



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Agrigenetics Corporation

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 (7 U.S.C. 2321-2324, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

GARDEN BEAN

'Empress'



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 15th day of April in the year of our Lord one thousand nine hundred and eighty-two.

Attest:

Kenneth H. Evans

Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED
 OMB NO. 40-R3822

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 Exp. 121		1b. VARIETY NAME Exp. 121 <i>Empress</i>		FOR OFFICIAL USE ONLY PV NUMBER 7900045	
2. KIND NAME Snapbean		3. GENUS AND SPECIES NAME Phaseolus vulgaris		FILING DATE 2-14-79 TIME 9:00 (A.M.)	
4. FAMILY NAME (BOTANICAL) Leguminosae		5. DATE OF DETERMINATION August, 1972		FEE RECEIVED \$ 500.00 \$ 250.00	
6. NAME OF APPLICANT(S) <i>Sun Seeds, Inc</i> <i>Northrup King Co.</i>		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <i>P. O. Box 959 20762</i> <i>Minneapolis, MN 55440</i> <i>Bloomington</i>		8. TELEPHONE AREA CODE AND NUMBER (612) 781-8011 <i>463-4646</i>	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Delaware <i>New Mexico</i>		11. DATE OF INCORPORATION 1896 <i>1/9/81</i>
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: <i>Allenby L. White</i> <i>Northrup King Co.</i> <i>P. O. Box 959</i> <i>Minneapolis, MN 55440</i> <i>Mr. Mark Wong</i> <i>Sun Seeds, Inc</i> <i>P. O. Box 20726</i> <i>Bloomington, MN 55420</i>					
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 checked="" 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 checked="" 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? YES NO

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

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

January 4, 1979
 (DATE)

Allenby L. White
 (SIGNATURE OF APPLICANT)

wb 00'6
FEB 14 1979

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.

7900045

EXHIBIT A

Origin and Breeding History of ^{Empress} ~~Exp. 121~~ Snapbean

JET
801008

- 1969 ^{Empress} ~~Exp. 121~~ originated from a selection made from a cross between Emery BL and Green Isle.
- 1970 F1 seed was grown in the winter in a greenhouse and bulked for planting in the field.
- 1970 F2 seed was planted in nursery rows and all seed was bulked.
- 1970 F3 seed was planted in a greenhouse in the autumn and the resulting crop was again bulked.
- 1971 Three plant selections were made from a field planting.
- 1971 Each of the three plant selections were separately increased in the greenhouse.
- 1972 F6 seed of selection 2 was retained and was designed ^{Empress} ~~Exp. 121~~.
- 1973-76 Further increases of ^{Empress} ~~Exp. 121~~ were made.
- 1977 A crop of 18,000 pounds of breeders seed was produced and 24 plants were selected from the field multiplication to serve as a continuing source of seed stock.

^{Empress} ~~Exp. 121~~ is stable for all normal descriptive characteristics. A low frequency of variants will be expected through mutation at a frequency rate of one plant per 4,000. Such off-type plants are removed from seed increase fields by roguing.



AGRIGENETICS CORPORATION
VEGETABLE PRODUCTS GROUP

Research Office
1120 - 220th Street West
Farmington, Minnesota 55024
(612) 463-4646



October 14, 1981

Mr. Thaddeus E. Frey, Examiner
U.S.D.A., PVP Office
Grain Division, AMS
Room 301
National Agriculture Library Building
Beltsville, MD 20705

Dear Mr. Frey:

As you are aware, our application for varietal protection for bean Experimental 121 ('Empress') will soon expire. We had hoped to use Dr. Stavely's rust nursery data to help separate 'BBL 274' from 'Empress'. Unfortunately, varietal separation was not as clear cut as we had hoped. However, the two varieties can be separated on the following basis:

1. As 'BBL 274' matures into the 5 and 6 sieve pods, it forms a pronounced creaseback. This character is common across growing seasons and climate. 'Empress', however, retains its round shape through this stage of development and on to seed maturity.
2. Days to maturity of fresh pods (15% 5 sieve), under Minnesota conditions, is 55 days for 'Empress' while for 'BBL 274' is 57 days.
3. Seed development is faster in 'Empress' than for 'BBL 274'. At 15% 5 sieve pods, 'Empress' seed development in 5 sieve pods only averages 8.74 mm while for 'BBL 274' 5 sieve pods the average is 6.92 mm. T tests indicate the two varieties are significantly different for rate of seed development (data enclosed).

