

No.



8600053

# 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, 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

'Goldkist'

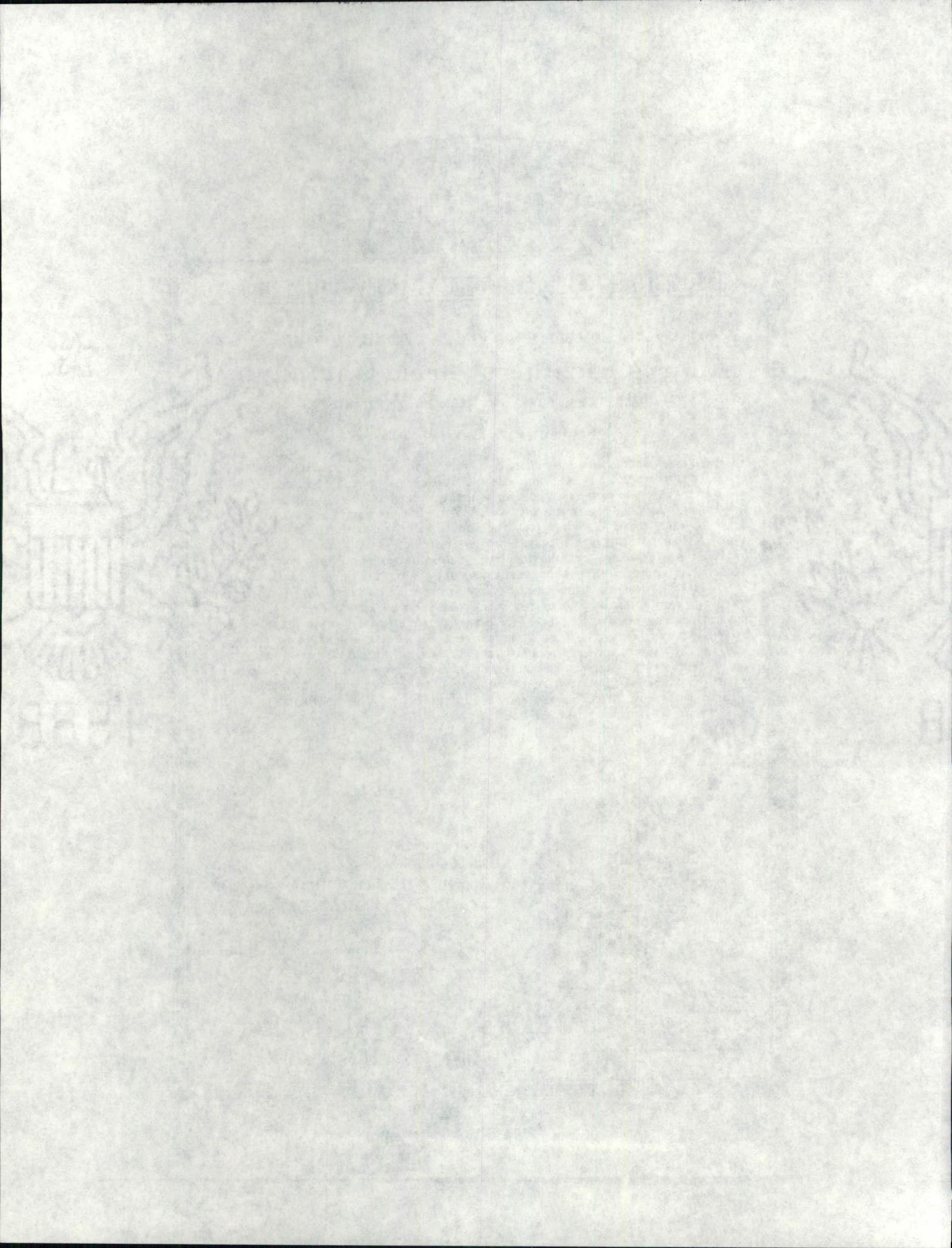


In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 31st day of May in the year of our Lord one thousand nine hundred and ninety.

