No. 7400053

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Morrison 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 seventeen 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 (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA

'Leo'

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* 20th *day of* November *in the year of our Lord one thousand nine hundred and* seventy-four

Attest:

S. F. Rollin

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl L Butz

Secretary of Agriculture

470
(2-12-71)

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION: LEO	2. KIND NAME: PEA	FOR OFFICIAL USE ONLY PVPO NUMBER: 7400053
3. GENUS AND SPECIES NAME: PISUM SATIUUM	4. FAMILY NAME *(Botanical)*: LEGUMINOSAE	FILING DATE: 1-28-74 / TIME: 8:00 A.M.
	5. DATE OF DETERMINATION: 5/73	FEE RECEIVED: $ 750 / CHARGES: —
6. NAME OF APPLICANT(S): MORRISON BROS.SEED CO.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*: E. 7509 SPRAGUE AVENUE SPOKANE, WASH. 99213	8. TELEPHONE AREA CODE AND NUMBER: 509-924-1404

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* CORPORATION	10. STATE OF INCORPORATION: WASHINGTON	11. DATE OF INCORPORATION: 1924

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

MORRISON BROS. SEED CO., P.O.BOX 13066, SPOKANE, WASHINGTON 99213

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*
- [X] 12B. Exhibit B, Botanical Description of the Variety
- [X] 12C. Exhibit C, Objective Description of the Variety
- [X] 12D. Exhibit D, Data Indicative of Novelty
- [X] 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable. *(See Section 52, P.L. 91-577).*

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), P.L. 91-577) (If "Yes," answer 14B and 14C below.)* [ ] YES [XX] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [ ] YES [X] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed?

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes 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 (P.L. 91-577).

MORRISON BROTHERS SEED COMPANY

1/23/74
(DATE)

(SIGNATURE OF APPLICANT)

Research Director

(DATE)

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $50.00 fee to U.S. Dept. of Agriculture, Consumer and Marketing Service, Grain Division, Hyattsville, Maryland 20782. Retain one copy for your files. All items on the face of the form are self-explanatory unles noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety.

12a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

12b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

12c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

12d Provide complete data indicative of novelty. Seed and plant specimens may be submitted and seeds submitted may be sterile. Where possible, include photographs of plant comparisons, chemical tests, etc.

12e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

U. S. DEPARTMENT OF AGRICULTURE
RECEIVED
JAN 28 1974
AMS, GRAIN DIV.
PVPO

EXHIBIT A

LEO

This freezing type pea was developed by crossing a breeding line No - 691011, which was a Fusarium wilt Race 5 Resistant line released by the Northwestern Washington Research and Extention Unit of Mount Vernon Washington, with a Morrison breeding line termed TPL. TPL's were used as a possible genetic source for milti-pod types.

Progeny of this cross (691011 female parent X TPL male parent) were advanced to the F6 generation where seed selections were made on the basis of, color and wrinkled characters. These selections were then grown to the F11 generation which represent our present quantities. During the past four generations no variants have been observed which is evidence of varietal stability.

EXHIBIT B

LEO

*(Leo) COMPARISON TO (Dark Skin Perfection)

SEASON: * 69 days to freezing, first bloom 15th or 16th node.
70 days to freezing, first bloom 15th or 16th.

VINE: * 32 inches tall, dark green, determinate.
30 inches tall, dark green, determinate.

PODS: * 3-1/4" long dark green blunt, with slight curve, 1-2-3-4 podded.
3-1/4" long, blunt straight, dark green 1 & 2 podded.

BERRIES: * 6 to 7 peas with a range of sizes from 1s through 6 sieve at 100 tenderometer. 6 to 8 peas with a range of sizes from 1s through 6 sieve at 100 tenderometer.

SEED: * Wrinkled, green, 2100 to 2300 per pound.
Wrinkled, dark green, 2200 to 2300 per pound.

HEAT UNITS: * Approximately 1585 at 100 tenderometer.
Approximately 1645 at 100 tenderometer.