If there are any questions on this data please contact me by phone or mail.

Sincerely,

Keith W. Zary

Dr. Keith W. Zary
Pea & Bean Breeder

cc: Mark Wong

enc.

NOTICE: Agrigenetics Corporation warrants that seeds sold have been labeled as required under State and Federal Seed Laws and that they conform to the label description. No liability hereunder shall be asserted unless the buyer or user reports to the warrantor within a reasonable period after discovery (not to exceed 30 days), any conditions that might lead to a complaint. OUR LIABILITY ON THIS WARRANTY IS LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE SEEDS.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF.

Table 1

	<u>Empress</u>			<u>BBL 274</u>	
8.5	7.8	8.8	6.8	6.3	6.5
7.9	9.1	8.9	7.2	6.8	5.9
9.3	8.6	9.1	6.9	7.2	6.8
8.6	9.3	9.3	8.5	8.4	7.1
8.8	9.1	8.8	7.9	5.8	6.9
9.1	8.6		6.8	6.5	
9.5	7.8		6.6	6.9	
9.2	8.5		5.8	7.1	
8.6	8.3		7.4	8.1	
8.3	8.6		6.9	5.9	

Total = 218.4

Total = 173

$\bar{x} = 8.74$

$\bar{x} = 6.92$

Range = 8.3 - 9.3

Range = 5.8 - 8.5

$$t_{48} = 10.37^{**}$$

$$t_{(01)} \text{ for } 48 \text{ df} = 2.86$$

7900045

EXHIBIT B

Novelty Statement

Empress

~~Exp. 121~~ most closely resembles BBL274 excepting that (1) it is 7-9 centimeters taller, (2) its spur length is 4-6 millimeters shorter, and (3) its pod color is slightly darker than BBL274.

SE7
801008

Rust Biotype/Collection and Host Reaction^{a,b}

Cultivar	79-4	79-6	79-6A	79-15A	79-15B	79-15C	79-15G	16	75-22	23	32
BBL 274	MS	MS	MR	HR, MS	HR	HR	HR	VS	MR	HR	MS
Empress	MS	MR	MR	MS	MR	MR	MR	VS	MR	MS	MS
L. Shasta (Check)	MS	MR	MR	HR, MS	HR	HR	HR	VS	MS	HR	HR

a. I = immune

HR = highly resistant

R = resistant

MR = moderately resistant

MS = moderately susceptible

VS = very susceptible

b. Source: Dr. Rennie Stavely
USDA Plant Pathologist
Beltsville, MN

PLANT VARIETY PROTECTION CERTIFICATE

ASSIGNMENT

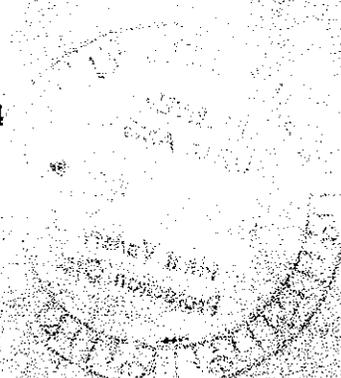
The Sunseeds Division of Agrigenetics Corporation, a Delaware corporation having a place of business at 3575 Mitchell Lane, Boulder, Colorado 80301 ("Agrigenetics"), represents that it is the owner of the entire right, title and interest in and to the plant variety protection certificates and applications for plant variety protection certificates shown below.

For good and valuable consideration, receipt of which is hereby acknowledged, Agrigenetics hereby assigns to UF Genetics, Inc., a Delaware corporation having a place of business at 9800 Fairview Road, Hollister, California 95024, Agrigenetics' entire right, title and interest in and to the following plant variety protection certificates and applications therefore, together with all Agrigenetics' rights to the sexually reproduced plants that are the subject of such certificates and applications:

I. Registered Certificates

<u>Title</u>	<u>Certificate Number</u>	<u>Date</u>
✓ Empress	7900045	4/15/82
✓ 9014 <i>Profit maker</i>	Ap8100174	9/28/81
✓ 9293 <i>Brokers Choice</i>	Ap8100175	9/28/81
✓ 9400 <i>Shannon</i>	Ap8200007	10/22/81
✓ Paymaster	7600058	12/7/77
✓ Lakeland	7600059	1/26/78
✓ Triumph	7600061	12/30/77
✓ Broker's Choice	8100175	4/28/83
✓ Profit Maker	8100174	4/28/83
✓ Shannon	8200007	4/28/83
✓ Sunrise	7100029	6/24/74
✓ Lake Shasta	7100030	8/12/74
✓ Lake Erie	7100031	8/12/74
✓ Rebel	7100033	9/30/74
✓ Lake Superior	7100034	5/21/74
✓ Miami	7100036	2/28/74
✓ Lake Geneva	7200068	5/21/74
✓ Scanion	7300001	11/15/74
✓ Picoverde <i>Onion</i>	7300016	4/10/73
✓ Raider <i>Letta</i>	7400069	7/26/74

Shannon GB



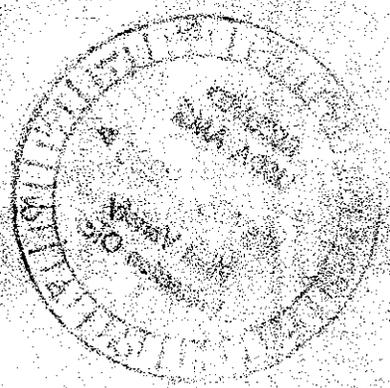
✓ Lake Largo	7400104	9/30/74
✓ Lake Seneca	7500096	11/24/75
✓ Chaparral	7600052	5/16/77
✓ Costaverde	7600053	8/24/77
✓ Gustoverde	7600054	8/24/77
✓ Mesaverde	7600055	5/31/77
✓ Conquest	7700058	7/26/77
✓ Commander	7900067	7/26/79
✓ Keygold	8000111	10/16/80
✓ Snapbean, Exp. 163 <i>Paysmaster</i>	7600058	12/7/77
✓ Snapbean, Exp. 195 <i>Lakeland</i>	7600059	1/6/78
✓ 'Green Genes' Bean	7600060	12/7/77
✓ Snapbean, Exp. 116-0	7600061	12/30/77 <i>above.</i>
✓ Mikado (AVX 450) <i>(P?)</i>	Ap8400037	12/30/83
✓ <i>Virginia</i> Mystro <i>Tomato (S)</i>	8500064	4/16/85

II. Pending Certificate Applications

Title	Application Number	Filing Date
✓ Cajun Queen (I) <i>9/27/85</i>	Pending	--
Mendota	Pending	--
Sunset <i>Plus</i>	Pending	--
Alpine <i>Bob.</i>	Pending	--
Polaris	Pending	--

AGRIGENETICS CORPORATION

By: Murray Calverin
 Title: Executive Vice President

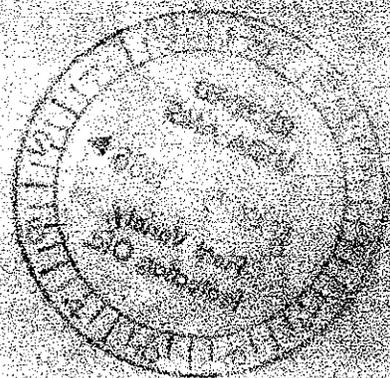
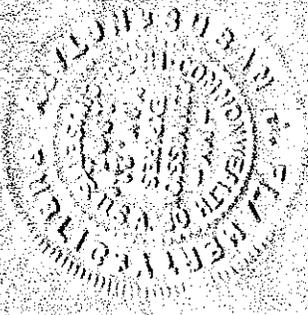


COMMONWEALTH OF MASSACHUSETTS)

County of Suffolk)

On this 30th day of April, 1986, before me appeared Murray Robinson, the person who signed this instrument, who acknowledged that he signed it as a free act on behalf of Agrigenetics Corporation.

Susan J. Flaherty
Notary Public
My Commission Expires: 11/21/91





From Technology to Life

P.O. Box 1438, 2320 Technology Parkway, Building 11 Suite A, Hollister, CA 95024-1438 USA 408/636-9505 TWX 910-3720254

June 7, 1988

Kenneth H. Evans, Commissioner
Plant Variety Protection Office
National Agriculture
Library Building, Room 500
Beltsville, MD 20705

Re: Change of Assignment.