Attest:

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

*Clayton Yentler*  
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)<br><br>Rogers Brothers Seed Company   |   | 2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.<br><br>H630-4-4  | 3. VARIETY NAME<br><br>'GOLDKIST'   |
| 4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP)<br><br>P. O. Box 4727 - 1755 Westgate Dr. Suite 100<br>Boise, ID 83711-4727 |   | 5. PHONE (Include area code)<br><br>(208) 322-7272  | <b>FOR OFFICIAL USE ONLY</b><br>PVPO NUMBER<br><span style="font-size: 2em; color: red;">8600053</span> |
| 6. GENUS AND SPECIES NAME<br><br>Phaseolus vulgaris   | 7. FAMILY NAME (Botanical)<br><br>Leguminosae | FILING<br>Date 01/14/86<br>Time 2:00 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M. |   |
| 8. CROP KIND NAME (Common Name)<br><br>Bean   | 9. DATE OF DETERMINATION<br><br>1982          |   | FILING<br>Filing and Examination Fee:<br>\$ 1800<br>Date 01/14/86                                       |
| 10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.)<br><br>Corporation    |   | 11. IF INCORPORATED, GIVE STATE OF INCORPORATION<br><br>12. DATE OF INCORPORATION<br><br>02/27/75           |   |
| 13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS                            |   |   |   |

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)      U.S.A.- Small Trial Sales only in 1985

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)]<br> | CAPACITY OR TITLE<br>VICE-PRESIDENT | DATE<br>April 6, 1990 |
| SIGNATURE OF APPLICANT [Owner(s)]     | CAPACITY OR TITLE                   | DATE                  |

## INSTRUCTIONS

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A,B,C,E; (3) at least 2,500 viable untreated seeds; (4) check, drawn on a U.S. bank, payable to "Treasurer of the United States" in the amount of \$2,150 (\$250 filing fee and \$1,900 examination fee). (See section 180.175 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for 30 days, then returned to the applicant as unfiled. Mail application and other requirements to: Plant Variety Protection Office, AMS, USDA, Rm. 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the Application are self-explanatory unless noted below. Corrections on the Application form and Exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a Certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$250 for issuance of the Certificate.

Plant Variety Protection Office  
Telephone: 301/344-2518

### ITEM

9. Give the date when there has been at least a tentative determination that the variety has been sexually reproduced with recognized characteristics, whether or not the novelty of those characteristics has been determined. [See section 41(d) of the Plant Variety Protection Act (Act).]
- 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. (See sections 41 and 52 of the Act.)
- 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 are clear differences; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons which clearly indicate novelty.
- 14c. Exhibit C forms are available from the PVPO; specify crop kind. Fill in the Exhibit C (Objective Description of Variety form) to describe your variety.
- 14d. Optional additional characteristics and/or photographs: Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 14e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employer of the breeder, the owner through purchase or inheritance, 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 this affirmative decision after the variety has either been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified the applicant may change the choice. (See section 180.16 of the Regulations and Rules of Practice.)
19. See sections 41 (i, j) and 42 of the Act and section 180.7 of the Regulations and Rules of Practice for eligibility requirements.

### NOTES:

It is the responsibility of the applicant/owner to keep the PVPO informed of any change of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is \$25. [See section 101 of the Act, and sections 180.130, 180.131, 180.132, and 180.175(h) of the Regulations and Rules of Practice.]

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Rm. 213, Building 306, Beltsville Agricultural Research Center -- East, Beltsville, MD 20705. Telephone: 301/344-2089.