DISEASE REACTION: * Resistant Fusarium Oxisporum S.P. pisi Race 5
Susceptible Fusarium Oxisporum S.P. pisi Race 5
* Susceptible Fusarium wilt Race 1
Resistant Fusarium wilt Race 1.

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-14
(10-2-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Pea)

OBJECTIVE DESCRIPTION OF VARIETY

PEA *(PISUM SATIVUM)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*

FOR OFFICIAL USE ONLY

PVPO NUMBER 7400053

VARIETY NAME OR TEMPORARY DESIGNATION LEO

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[1] 1 = ~~TALL~~ (Internodes straight)
2 = ~~DWARF~~ (Internodes zigzag)

[1] 1 = GARDEN 2 = FIELD 3 = EDIBLE-PODDED

2. SEASON:

[2] Node number of first bloom: 1 = EARLY (8 - 12th node) 2 = MIDSEASON (13 - 24th node) 3 = LATE (Greater than 24th node)

3. MATURITY:

[0][2] No. of days *Earlier* than ..... [5]
[1][4] No. of days *Later* than ..... [1]

1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL
4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

4. PLANT HEIGHT:

[0][6][9] CM. HIGH

[2][0] Cm. *Shorter* than ..... [5]
[1][0] Cm. *Taller* than ..... [1]

1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL
4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

5. VINE:

[1] Habit: 1 = DETERMINATE 2 = INDETERMINATE

[2] Stockiness: 1 = SLIM (Alaska) 2 = MEDIUM (Thomas Laxton WR) 3 = HEAVY (Alderman)

[1] Branching: 1 = NONE (Alaska) 2 = 1 - 2 BRANCHES (Little Marvel) 3 = MORE THAN 2 BRANCHES (Dwarf Gray Sugar)

[1] Node Color: 1 = GREEN 2 = RED BLOTCH

[0][4] NUMBER OF NODES

[0][6] CM. INTERNODE LENGTH (Just below 1st flowering node)

6. LEAFLETS:

[3] Color: 1 = LIGHT GREEN (Alaska WR) 2 = MED. GREEN (Thomas Laxton WR) 3 = DARK GREEN (Alderman) 4 = OTHER (Specify) _____

[2] Wax: 1 = NONE 2 = LIGHT 3 = MEDIUM 4 = HEAVY

[1] Marbling: 1 = NONE 2 = MARBLED (Alaska)

[4] Number of leaflet pairs: 1 = NOT PAIRED 2 = ONE 3 = TWO 4 = THREE OR MORE

7. STIPULES:

[2] 1 = LACKING 2 = PRESENT

[1] 1 = NOT CLASPING 2 = CLASPING

[2] 1 = NOT MARBLED 2 = MARBLED

[3] Size (Compared with leaflets): 1 = SMALLER 2 = SAME 3 = LARGER

[2] Color (Compared with leaflets): 1 = LIGHTER 2 = SAME 3 = DARKER

8. FLOWER COLOR:

[1] 1 = MONOCOLOR 2 = BICOLOR

[2] Venation [1] Standard [1] Wing [1] Keel

1 = WHITE 2 = GREENISH 3 = LAVENDER 4 = PURPLE
5 = RED 6 = OTHER (Specify) _____ 4

Application No. 7400053
Pea, 'Leo'

13D. Exhibit D:

'Leo' most closely resembles 'Dark Skin Perfection' but has a 5 cm. taller vine, bears slightly curved pods singly, in 2's, 3's, and 4's, requires 60 less heat units to 100 TDR, is resistant to fusarium wilt race 5, and is susceptible to race 1.

Morrison Bros Seed Co

EXHIBIT E

LEO

STATEMENT OF APPLICANTS OWNERSHIP

Morrison Bros. Seed Company of Spokane, Washington, is the employer of the breeder of this variety. We also believe that we are the sole, original, and first breeder of the Leo variety of peas for which it solicits a certificate of protection.

