

No.

8900067



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Pure Line Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (7 U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA

'Sentry'



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

Attest:

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

*Ed Madigan*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0681-0065

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) Pure Line Seeds, Inc.		2. TEMPORARY DESIGNATION	3. VARIETY NAME Sentry
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) Box 8866 Moscow, Idaho 83843		5. PHONE (Include area code) 208-882-4422	FOR OFFICIAL USE ONLY PVPO NUMBER 8900067
6. GENUS AND SPECIES NAME Pisum sativum	7. FAMILY NAME (Botanical) Leguminosae		FILING DATE Dec. 30, 1988 TIME 10:00 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
8. KIND NAME Pea	9. DATE OF DETERMINATION July 1984		FEE RECEIVED AMOUNT FOR FILING \$ 1800.00 DATE Dec. 27, 1988 AMOUNT FOR CERTIFICATE \$ 200.00 DATE July 12, 1991
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			12. DATE OF INCORPORATION 1948
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Washington			
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Richard S. Lowe Pure Line Seeds, Inc. Box 8866 Moscow, Idaho 83843 PHONE (Include area code): 208-882-4422			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.) d. <input type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership.			
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.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No			
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT <i>Donald L. Bolighuel</i>		DATE 20 Dec 88	
SIGNATURE OF APPLICANT <i>L.M. Shaffer</i>		DATE 12/20/88	

## INSTRUCTIONS

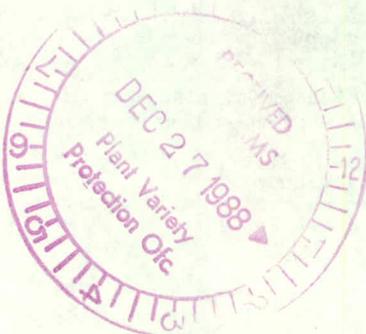
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**General:** Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$1,800 fee (\$200 filing fee and \$1,600 examination fee) to U.S. Department of Agriculture, Agricultural Marketing Service, Warehouse and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

### Item

- 9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 15 If "Yes" is specified (*seed of this variety be sold by variety name only as a class of certified seed*) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

\*\*\* Please send untreated seed. We have no facilities for handling seed that has been treated.



## Exhibit A

Origin and Breeding History

Sentry originated during the fall of 1976 from a hand pollinated hybridization between an early selection of our variety Tahoe (male parent) and an F<sub>2</sub> hybrid between (Kraft 745N3 X Swinger) (female parent).

The F<sub>1</sub> population was advanced to F<sub>2</sub>'s in our research greenhouse located in Moscow, Idaho during the winter and spring of 1977. The F<sub>2</sub>'s were sent and planted in Washington State University's 1977 Fusarium wilt race 5 screening nursery in Mount Vernon, Washington. Here it was selected for race 5. Selected F<sub>3</sub> plants were grown in our company greenhouse during the fall of 1977. The F<sub>4</sub>'s were again sent to Mount Vernon to be screened a second time for race 5 during the summer of 1978. F<sub>5</sub> selections, which were homozygous for Fusarium wilt race 5, were grown in our company greenhouse during the fall of 1978. These F<sub>6</sub> selections were sent to the WSU, Mount Vernon, Washington 1979 Fusarium wilt race 6 screening program. The test indicated high tolerance. The F<sub>7</sub> population in 1980 was screened a second time at the WSU, Mount Vernon station for race 6. High tolerance was again observed.

In 1981 the F<sub>8</sub> population was increased at our Warden, Washington research farm. Two plants were selected and bulked as F<sub>9</sub>'s. From this, bulk increasing began. All increases from 1981 through 1986 were grown on our research farm. Seed was not grown in 1987 and 1988. Production in 1989 as our F<sub>15</sub> population was grown as a small production increase in the Warden area.

Sentry was tested for Fusarium wilt race 1 during the summer of 1983 on the WSU research farm near Pullman, Washington and was resistant. Sentry was also tested for Pea Enation Mosaic (EMV), Red Clover Vein Mosaic (RCVM), and Western Pea Streak in 1985 and 1986 at Oregon State University, Corvallis, Oregon. The test indicated resistance to (EMV), (RCVM) and Pea Streak.

Sentry has never formally been tested for Powdery Mildew, but in years Powdery Mildew was present, Sentry was rated as susceptible.

Sentry was stabilized during the 8th generation and has been observed for seven additional generations and is very uniform and stable.

## Exhibit B

Data Indicative of Novelty

Novelty is based on the unique combination of the following characters:

Sentry most closely resembles the variety Dark Skin Perfection, but differs by being resistant to Fusarium wilt race 5, Pea Enation Mosaic, Western Pea Streak and Red Clover Vein Mosaic, where Dark Skin is susceptible to all four diseases.

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nottoas

U.S. DEPARTMENT OF AGRICULTURE  
OFFICE OF PLANT INDUSTRY  
WASHINGTON, D.C.

FORM GR-470-14  
(3-78)

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  
NATIONAL AGRICULTURAL LIBRARY  
BELTSVILLE, MARYLAND 20705  
OBJECTIVE DESCRIPTION OF VARIETY  
PEA (*PISUM SATIVUM*)

EXHIBIT C  
(Pea)

NAME OF APPLICANT(S)  
Pure Line Seeds, Inc.

