



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**

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

GARDEN PEA

'Novella II'

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 this 17th day of June in the year of our Lord one thousand nine hundred and eighty-two.

Attest:

Kenneth H. Egan
Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(instructions on reverse)

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

1. NAME OF APPLICANT(S) ROGERS BROTHERS SEED COMPANY		2. TEMPORARY DESIGNATION	3. VARIETY NAME NOVELLA II
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P. O. Box 80 Idaho Falls, Idaho 83402		5. PHONE (Include area code) (208) 522-0143	FOR OFFICIAL USE ONLY PVPO NUMBER 8200069
6. GENUS AND SPECIES NAME Pisum Sativum	7. FAMILY NAME (Botanical) Leguminosae		FILING DATE 2/17/82 TIME 11:00 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
8. KIND NAME Garden Pea	9. DATE OF DETERMINATION 1980		AMOUNT FOR FILING \$ 500.00 DATE 2/17/82
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			AMOUNT FOR CERTIFICATE \$ 250.00 DATE 4/27/82
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware			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 Charles Green ROGERS BROTHERS SEED COMPANY P. O. Box 80 Idaho Falls, Idaho 83402			

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)	c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement	d. <input type="checkbox"/> Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(u) of the Plant Variety Protection Act.)
c / Yes (If "Yes," answer items 16 and 17 below) No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified
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18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
 Yes (If "Yes," give names of countries and dates)
 No

19. HAVE RIGHTS BEEN GRANTED 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 <i>Charles Green For Rogers Brothers Seed Company</i>	DATE <i>Jan. 22, 1982</i>
SIGNATURE OF APPLICANT	DATE <i>1</i>

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. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, 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

- 9 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;
- 14a 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.
- 14b 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.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d 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.
- 15 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.)
- 16 See section 42 of the Plant Variety Protection Act and section 160.7 of the Regulations and Rules of Practice.



EXHIBIT AOrigin and Breeding History of the Variety

NOVELLA II is a midseason maturity freezing pea that was derived from the following hand pollinated crosses:

NYSAES	*	NYSAES
(Asgrow Mars x Variant Germplasm)		(B68-11119)

* NYSAES - New York State Agricultural Experiment Station

variant Germplasm - A selection from a 1968 release by NYSAES. This release contained seed of five distinctly different plant types of which the leafless (Af genotype) was **one**.

The final cross of this pedigree was made during the winter of 1970-71 and the following series of selections were **subsequently made**.

YEAR	GENERATION	PLOT	HARVESTED
1971	f-1	712221	Bulked - 2 1/4 oz.
1972	f-2	721684	Bulked - 1 pound
1973	f-3	731918	Two single plant selections
1974	f-4	741622	One single plant selection
1975	f-5	751451	Four single plant selections
1976	f-6	76079	Bulked 9 oz., four single plant selections.
1977	f-7	77403	Planted 3 oz. from 76079, harvested 5# 8 oz.
1978	f-8	77403 WI	Arizona winter increase planting
1978	f-9	78924	69# planting from 77403 WI
1979	f-10	92059	Planted from 78924, Selected one powdery mildew "resistant" plant.
1980	f-11	802512	The greenhouse increase of the 92059 single plant selection was planted and harvested 2# of seed.

The 1979 planting of Stock 92059 was a commercial seed crop of the original Novella variety. This crop while growing in the field was severely affected with powdery mildew. **One plant** was noted to be free of the powdery mildew infection and this was harvested and the seed saved for increase. In subsequent field planting where powdery mildew has been present in other susceptible varieties, this selection from Stock 92059 has been found to be free of infection. The 2 pounds harvested from St. 802512 has been increased for two generations and will be the parent stock for the original Novella II commercial release.

In field screen tests, Novella II has been determined to be resistant to pea Enation Mosaic Virus.

There have been no variant types observed in the Novella II variety and to the best of our knowledge, it is uniform and genetically stable.

8200069

NOVELLA II

Garden Pea

EXHIBIT B

Date Indicative of Novelty

NOVELLA II is the most similar to the pea variety Novella, except NOVELLA II has resistance to powdery mildew (*Erysiphe polygoni* DC) and pea Enation Mosaic Virus while Novella is not resistant to either disease.