Dear Mr. Evans:

This letter is in reference to your correspondence to me, dated July 14, 1987. I wish to make it clear that this change of assignment is to indicate a name change only, from U.F. Genetics, Inc. to Sunseeds Genetics, Inc.

Also, in reference to 'Mystro' tomato, have Item 1 read Sunseeds Genetics, Inc. and issue the certificate to Sunseeds Genetics, Inc.

Enclosed please find a check in the amount of \$170.00 to cover the cost of changing the certificates.

Title	Certificate No.	Date
Empress	7900045	4/15/82
9014	Ap8100174	9/28/81
9293	Ap8100175	9/28/81
9400	Ap8200007	10/22/81
Paymaster	7600058	12/7/77
Lakeland	7600059	1/26/78
Triumph	7600061	12/30/77
Broker's Choice	8100175	4/28/83
Profit Maker	8100174	4/28/83
Shannon	8200007	4/28/83
Sunrise	7100029	6/24/74
Lake Shasta	7100030	8/12/74
Lake Erie	7100031	8/12/74
Rebel	7100033	9/30/74
Lake Superior	7100034	5/21/74

SUNSEEDS

June 7, 1988
Kenneth H. Evans
Page 2

<u>Title</u>	<u>Certificate No.</u>	<u>Date</u>
Miami	7100036	2/28/74
Lake Geneva	7200068	5/21/74
Scanion	7300001	11/15/74
Picoverde	7300016	4/10/73
Raider	7400069	7/26/74
Lake Largo	7400104	9/30/74
Lake Seneca	7500096	11/24/75
Chaparral	7600052	5/16/77
Costaverde	7600053	8/24/77
Gustoverde	7600054	8/24/77
Mesaverde	7600055	5/32/77
Conquest	7700058	7/26/77
Commander	7900067	7/26/79
Keygold	8000111	10/16/80
Snapbean, Exp. 163	7600058	12/7/77
Snapbean, Exp. 195	7600059	1/6/78
'Green Genes' Bean	7600060	12/7/77
Snapbean, Exp. 116-0	7600061	12/30/77
Mikado (AVX 450)	Ap8400037	12/30/83

Sincerely,



Gene Hookstra
Vice President, Research

GH/mo

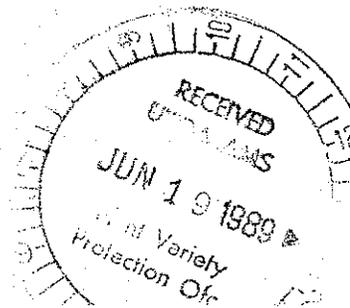
enc: Check
Copy of Correspondence from K.H. Evans

7900045

BILL OF SALE AND ASSIGNMENT

FOR VALUE RECEIVED, Sunseeds Genetics Inc, a Delaware Corporation, with its principal offices at 2320 Technology Parkway, Hollister, California, ("Sun") does hereby sell, transfer, assign and convey to Rogers Brothers Seed Company, a Delaware Corporation with principal offices at 1755 Westgate Drive, Boise, Idaho, ("Rogers") the following:

1. All Sun's intangible assets relating to its pea, snap pea, garden bean, runner bean, cow pea, dry bean, and lima bean business ("Products").
2. All plant variety protection rights and all plant variety protected materials along with the rights to use the names thereof including all varieties listed on Schedule A attached hereto and incorporated herein by this reference.
3. All proprietary plant varieties and all other proprietary information relating thereto which are related to Products.
4. All patents, patent application and patent applications relating to the Products.
5. All research property relating to Products including notebooks, findings, pedigrees, records of experiments and their results, seed stocks, know how, techniques, all other proprietary information in whatever form stored, germ plasm, the germ plasm uses, seed samples and their coding and indexing methods.
6. All trademarks, trade names, service marks and copyrights which apply to the Products excluding any name which includes the corporate name of Sun and its affiliates.
7. Any and all other intangible assets and property rights relating to Products not specifically mentioned herein.