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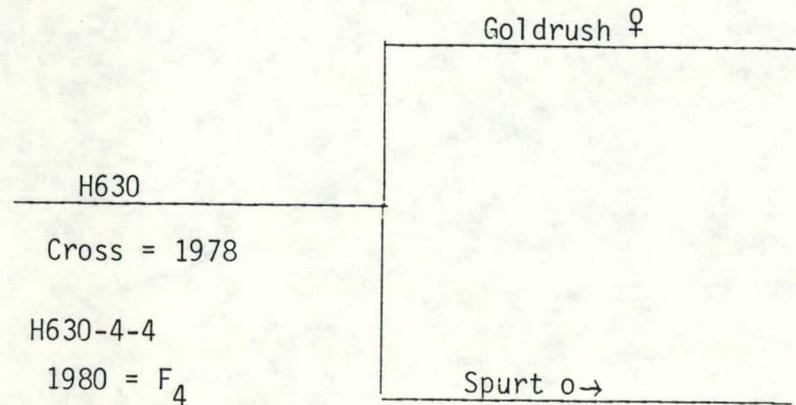
Exhibit 14A.

*'GOLDKIST' Sp 2/87*

January 3, 1986

Pedigree Chart For: ~~'Sunkist'~~ (H630-4-4), Bean

By: GALLATIN VALLEY SEED CO.



First Increase: 1982

Differs From Goldrush:

1. Tolerant vs. susceptible to several rust races.
2. Taller bush.

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Exhibit 14A. (Cont.)

January 3, 1986

## Origin And Breeding History

<sup>15/27/82</sup>  
~~'Sunkist'~~ <sup>GOLDKIST</sup> (H630-4-4) is the result of a hand pollinated cross between Goldrush and Spurt in 1978. 'Sunkist' was selected as an F<sub>4</sub> single plant selection in 1980. It was observed in 1981, and increased for the first time in 1982.

Commercial sales occurred for the first time in 1985, in the amount of 12,550 pounds.

'Sunkist' has been observed since 1981 in trial and increase planting, and we consider this variety to be stable. The only variants has been a trace of flat pods and pods with strings, which are common mutants found in all snap bean varieties.

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Exhibit 14B.

January 3, 1986

Novelty Statement

~~'Sunkist'~~ <sup>'GOLDKIST' 'Sunkist' 'Vine'</sup> is most similar to Goldrush but differs in that ~~'Sunkist'~~ <sup>'GOLDKIST'</sup> has tolerance to several races of U.S. bean rust (40,49,50,51,56) whereas Goldrush does not.

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U.S. DEPARTMENT OF AGRICULTURE  
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EXHIBIT B  
APPENDUM

8600053

'GOLDKIST'

\*\*\*\*\*

## RESULTS - UNIFORM SNAP BEAN RUST NURSERY, 1978

J. P. Meiners  
USDA, SEA-AR  
Beltsville Agricultural Research Center  
Beltsville, Maryland

For several years a uniform snap bean rust nursery has been grown at several locations in the United States. In 1978, the locations and cooperators were as follows: Salisbury (Frank Schales) and Beltsville (Jack Meiners), Maryland; Centerton, New Jersey (Joe Steinke); Charleston, South Carolina (Jim Wyatt) and Crossville, Tennessee (Charles Mullins and Jim Hilty). The nursery included 66 cultivars and breeding lines submitted by public and private breeders. Each entry was planted in duplicate in 10 or 20 foot rows depending on location. Four cultivars with known reaction to rust strains were included as indicators of the pathogenicity of rust populations present. At Beltsville, spreader rows were inoculated with three collections of rust from Maryland; and at Salisbury, with one collection from that location. Nurseries at Charleston, Centerton, and Crossville were not inoculated.

Heavy rust epidemics developed at all locations except Charleston, resulting in good exposure of test entries to infection. Rust strains present varied between locations as indicated by reaction of indicator cultivars. Only Slenderette was susceptible at Salisbury; Slenderette and Pinto U. I. 111 at Centerton; and Slenderette, Pinto U. I. 111, and Mountaineer White Half Runner at Beltsville and Crossville, Aurora was immune at all locations.

The following entries were moderately resistant or better at all locations: G698, G699, G700, G701, and Tidal Wave. The latter cultivar appears to be a true "slow ruster" since it is susceptible to all collections of rust in greenhouse inoculations.

The following were susceptible at only one location: Centerton - Exp. 121, Green Isle, Spartan Pride; Crossville - GP 467, GP 76017; Beltsville - Gaelic, GG 409-1, GG 447, WHP-1, #9399; Salisbury - none.

