 Boise, Idaho 83711		208-322-7272 PHONE (Include area code):	

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. Exhibit A, Origin and Breeding History of the Variety.
- b. Exhibit B, Novelty Statement.
- c. Exhibit C, Objective Description of Variety.
- d. Exhibit D, Additional Description of Variety.
- e. Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____
- g. Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)
 YES (If "YES," answer items 16 and 17 below) NO (If "NO," skip to item 18 below)

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

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
 FOUNDATION REGISTERED CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
 YES (If "YES," through Plant Variety Protection Act Patent Act. Give date: _____)
 NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
 YES (If "YES," give names of countries and dates)
 NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s)) <i>Charles Green</i>	CAPACITY OR TITLE <i>MANAGER, Marketing Support</i>	DATE <i>12/29/89</i>
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

Calgreen

Exhibit AOrigin and Breeding History of Variety

'Calgreen', a mid-season, greenpodded variety of the Greencrop class, was derived from the following hand-pollinated cross:

Rogers GP69142 x Glamis*

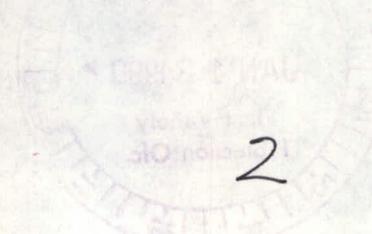
*The origin of Glamis is believed to be a public variety from Australia.

The above cross was made during the winter of 1971-72 and the subsequent series of selections was made:

<u>Year</u>	<u>Generation</u>	<u>Plot</u>	<u>Amount Harvested</u>
1972	F1	721649	Bulked
1973	F2	731866	Bulked
1981	F3	81381	1 Single Plant Selection
1982	F4	821057	Bulked
1983	F5	83825	5 Single Plant Selection
1983	F6	83-CA-430	6 Single Plant Selection
1984	F7	848156	3 lb. 2 oz.
1985	F8	858393	35 lb.

The 35 pounds of seed increase harvested from plot 858393 was subsequently increased and became the basis of the seed stock that will be used to produce the commercial seed crops of Calgreen.

Throughout our evaluations, Calgreen has appeared to be genetically uniform and stable and no off-type plants have been detected.



CalgreenExhibit BData Indicative of Novelty

The variety 'Calgreen' most closely resembles the garden bean variety Green Genes but differs in pod color and pod length, with Calgreen having darker and longer pods than the pods of Green Genes. Calgreen also has a more erect bush than Green Genes and the pods are thicker.

Pod length and color comparisons are as follows:

<u>Variety</u>	<u>Pod Length (cm) 1/</u>		<u>Pod Color 2/</u>
	<u>1986</u>	<u>1989</u>	
Calgreen	18.0	18.1	144B
Green Genes	16.3	16.4	145C

- 1/ Pod lengths are an average of longest pod on each of 21 plants per variety in 1986 and 25 plants per variety in 1989. Analysis of variance is attached.
- 2/ Based upon the Royal Horticultural Society color charts and data collected in 1989.

Data file **RONPVP4**
 Title: **gp81381-2-8-1/Grene Genes**

Function: ANOVA-1
 Data case no. 1 to 50
 Without selection

One way ANOVA grouped over variable 1
 var
 with values from 1 to 2

Variable 3
pod length

A N A L Y S I S O F V A R I A N C E T A B L E

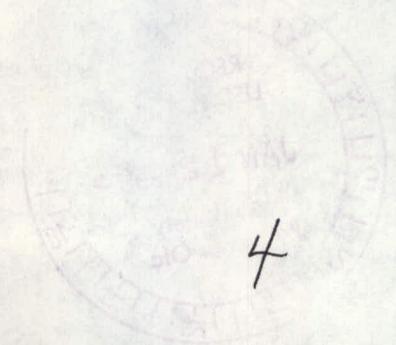
	Degrees of Freedom	Sum of Squares	Error Mean Square	F-value	Prob.
Between	1	41.2232	41.22	35.87	.000
Within	48	55.1616	1.15		
Total	49	96.3848			

Coefficient of Variation= 6.25%

Var.	V A R I A B L E	No.	3		
1	Number	Sum	Average	SD	SE
1	25.00	451.400	18.06	0.86	0.21 CALGREEN
2	25.00	406.000	16.24	1.25	0.21 GREEN GENES
Total	50.00	857.400	17.15	1.40	0.20
Within				1.07	

Bartlett's Test

Chi-square = 3.298725
 Number of Degrees of Freedom = 1
 Approximate Significance = .0693



OBJECTIVE DESCRIPTION OF VARIETY
 BEAN (*Phaseolus vulgaris* L.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY
	PVPO NUMBER 9000106
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)	VARIETY NAME OR TEMPORARY DESIGNATION Calgreen

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
- 2 = Kentucky Wonder
- 3 = Kinghorn Wax
- 4 = White Kidney
- 5 = Michelite 62
- 6 = Dwarf Horticultural
- 7 = Bush Blue Lake 290
- 8 = Other (specify below)
- 9 = Bountiful