SUNSEEDS GENETICS, INC.
 PLANT VARIETY PROTECTION - USA
 AS OF 8/10/88

<u>Variety</u>	<u>Cert #</u>	<u>Issued</u>	<u>Expires</u>	<u>Issued To</u>
<u>Peas</u>				
Alpine	8500101	09/27/85	09/27/03	Sunseeds, A Div. of Agri. Sunseeds Genetics, Inc.
Blizzard	8700022	06/30/87	06/30/05	
Mendota	AP 8500163	05/30/85		Agrigenetics Corporation
Polaris	AP 8600017	11/12/85		
Sunset	8300074	04/30/84	04/30/02	
Titania	AP 8200008	10/26/81		
<u>Beans</u>				
Brokers Choice	8100175	04/28/83	04/28/01	Agrigenetics Corporation
Conquest	7700058	07/26/77	07/26/94	Keystone Seed Co., Inc.
Empress	7900045	04/15/82	04/15/00	Agrigenetics Corporation
Green Genes	7600060	12/07/77	12/07/94	Northrup King
Keygold	8000111	10/16/80	10/16/97	Keystone Seed Co., Inc.
Lake Erie	7100031	08/12/74	08/12/91	Keystone Seed Co., Inc.
Lake Geneva	7200068	05/21/74	05/21/91	Keystone Seed Co., Inc.
Lake Largo	7400104	09/30/74	09/30/91	Keystone Seed Co., Inc.
Lake Seneca	7500096	11/24/75	11/24/92	Keystone Seed Co., Inc.
Lake Shasta	7100030	08/12/74	08/12/91	Keystone Seed Co., Inc.
Lake Superior	7100034	05/21/74	05/21/91	Keystone Seed Co., Inc.
Lakeland	7600059	01/26/78	01/26/95	Agrigenetics Corporation
Miami	7100036	02/28/74	02/28/91	Keystone Seed Co., Inc.
Mikado (AVX 450)	8400037	03/31/87	03/31/05	Sunseeds Genetics, Inc.
Paymaster	7600058	12/07/77	12/07/94	Agrigenetics Corporation
Profit Maker	8100174	04/28/83	04/28/01	Agrigenetics Corporation
Raider	7400069	07/26/74	07/26/91	Keystone Seed Co., Inc.
Rebel	7100033	09/30/74	09/30/91	Keystone Seed Co., Inc.
Shannon	8200007	04/28/83	04/28/01	Agrigenetics Corporation
Sunrise	7100029	06/24/74	06/24/91	Keystone Seed Co., Inc.
Triumph	7600061	12/30/77	12/30/94	Agrigenetics Corporation

AP - PVP applied for

SCHEDULE A

DATED this the 26 day of May, 1989.

SUNSEEDS GENETICS INC:

BY [Signature]
its: EXECUTIVE Vice President

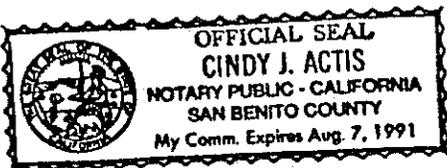
ATTEST:

[Signature]

State of CALIFORNIA)
County of SAN-BENITO) ss)

On this 26th day of May, 1989, before me, the undersigned Notary Public, personally appeared WILLIAM FRAZIER and ROBERT VAN MARTER known to me to be the EXECUTIVE V.P. and V.P. OF FINANCE respectively of the corporation that executed the instrument, and acknowledged to me that such corporation executed the same.

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



Cindy J Actis

Notary Public
Residing at: Hollister, CA
My commission expires: 8/7/91

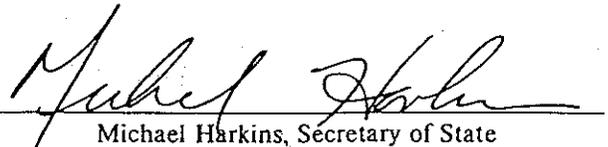
State of Delaware



Office of Secretary of State

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




Michael Harkins, Secretary of State

AUTHENTICATION: 
DATE: 10/08/1991

DO NOT WRITE IN THIS SPACE

AMENDED
STATEMENT AND DESIGNATION
BY
FOREIGN CORPORATION

ROGERS NK SEED CO.

_____, a corporation

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

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

ROGERS BROTHERS SEED COMPANY

ROGERS NK SEED CO.