Cultivars and lines moderately resistant or better at two locations are as follows: Centerton and Crossville - Bush Romano 14, Roma 572, Romano 76146, Romano 76147; Centerton and Salisbury - BBL Advance, BBL 94, GP 76065, 7BP-198, WHP-3; Crossville and Beltsville - none; Crossville and Salisbury - Bronco, ID-16, ID-28, Rainier; Beltsville and Salisbury - Aristocrop, B-4000-3, BBL 72115, BBL 73043, Code 160, E-4206, E 5201, E 6208, Gator Green 15, Lake Largo, 77-1369, 77-1370.

Those moderately resistant or better at one location were: Centerton - Roma, 75-1498; Crossville - none; Beltsville - Lake Seneca; Salisbury - BBL 73149, E 5202, E 6207.

The following ten cultivars were susceptible at all locations: Blue Max, BBL 92, BBL Rio, Eastern Butterwax, Golden Butterwax, Goldrush, Grand Canyon, Greenway, Vitagreen, Triumph. Ten breeding lines were susceptible at all locations also.

\*

RUST RESISTANCE RESULTS

Wing Proo.

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# EXHIBIT B - ADDENDUM

| Entry No. | Cultivar or Line and (Type)            | Source | Location, Replicate, and Reaction |    |                                |               |                             |    |                     |                     |                |    |   |
|-----------|--|--------|-----------------------------------|----|--------------------------------|---------------|-----------------------------|----|---------------------|---------------------|----------------|----|---|
|           |  |        | Gainesville, FL                   |    | Crossville, TN 38 <sup>4</sup> |               | Painter, VA 38 <sup>4</sup> |    | Bridgeton, NJ       |                     | Beltsville, MD |    |   |
|           |  |        | I                                 | II | I                              | II            | I                           | II | I                   | II                  | I              | II |   |
| 38        | BARC RR#4                              | UB-NJ  | --                                | -- | R(SR)                          | HR            | HR                          | HR | HR                  | HR                  | HR             | R  | R |
| 7         | H491A-2-3                              | GV     | I                                 | I  | HR                             | HR            | HR                          | HR | R                   | R                   | R              | R  |   |
| 8         | H491B-1-1-3-1                          | GV     | I                                 | I  | HR                             | MR            | HR                          | HR | R                   | R                   | MS(SR)         | MS |   |
| 9         | H492-3-1                               | GV     | I                                 | I  | HR                             | MR            | HR                          | HR | R                   | R                   | MS             | MS |   |
| 10        | H496-4                                 | GV     | I                                 | I  | <u>MS(SR)</u>                  | <u>MS(SR)</u> | <u>HR, VS<sup>c/</sup></u>  | HR | R                   | R                   | MS(SR)         | MS |   |
| 11        | H531-5-1                               | GV     | I                                 | I  | HR                             | HR            | HR                          | HR | R                   | R                   | MS(SR)         | MS |   |
| 12        | H531-3-1                               | GV     | I                                 | I  | S                              | HR            | VS                          | VS | R, VS <sup>c/</sup> | R, VS <sup>c/</sup> | S              | S  |   |
| 13        | <sup>(OLD) KIST</sup><br>H630-4-4(Wax) | GV     | I                                 | I  | R                              | HR            | HR                          | HR | R                   | R                   | MS             | MS |   |

a/ Sources: Moran = Moran Seed Co. (Steve Magnuson); GV - Gallatin Valley Seed Co. (Calvin Lamborn and Paul Moser); Maffei = Maffei Seed Co. (Vernon Fisher); FM= Ferry Morse Seed Co. (George Emery); UP = USDA, Prosser, WA (Matt Silbernagel); and UB-NJ = USDA, Beltsville, MD and JN Agr. Expt. Stn. (Rennie Stavely and Joe Steinke).

b/ Reactions: I = immune (no visible symptoms); HR = highly resistant (no sporulation, but necrotic spots); R = resistant (pustules predominantly less than 0.3mm in diameter); MR = moderately resistant (pustules predominantly 0.3-0.5 mm and none larger than 0.5 mm); MS = moderately susceptible (pustules up to 0.8 mm); S = susceptible (pustules larger than 0.8 mm present); VS = very susceptible (pustules predominantly larger than 0.8 mm). (SR) = slow rusting = pustule intensity low. Where two reactions are given, without a footnote (c/), more than one race was present and each plant had both reactions.

c/ Segregating for reaction with most plants having the first of the two given reactions.