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

cm shorter than }
 Same as ... } comparison variety from above

cm taller than }

cm spread Number primary branches near base

cm narrower than }
 width same as ... } comparison variety from above

Branching habit:
 1 = compact 2 = open

cm wider than }

Main stalk: 1 = brittle 2 = wiry 1 = stout 2 = thin

3. PLANT: (Cont'd)

4 Pod position: 1 = low 2 = high 3 = scattered 4 = medium to high

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

2 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) _____

5 5 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)

A flat podded variety
18 cm long and 13 mm deep (suture to suture)
% Sieve size distribution at optimum maturity for non-flat pods

Note:
1 = 4.76 mm to 5.76 mm 4 = 8.34 mm to 9.53 mm
2 = 5.76 mm to 7.34 mm 5 = 9.53 mm to 10.72 mm
3 = 7.34 mm to 8.34 mm 6 = 10.72 mm or larger

1	2	3	4	5	6

3 sieve cm length mm width mm thickness

4 sieve cm length mm width mm thickness

5 sieve cm length mm width mm thickness

6 sieve cm length mm width mm thickness

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
	PVPO NUMBER
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)	VARIETY NAME OR TEMPORARY DESIGNATION

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 2 = Kentucky Wonder
 3 = Kinghorn Wax 4 = White Kidney
 5 = Michelite 62 6 = Dwarf Horticultural
 7 = Bush Blue Lake 290 8 = Other (specify below)

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

cm shorter than }
 Same as .. } comparison variety from above
 cm taller than }

cm spread Number primary branches near base

cm narrower than }
 width same as ... } comparison variety from above

cm wider than }

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

1 = stout 2 = thin

C. FRESH PODS: (Cont'd)

9000106

- 1 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
- 2 Constrictions: 1 = none 2 = slight 3 = deep
- 2 Pod flesh: 1 = light 2 = medium 3 = dark
- 1 1 mm spur length
- 2 Fiber: 1 = none 2 = sparse 3 = considerable
- 5 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) _____

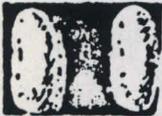
7. SEED COAT COLOR:

- 1 1 = Monochrome 2 = Polychrome 1 1 = shiny 2 = dull
- 1 Primary color: } 1 = white 2 = yellow 3 = buff 4 = tan
- NA 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
- NA 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) _____
- NA Hilar ring on colored seeds: 1 = absent 2 = narrow 3 = butterfly shaped

8. SEED SHAPE AND SIZE:

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

3 Side view:



1 = oval to oblong



2 = round



3 = reniform

7

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

2 1 = truncate ends 2 = rounded ends

4 0 gm/100 seed

1 0 gm/100 seed lighter than 4

gm/100 seed same as

2 1 gm/100 seed heavier than 5

} 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 Rust (specify race below) _____

0 Powdery mildew

0 Fusarium root rot

0 Pythium root rot

0 Rhizoctonia root rot

0 Pythium wilt

0 Angular leaf spot

0 Bacterial wilt

0 Halo blight (specify race below) _____

0 Fuscous blight

0 Red node virus

0 Pod mottle virus

2 Bean common mosaic virus (specify strain below)
BV-1 and NY-15 Strains

0 Mosaic mottle

1 Black root

0 Bean yellow mosaic virus

0 Curly top

Other (specify below) _____

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

0 Aphids

0 Leaf hopper

0 Lygus

0 Pod borer

0 Root knot nematode

0 Seed corn maggot

0 Thrips

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:

CalgreenExhibit DBotanical Description of the Variety

'Calgreen' is a flat, greenpodded bean of the Greencrop class and is intended primarily for fresh market and home garden use. The 36 cm. bush is unusually sturdy and erect, holding the pods well off the ground and located toward the inside of the bush, but hanging free of the branches. Because of this, Calgreen has earned the distinction of being an easy and clean picking variety when harvested either by hand or machine. The 18 cm. pods of Calgreen are unusually straight and uniform, making the variety ideal for fresh market distribution. The moderate level of pod wall fiber gives Calgreen a relatively long shelf life, which is making it popular among retail distributors. The uniform pod size of Calgreen assures a minimum amount of culling and maximizes the amount of marketable beans.

CALGREEN

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT OWNERSHIP

Calgreen was developed by plant breeders employed by Rogers Brothers Seed Company and is owned by Rogers Brothers Seed Company.

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

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944080001

AUTHENTICATION: 7120759

DATE: 05-16-94

11

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

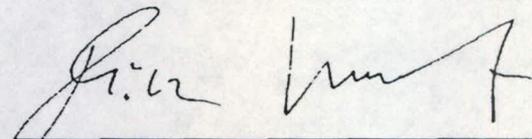
ROGERS NK SEED CO.

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



1998

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
971211767 - 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.

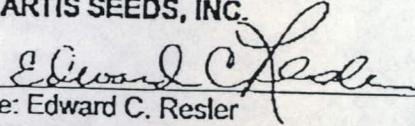
FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

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