VARIETY NAME OR TEMPORARY DESIGNATION

SENTRY

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

Box 8866  
Moscow, Idaho 83843

FOR OFFICIAL USE ONLY

PVPO NUMBER 8900067

Place the appropriate number that describes the varietal character in the boxes below.

Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

1. TYPE:

1 = GARDEN    2 = FIELD    3 = EDIBLE-PODDED

2. MATURITY:

12- Node number of first bloom:     No. of days to processing     Heat Units  
 No. of days Earlier than     } 1 = ALASKA WR    2 = THOMAS LAXTON WR    3 = LITTLE MARVEL  
 No. of days Later than     } 4 = WANDO    5 = ALDERMAN WR    6 = AUSTRIAN WINTER

3. PLANT HEIGHT:

CM. HIGH  
 Cm. Shorter than     } (84 cm)    (47 cm)  
1 = ALASKA WR    2 = THOMAS LAXTON WR    3 = LITTLE MARVEL  
 Cm. Taller than     } 4 = WANDO    5 = ALDERMAN WR    6 = AUSTRIAN WINTER

4. VINE:

Habit: 1 = DETERMINATE    2 = INDETERMINATE     Stockiness: 1 = SLIM (Alaska)    3 = HEAVY (Alderman)  
2 = MEDIUM (Thomas Laxton WR)  
 Branching: 1 = NONE (Alaska)    2 - 1-2 BRANCHES (Little Marvel)    3 = MORE THAN 2 BRANCHES (Dwarf Gray Sugar)  
 Internodes: 1 = STRAIGHT    2 = ZIG ZAG     NUMBER OF NODES

5. LEAFLETS:

Color: 1 = LIGHT GREEN (Alaska WR)    2 = MED. GREEN (Thomas Laxton WR)    3 = DARK GREEN (Alderman)  
4 = OTHER (Specify)  
 Wax: 1 = NONE    2 = LIGHT    3 = MEDIUM     1 = NOT MARBLED    2 = MARBLED (Alaska)  
4 = HEAVY  
 Number of leaflet pairs: 1 = NOT PAIRED    2 = ONE    3 = TWO    4 = THREE OR MORE

6. STIPULES:

1 = LACKING    2 = PRESENT     1 = NOT CLASPING    2 = CLASPING  
 1 = NOT MARBLED    2 = MARBLED     Size (Compared with leaflets): 1 = SMALLER    2 = SAME  
3 = LARGER  
 Color (Compared with leaflets): 1 = LIGHTER    2 = SAME    3 = DARKER

7. FLOWER COLOR:

VENATION     STANDARD     WING     KEEL    1 = WHITE    2 = GREENISH    3 = LAVENDER  
4 = PURPLE    5 = RED  
6 = OTHER (Specify)

8. PODS:

8900067

2 Shape: 1 = STRAIGHT 2 = SLIGHTLY 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) \_\_\_\_\_  
 1 Surface: 1 = SMOOTH 2 = ROUGH  2 Surface: 1 = SHINY 2 = DULL  
 2 Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPEE  
 5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) \_\_\_\_\_  
 8 1/2 CM. LENGTH  1  4 MM. WIDTH (Between sutures)  8.7 NO. SEEDS PER POD

9. SEEDS (95--100 Tenderometer):

3 Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) \_\_\_\_\_  
 Seive: % 

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

SEEDS (Dry, Mature):

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

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

2 FUSARIUM WILT  0 NEAR-WILT  0 DOWNY MILDEW  
 0 ASCOCHYTA BLIGHT  1 POWDERY MILDEW  0 BACTERIAL BLIGHT  
 0 MOSAIC  2 PEA ENATION MOSAIC  0 YELLOW BEAN MOSAIC  
 2 OTHER (Specify) Red Clover Vein Mosaic, Western Pea Streak, Fusarium Wilt Race 5, Tolerance to Fusarium Wilt

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

Race 6

0 APHIDS  OTHER (Specify) \_\_\_\_\_

12. 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	Dark Skin Perfection
Pod Color	Dark Skin Perfection	Seed Shape	Dark Skin Perfection
Pod Shape	Dark Skin Perfection	Plant Habit	Dark Skin Perfection

COMMENTS: Variety Protection Ofc.

## Exhibit E

Statement of Ownership

Pure Line Seeds, Inc., claims to be the sole developer and owner of Sentry since it was our plant breeder who made the original hybridization, recorded all the readings for disease, made all the selections on this variety through its segregating populations and made the final decision as to its being a potentially new, distinct and novel variety. By agreement with our plant breeder, all rights to Sentry belong to Pure Line Seeds, Inc.

Gilbert bond  
25% cotton

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE #19

Pure Line Seeds, Inc., has sent for commercial evaluations to determine if the variety is adaptable to that particular environment; to determine if the plant height is acceptable and to make sure the vine does not wrap on the pod stripping equipment; to determine if the variety holds up to diseases of the area; to determine if the varieties sieve size, color and flavor meet quality control standards from an economic standpoint and to determine if yield is high enough to be profitable.

All commercial trials are sent labeled, "U.S. patent contemplated, seed multiplication prohibited".

We have offered Sentry for sale as small commercial trials in the U.S. in 1986, 1987 and 1988.