## SUMMARY OF 1984 UNIFORM SNAP BEAN RUST NURSERY RESULTS

Lines highly resistant or resistant at all locations: B-190, V3249, BARC RR#2, BARC RR#3, BARC RR#4, BARC RR#5, H491A-2-3, NEP-2 (only two locations).

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

|   |   |
|---|---|
| <b>NAME OF APPLICANT(S)</b><br>Rogers Brothers Seed Company<br><b>ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)</b><br>Box 4727 - 1755 Westgate Dr. Suite 100<br>Boise, ID 83711-4727 | <b>FOR OFFICIAL USE ONLY</b><br><b>PVPO NUMBER</b><br><div style="font-size: 2em; color: red; text-align: center;">8600073</div> <b>VARIETY NAME OR TEMPORARY DESIGNATION</b><br>'GOLDKIST' |
|---|---|

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:**

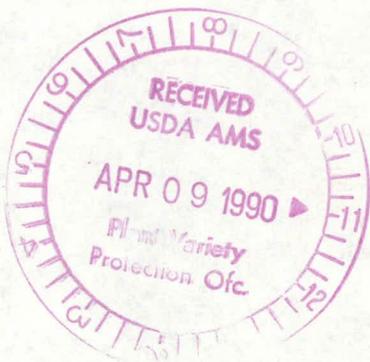
|   |  |
|---|--|
| <input type="text" value="5"/> <input type="text" value="9"/> Days to edible pods   | <input type="text"/> <input type="text"/> Days to green shells   |
| <input type="text" value="0"/> <input type="text" value="9"/> <input type="text" value="8"/> Days to dry seeds  |  |
| <input type="text" value="0"/> <input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="2"/> Heat units to edible pods | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Heat units to green shells   |
| <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Heat units to dry seeds   |  |
| <input type="text"/> <input type="text"/> No. days earlier than .....   | }<br>1 = Tendercrop<br>3 = Kinghorn Wax<br>5 = Michelite 62<br>7 = Bush Blue Lake 290<br>2 = Kentucky Wonder<br>4 = White Kidney<br>6 = Dwarf Horticultural<br>8 = Other (specify below)<br><u>Goldrush (Asgrow)</u> |
| ..... Same as ...   |  |
| <input type="text" value="0"/> <input type="text" value="5"/> No. days later than .....   |  |

**3. PLANT:**

1 = Determinate      2 = Indeterminate

|  |  |
|--|--|
| <input type="text" value="0"/> <input type="text" value="4"/> <input type="text" value="1"/> cm height |  |
| <input type="text"/> <input type="text"/> cm shorter than .....  | }<br>comparison variety from above   |
| ..... Same as ...  |  |
| <input type="text" value="0"/> <input type="text" value="4"/> cm taller than .....                     |  |
| <input type="text" value="4"/> <input type="text" value="0"/> cm spread                                | <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> Number primary branches near base |
| <input type="text"/> <input type="text"/> cm narrower than .....                                       | }<br>comparison variety from above   |
| ..... width same as ...  |  |
| <input type="text" value="0"/> <input type="text" value="6"/> cm wider than .....                      |  |
| <input type="text" value="2"/> Main stalk: 1 = brittle    2 = wirey                                    | <input type="text" value="1"/> Branching habit:<br>1 = compact    2 = open   |
|  | <input type="text" value="1"/> 1 = stout    2 = thin   |

7.