(Name of Corporation)

William B. Albers

(Signature of corporate officer)

William B. Albers, President

(Typed name and title of officer signing)

INSTRUCTIONS:

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

State of Delaware

PAGE 1

Office of the Secretary of State

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



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

0810041 8320

AUTHENTICATION: 7120759

DATE: 05 15 94

18

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

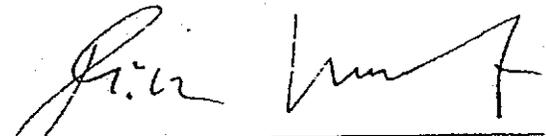
ROGERS NK SEED CO.

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

06 10 30

06

*** TX REPORT ***

TRANSMISSION OK

TX/RX NO 0864
CONNECTION TEL 912088824326
SUBADDRESS
CONNECTION ID
ST. TIME 11/06 15:06
USAGE T 05'44
PGS. 8
RESULT OK

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

of pages ▶ 8

To <i>L.M. Schaffer</i>	From <i>PVPO</i>
Dept./Agency	Phone # <i>301/504-5518</i>
Fax # <i>208/882-4326</i>	Fax # <i>301/504-5291</i>

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

7900045

EXHIBIT B

Novelty Statement

Empress

~~Exp-121~~ most closely resembles BBL274 excepting that (1) it is 7-9 centimeters taller, (2) its spur length is 4-6 millimeters shorter, and (3) its pod color is slightly darker than BBL274.

*187
801008*

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▶ 8

To <i>L.M. Schaffer</i>	From <i>PVPO</i>
Dept./Agency	Phone # <i>301/504-5518</i>
Fax # <i>208/882-4326</i>	Fax # <i>301/504-5291</i>

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

056131

56131 DATE: 11/03/97

IT	DISCOUNT TAKEN	AMOUNT OF PAYMENT
		8.00

CHECK TOTAL: *****\$8.00

056131

3 BANK OF WASHINGTON, N.A.

Ilwaco Branch
Ilwaco, WA 99163

NUMBER

10(156)/1250

56131

DATE

AMOUNT

11/03/97

*****\$8.00

7505B 1.11"

King, Mark

Bear Empress

AAA

with
Stoffer

get no check
to him.

Need an \$0.00 check before
to the U.S. Treasury
we can pay the copies

copy
etary
check
to be
out to
ever's
re copies.

11/03/97

208
882-4422

208
882-4326

U.S. Treasurer
208

Back Schaffer

Phone #

~~208-502-7412~~

7900045

EXHIBIT B

Novelty Statement

Empress

~~Exp. 121~~ most closely resembles BBL274 excepting that (1) it is 7-9 centimeters taller, (2) its spur length is 4-6 millimeters shorter, and (3) its pod color is slightly darker than BBL274.

*see
801008*



AGRIGENETICS CORPORATION
VEGETABLE PRODUCTS GROUP
Research Office
1120 - 220th Street West
Farmington, Minnesota 55024
(612) 463-4646



October 14, 1981

Mr. Thaddeus E. Frey, Examiner
U.S.D.A., PVP Office
Grain Division, AMS
Room 301
National Agriculture Library Building
Beltsville, MD 20705

Dear Mr. Frey:

As you are aware, our application for varietal protection for bean Experimental 121 ('Empress') will soon expire. We had hoped to use Dr. Stavely's rust nursery data to help separate 'BBL 274' from 'Empress'. Unfortunately, varietal separation was not as clear cut as we had hoped. However, the two varieties can be separated on the following basis:

1. As 'BBL 274' matures into the 5 and 6 sieve pods, it forms a pronounced creaseback. This character is common across growing seasons and climate. 'Empress', however, retains its round shape through this stage of development and on to seed maturity.
2. Days to maturity of fresh pods (15% 5 sieve), under Minnesota conditions, is 55 days for 'Empress' while for 'BBL 274' is 57 days.
3. Seed development is faster in 'Empress' than for 'BBL 274'. At 15% 5 sieve pods, 'Empress' seed development in 5 sieve pods only averages 8.74 mm while for 'BBL 274' 5 sieve pods the average is 6.92 mm. T tests indicate the two varieties are significantly different for rate of seed development (data enclosed).

If there are any questions on this data please contact me by phone or mail.

Sincerely,

Keith W. Zary

Dr. Keith W. Zary
Pea & Bean Breeder

cc: Mark Wong

enc.