FORM GR-470-14 (REVERSE)

9. PODS:

[2] Shape: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED [2] End: 1 = POINTED (Alderman) 2 = BLUNT (Alaska)

[3] Color: 1 = LIGHT GREEN (Alaska WR) 2 = MEDIUM GREEN 3 = DARK GREEN (Alderman) 4 = OTHER (Specify) _____

[2] Surface: 1 = SMOOTH 2 = ROUGH [2] 1 = SHINY 2 = DULL

[7] Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPLE 5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) Single,double,triple,quadruple.

[0 6] CM. LENGTH [2 0] MM. WIDTH (Between sutures) [0 5] NUMBER OF SEEDS PER POD

10. SEEDS (95 - 100 Tenderometer):

[3] Color: 1 = LIGHT GREEN (Perfection Canner) 2 = GREEN (Little Marvel) 3 = DARK GREEN (Dark Skin Perfection) 4 = OTHER (Specify) _____

[4] Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED

see Ex A+B

[3] Surface: 1 = SMOOTH 2 = DIMPLED 3 = WRINKLED [1] Surface: 1 = SHINY 2 = DULL

SEEDS (Mature, Dry):

[2] Color: 1 = MONOCOLOR 2 = BICOLOR

[6] Primary Color: 1 = CREAMY-WHITE (Mammoth Melting Sugar) 2 = YELLOW (Arthur) 3 = CREAM & GREEN (Thomas Laxton) 4 = YELLOW 5 = LIGHT GREEN (Alderman) 6 = MEDIUM GREEN (Little Marvel)

[7] Secondary Color: 7 = DARK GREEN (Dark Skin Perfection) 8 = BLUE-GREEN (Alaska WR) 9 = BROWN 10 = RED 11 = GRAY 12 = BLACK

[2] Color Pattern: 1 = SPLASHED 2 = MOTTLED 3 = STRIPED 4 = FLECKED 5 = DOTTED

[2] Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK [3] Cotyledon Color: 1 = YELLOW 2 = ORANGE 3 = GREEN

[2 1] GRAMS PER 100 SEED

11. SEED SIEVE SIZE DISTRIBUTION (95 - 100) Tenderometer): AVE 4.3

Sieve (%): [0 0]1 [0 4]2 [1 9]3 [3 0]4 [3 43]5 [1 4]6 [0 0]7 [0 0]8

12. PLANT REACTION: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] 1 = DROUGHT (Wando) [0] 2 = COLD (Alaska) [0] 3 = HEAT (Wando)

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

[1] FUSARIUM WILT 1&2 [2] NEAR-WILT [0] DOWNY MILDEW

[0] ASCOCHYTA BLIGHT [0] POWDERY MILDEW [0] BACTERIAL BLIGHT

[0] MOSAIC [0] PEA ENATION MOSAIC [0] YELLOW BEAN MOSAIC

[2] OTHER (Specify) Fusarium Oxisporum S.P. pisi Race 5

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

[0] APHIDS [0] OTHER (Specify) _____

15. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	Dark Skin Perfection	Fresh Seed Color	Dark Skin Perfection
Leaf Color	Dark Skin Perfection	Mature Seed Color	Little Marvel
Pod Color	Dark Skin Perfection	Seed Shape	Little Marvel
Pod Shape	Small Sieve Alaska	Plant Habit	Dark Skin Perfection

REFERENCES: The following publication may be used as a reference aid for the standardization of character descriptions and terms:

1. Shoemaker, D. N., 1934. Descriptions of Types of Principal American Varieties of Garden Peas. U.S.D.A. Miscellaneous Publication, No. 170.
2. Hedrick, V. P., 1928. The Vegetables of New York. New York Agricultural Experiment Station. Vol. 1., Part 1.
3. Wade, B. L., 1943. A Key to Pea Varieties. U.S.D.A. Circular No. 676.

Nickerson's or any recognized color fan may be used to determine color of the described variety.