3. PLANT: (Cont'd)

3 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:

2 1 = smooth 2 = wrinkled

1 1 = dull 2 = glossy

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

1 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)

5 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

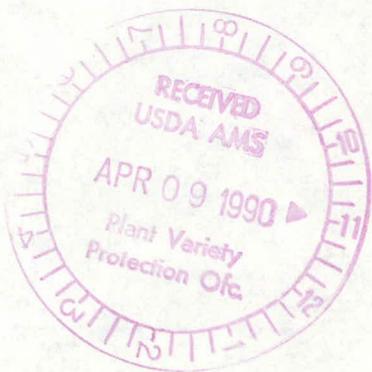
Note:

- 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  |
|---|---|----|----|----|----|
|   | 6 | 16 | 35 | 31 | 12 |

|         |   |           |   |          |  |              |
|---------|---|-----------|---|----------|--|--------------|
| 3 sieve | <input type="checkbox"/> 1 <input type="checkbox"/> 4 | cm length | <input type="checkbox"/> <input type="checkbox"/> 9     | mm width | <input type="checkbox"/> <input type="checkbox"/> 9    | mm thickness |
| 4 sieve | <input type="checkbox"/> 1 <input type="checkbox"/> 6 | cm length | <input type="checkbox"/> 1 <input type="checkbox"/> 0   | mm width | <input type="checkbox"/> 9. <input type="checkbox"/> 8 | mm thickness |
| 5 sieve | <input type="checkbox"/> 1 <input type="checkbox"/> 6 | cm length | <input type="checkbox"/> 1 <input type="checkbox"/> 1   | mm width | <input type="checkbox"/> 1 <input type="checkbox"/> 0  | mm thickness |
| 6 sieve | <input type="checkbox"/> 1 <input type="checkbox"/> 7 | cm length | <input type="checkbox"/> 11. <input type="checkbox"/> 5 | mm width | <input type="checkbox"/> 1 <input type="checkbox"/> 1  | mm thickness |

B.



C. FRESH PODS: (Cont'd)

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- 3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 2 Creaseback: 1 = present 2 = absent
- 1 Pubescence: 1 = none 2 = sparse 3 = considerable
- 1 Spur: 1 = straight 2 = slightly curved 3 = curved
- 1 Constrictions: 1 = none 2 = slight 3 = deep
- 1 Pod flesh: 1 = light 2 = medium 3 = dark
- 0 8 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) \_\_\_\_\_ Wax \_\_\_\_\_

7. SEED COAT COLOR:

- 1 1 = Monochrome 2 = Polychrome  2 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:

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

1. ~~2~~

4/19/90 per letter VM.

Side view:



1 = oval to oblong



2 = round



3 = reniform

9.



8600053

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

2 1 = truncate ends 2 = rounded ends

3  0 gm/100 seed

gm/100 seed lighter than .....  }  
 gm/100 seed same as ....  } comparison variety from page one  
 0  4 gm/100 seed heavier than .....  8 }

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) \_\_\_\_\_

2 Rust (specify race below)  
40, 49, 50, 51, 56 \_\_\_\_\_

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)  
BV1, NY15 \_\_\_\_\_

Mosaic mottle

Black root

0 Bean yellow mosaic virus

0 Curly top

0 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:

Goldkist - Taller and wider than Goldrush - Spur length is 2 mm shorter  
 - Pods slightly longer, (2 cm)  
 Goldkist matures 3-5 days later  
 Goldkist is rust tolerant/Goldrush is not.



860053 4/9/90  
VRL

**Exhibit 14D**

**Additional Description of the Variety**

'Goldkist' is a full season, 59 day, slender podded (10 mm) wax bean. It produces pods that are 15 to 16 cm in length and are a bright, golden yellow color. It is resistant to Common Bean Mosaic (BV<sub>1</sub> and NY<sub>15</sub>), and is tolerant to several United States rust strains.

The bush is an upright bush (41 cm) with the pods held mid to high in the bush.

Exhibit 14D

Additional Description of the Variety

'Goldkrieff' is a full season, 59 day, slender bodded (10 mm) wax bean. It produces pods that are 15 to 16 cm in length and are a bright, golden yellow color. It is resistant to Common Bean Mosaic (BV) and MY<sub>2</sub>, and is tolerant to several United States rust strains.