AGRIGENETICS CORPORATION warrants that seeds sold have been labeled as required under State and Federal Seed Laws and that they conform to the label description. No liability hereunder shall be asserted unless the buyer or user reports to the warrantor within a reasonable period after discovery (not to exceed 30 days), any conditions that might lead to a complaint. OUR LIABILITY ON THIS WARRANTY IS LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE SEEDS.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF.

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) Northrup King Co.	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P. O. Box 959 Minneapolis, MN 55440	PVPO NUMBER 7900045
	VARIETY NAME OR TEMPORARY DESIGNATION Exp-121 Empress

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)
BBL 274

3. PLANT:

1 = Determinate 2 = Indeterminate

cm height

cm shorter than

..... Same as ..

cm taller than

cm spread

Number primary branches near base

cm narrower than

..... width same as ...

cm wider than

Main stalk: 1 = brittle 2 = wirey

1 = stout 2 = thin

comparison variety from above

Branching habit:
1 = compact 2 = open

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

2 1 = truncate ends 2 = rounded ends

2 8 gm/100 seed

gm/100 seed lighter than }
 gm/100 seed same as } comparison variety from page one
 gm/100 seed heavier than }

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):

<input type="checkbox"/> 0 Anthracnose (specify race below)	<input type="checkbox"/> 0 Fuscous blight
<input type="checkbox"/> 0 Rust (specify race below)	<input type="checkbox"/> 0 Red node virus
<input type="checkbox"/> 0 Powdery mildew	<input type="checkbox"/> 0 Pod mottle virus
<input type="checkbox"/> 0 Fusarium root rot	<input checked="" type="checkbox"/> 2 <u>Bean common mosaic virus (specify strain below)</u> <u>Common bean mosaic virus</u>
<input type="checkbox"/> 0 Pythium root rot	<input type="checkbox"/> 0 Mosaic mottle
<input type="checkbox"/> 0 Rhizoctonia root rot	<input type="checkbox"/> 0 Black root
<input type="checkbox"/> 0 Pythium wilt	<input type="checkbox"/> 0 Bean yellow mosaic virus
<input type="checkbox"/> 0 Angular leaf spot	<input type="checkbox"/> 0 Curly top
<input type="checkbox"/> 0 Bacterial wilt	<input checked="" type="checkbox"/> 2 Other (specify below) <u>NY 15 bean mosaic virus</u>
<input type="checkbox"/> 0 Halo blight (specify race below)	

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

<input type="checkbox"/> 0 Aphids	<input type="checkbox"/> 0 Root knot nematode
<input type="checkbox"/> 0 Leaf hopper	<input type="checkbox"/> 0 Seed corn maggot
<input type="checkbox"/> 0 Lygus	<input type="checkbox"/> 0 Thrips
<input type="checkbox"/> 0 Pod borer	<input type="checkbox"/> 0 Weavils
	<input type="checkbox"/> Other (specify below)

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

0 Heat 0 Cold 0 Drought 0 Air pollution

13. COMMENTS:

ES 14 1973

6. FRESH PODS: (Cont'd)

- 3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart
- 2 Creaseback: 1 = present 2 = absent
- 2 Pubescence: 1 = none 2 = sparse 3 = considerable
- 1 Spur: 1 = straight 2 = slightly curved 3 = curved
- 1 Constrictions: 1 = none 2 = slight 3 = deep
- 2 Pod flesh: 1 = light 2 = medium 3 = dark
- 0 7 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
- 2 Pod flavor: (1) Standard (Tendercrop)
(2) Mild Blue Lake (BBL 274)
(3) Strong Blue Lake (Pole FM1)
(4) Mild Romano (Roma)
(5) Strong Romano (Pole Romano)
(6) Other (specify) _____

7. SEED COAT COLOR:

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

8. SEED SHAPE AND SIZE:

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

3. PLANT: (Cont'd)

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

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 = smooth 2 = wrinkled

1 = dull 2 = glossy

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

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:

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)