8. PODS:

1 Shape: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED 2
 3 Color: 1 = LIGHT GREEN (Alaska WR) 2 = MEDIUM GREEN 3 = DARK GREEN (Alderman) 4 = OTHER (Specify) _____
 1 Surface: 1 = SMOOTH 2 = ROUGH Surface, 1 = SHINY 2 = DULL
 4 Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPEE 5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) _____
 0 7 CM. LENGTH 1 1 MM. WIDTH (Between sutures) 0 7 NO. SEEDS PER POD

9. SEEDS (95-100 Tenderometer):

r-1 2 Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) _____
 Seive: %

1	2	3	4	5	6	7	8	AVERAGE
0	3	1	0	1	5	2	7	3
3	0	1	2	0	3	0	0	4.19

 SEEDS (Dry, Mature):
 c 1 Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED
 3 Surface: 1 = SMOOTH 2 = DIMPLED 2 Surface: 1 = SHINY 2 = DULL 3 = WRINKLED
 c 1 2 Color Pattern: 1 = MONOCOLOR 2 = MOTTLED 3 = STRIPED 4 = DOTTED
 4 Primary Color: 1 = CREAMY-WHITE 2 = CREAM & GREEN 3 = LIGHT GREEN 4 = MEDIUM GREEN 5 = DARK GREEN 6 = BLUE-GREEN 7 = YELLOW 8 = BROWN 9 = RED
 c 2 Secondary Color: 10 = GRAY 11 = BLACK
 2 Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK a 2 Cotyledon Color: 1 = GREEN 2 = YELLOW
 2 0 GRAMS PER 100 SEEDS

10. DISEASE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

2 FUSARIUM WILT Race #1 0 NEAR-WILT 0 DOWNY MILDEW
 0 ASCOCHYTA BLIGHT c 2 POWDERY MILDEW 0 BACTERIAL BLIGHT
 0 MOSAIC c 2 PEA ENATION MOSAIC c 0 YELLOW BEAN MOSAIC
 c OTHER (Specify) _____

11. INSECT: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

0 APHIDS c OTHER (Specify) _____

12. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	Novella	Fresh Seed Color	Novella
Leaf Color	Novella	Mature Seed Color	Novella
Pod Color	Novella	Seed Shape	Novella
Pod Shape	Novella	Plan-bit	Novella

COMMENTS:

Garden Pea

EXHIBIT DBotanical Description of the Variety

NOVELLA II is a midseason sweet type freezing pea variety which reaches prime table stage in 86 days at Twin Falls, Idaho (compared to 83 days for the freezing variety Galaxie). The fresh peas at optimum table **stage** have an average sieve size of 4.19 and the color intensity is comparable to the variety Galaxie.

NOVELLA II has the uniqueness of a vine which has conventional stipules but no leaflets. The leaflets are replaced by a proliferation of stipules which are thicker than those of the conventional pea (**Af genotype**).

The vine of NOVELLA II is determinate with a fasciated stem which concentrates the-- **pod** set near the **top** of --the- **plant**. NOVELLA II **sets** an average of 42% double pods and **3.5%** triple pods per node.

Comprehensive yield data for NOVELLA II is not yet available, but in preliminary tests it appears to be equal to the yield of Novella.

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.

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State of Delaware
Office of the Secretary of State

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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. 19 94, AT 9:00 'CLOCK A-M:



William T. Quillen
William T. Quillen, Secretary of State

0810041 8320

AUTHENTICATION: 7120759

9

CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
ROGERS N-K 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 of **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

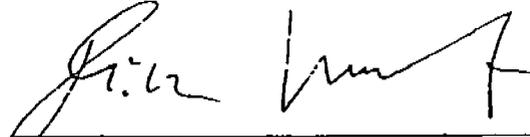
ROGERS NK SEED CO.

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

cc: (15 3)

03.

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 "NOVARTIS SEEDS, INC." UNDER

"NOVARTIS 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

0629320 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 SEEP 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.

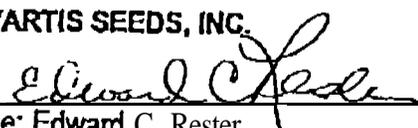
FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

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. Rester
 Title: Vice President & General Counsel