The bush is an upright bush (41 cm) with the pods held mid to high in the bush.



4/9/80  
VAC

8600053

**Exhibit 14E**

**Statement of the Basis of Applicant's Ownership**

The variety 'Goldkist' is the result of a hand pollinated cross between 'Goldrush' and 'Spurt', made by Gallatin Valley Seed Company in 1978. This variety was further refined and selected as an F<sub>4</sub> in 1980. All selections and increases since 1978 have been made by Gallatin Valley Seed Company, a subsidiary of Rogers Brothers Seed Company.

NOTE: In January 1987, Gallatin Valley Seed Company was totally integrated with Rogers Brothers Seed Company. It is for this reason that our recent correspondence identifies Rogers Brothers Seed Company as the official owner of Goldkist.

RECEIVED  
MAY 19 1980  
PLANT INDUSTRY  
DEPARTMENT OF AGRICULTURE  
WASHINGTON, D.C.

Exhibit 14E

Statement of the Basis of Applicant's Ownership

The variety 'Goldkist' is the result of a hand pollinated cross between 'Goldrush' and 'Spout', made by Galatin Valley Seed Company in 1978. This variety was further refined and selected as an F<sub>4</sub> in 1980. All selections and increases since 1978 have been made by Galatin Valley Seed Company, a subsidiary of Rogers Brothers Seed Company.

NOTE: In January 1987, Galatin Valley Seed Company was totally integrated with Rogers Brothers Seed Company. It is for this reason that our recent correspondence identifies Rogers Brothers Seed Company as the official owner of Goldkist.



# State of Delaware

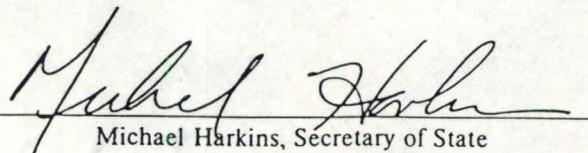


## Office of Secretary of State

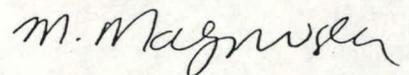
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I, MICHAEL HARKINS, SECRETARY OF STATE OF THE STATE OF DELAWARE  
DO HEREBY CERTIFY THAT "ROGERS BROTHERS SEED COMPANY", FILED A  
CERTIFICATE OF AMENDMENT, CHANGING ITS CORPORATE TITLE TO "ROGERS  
NK SEED CO.", ON THE TWENTY-SIXTH DAY OF DECEMBER,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



  
Michael Harkins, Secretary of State

AUTHENTICATION:



DATE: 10/08/1991



1003



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

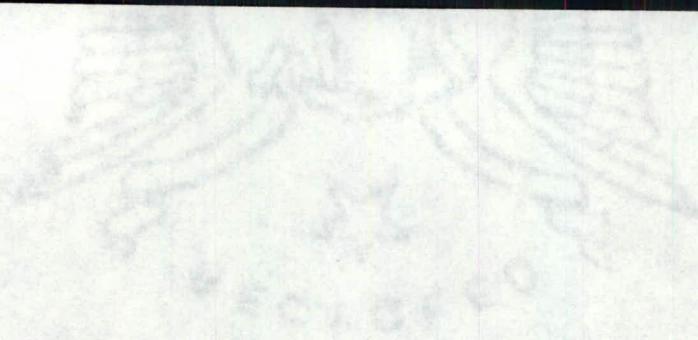
ROGERS NK SEED CO.  
(Name of Corporation)

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.



F008



State of Delaware

PAGE 1

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. 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

15



1868

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

8801



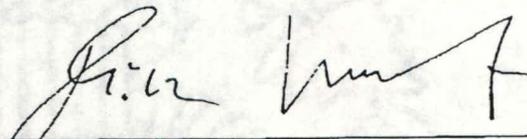
ROGERS NK SEED CO.

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

20 10 30

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1008



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

8881



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.