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
4	13	34	30	17	2

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

Table 1

	<u>Empress</u>			<u>BBL 274</u>	
8.5	7.8	8.8	6.8	6.3	6.5
7.9	9.1	8.9	7.2	6.8	5.9
9.3	8.6	9.1	6.9	7.2	6.8
8.6	9.3	9.3	8.5	8.4	7.1
8.8	9.1	8.8	7.9	5.8	6.9
9.1	8.6		6.8	6.5	
9.5	7.8		6.6	6.9	
9.2	8.5		5.8	7.1	
8.6	8.3		7.4	8.1	
8.3	8.6		6.9	5.9	

Total = 218.4

Total = 173

$\bar{x} = 8.74$

$\bar{x} = 6.92$

Range = 8.3 - 9.3

Range = 5.8 - 8.5

$$t_{48} = 10.37^{**}$$

$$t_{(01)} \text{ for } 48 \text{ df} = 2.86$$

Rust Biotype/Collection and Host Reaction^{a,b}

Cultivar	79-4	79-6	79-6A	79-15A	79-15B	79-15C	79-15G	16	75-22	23	32
BBL 274	MS	MS	MR	HR, MS	HR	HR	HR	VS	MR	HR	MS
Empress	MS	MR	MR	MS	MR	MR	MR	VS	MR	MS	MS
L. Shasta (Check)	MS	MR	MR	HR, MS	HR	HR	HR	VS	MS	HR	HR

- a. I = immune
 HR = highly resistant
 R = resistant
 MR = moderately resistant
 MS = moderately susceptible
 VS = very susceptible

b. Source: Dr. Rennie Stavely
 USDA Plant Pathologist
 Beltsville, MN

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.

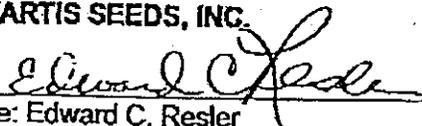
FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

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

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) Northrup King Co.	FOR OFFICIAL USE ONLY
	PVPO NUMBER 7900045
	VARIETY NAME OR TEMPORARY DESIGNATION Exp-121 Empress

ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)
P. O. Box 959
Minneapolis, MN 55440

Place numbers in the boxes (e.g. 0 8 9) 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:

2 1 = Field (dry-edible) 2 = Garden

2. MARKET MATURITY:

5 5 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

0 2 No. days earlier than

7

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)
- BBL 274

3. PLANT:

1 1 = Determinate 2 = Indeterminate

0 5 3 cm height

cm shorter than

Same as

0 7 cm taller than

3 0 cm spread

cm narrower than

width same as

cm wider than

2 Main stalk: 1 = brittle 2 = wirey

comparison variety from above

8

0 0 3 Number primary branches near base

comparison variety from above

1 Branching habit:
1 = compact 2 = open

1 1 = stout 2 = thin

6. FRESH PODS: (Cont'd)

3 Cross section pod shape: 1 = flat 2 = oval 3 = round 4 = heart

2 Creaseback: 1 = present 2 = absent

2 Pubescence: 1 = none 2 = sparse 3 = considerable

1 Spur: 1 = straight 2 = slightly curved 3 = curved

1 Constrictions: 1 = none 2 = slight 3 = deep

2 Pod flesh: 1 = light 2 = medium 3 = dark

0 7 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

2 Pod flavor: (1) Standard (Tendercrop)
 (2) Mild Blue Lake (BBL 274)
 (3) Strong Blue Lake (Pole FM1)
 (4) Mild Romano (Roma)
 (5) Strong Romano (Pole Romano)
 (6) Other (specify) _____

7. SEED COAT COLOR:

1 1 = Monochrome 2 = Polychrome

1 1 = shiny 2 = dull

1 Primary color: 1 = white 2 = yellow 3 = buff 4 = tan

Secondary color: 5 = brown 6 = pink 7 = red 8 = purple
 9 = blue 10 = black 11 = other (specify) _____

1 Color Pattern: 1 = none 2 = splashed 3 = mottled 4 = striped 5 = flecked 6 = dotted

Secondary color location: 1 = hilar ring 2 = ventral surface
 3 = sides 4 = dorsal surface
 5 = not restricted to any area 6 = combination of location (specify below) _____

Hilar ring on colored seeds: 1 = absent 2 = narrow 3 = butterfly shaped

8. SEED SHAPE AND SIZE:

2 Hilum view: 1 = elliptical 2 = oval 3 = round

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

1 Side view:



1 = oval to oblong

2 = round

3 = reniform