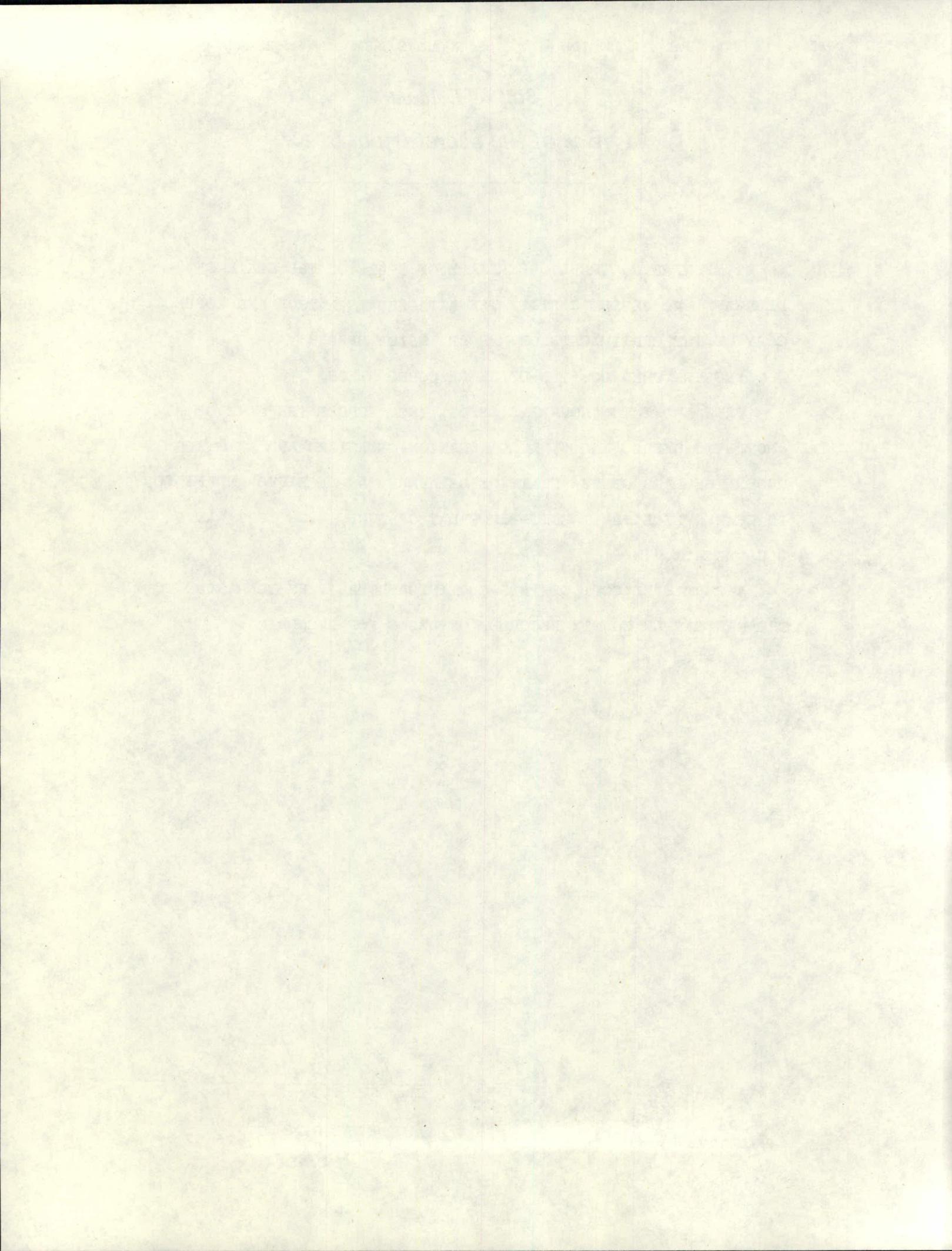
*Edward J. Freel*

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:

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

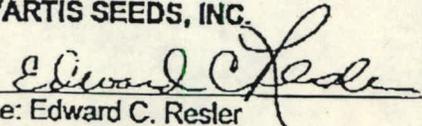
**FIFTH:** That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

**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

