

No.

8400031



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

PEA

'Misty'

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

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 21st day of December in the year of our Lord one thousand nine hundred and eighty-four.

John R. Block

Secretary of Agriculture





**ASSIGNMENT OF CERTIFICATES PLANT VARIETY PROTECTION
AS COLLATERAL SECURITY**

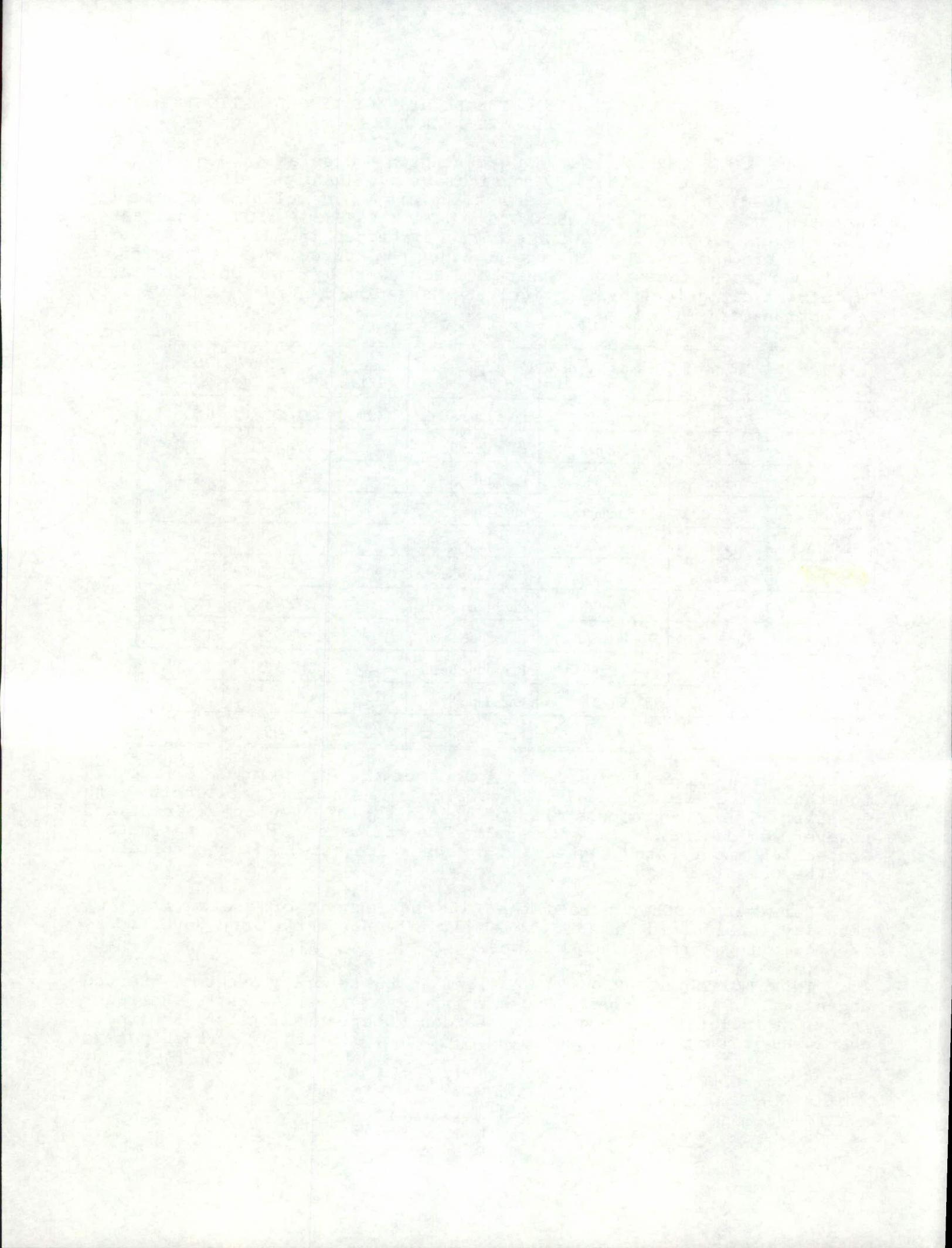
PURE LINE SEEDS, INC., a Washington corporation (hereinafter "Borrower"), for valuable consideration, receipt of which is acknowledged, hereby assigns and transfers, for collateral security purposes, to U.S. BANK OF WASHINGTON, NATIONAL ASSOCIATION (hereinafter "Bank"), and grants to Bank a security interest in all of Borrower's right, title and interest in, to and under the following Certificates of Plant Variety Protection issued to Borrower by the United States Department of Agriculture, Agriculture Marketing Service, Plant Variety Protection Office:

Plant Variety No.	Crop Kind	Name of Variety	Applicant	Status, All Occs	Cert. Issue Date	Record:
770002	Pea	Banff	Pure Line Seeds	I	6/7/77	696
7700023	Pea	Kodiak	Pure Line Seeds	I	6/7/77	697
7900099	Pea	Tahoe	Pure Line Seeds	I	1/2/80	991
8200186	Pea	Sundance	Pure Line Seeds	I	10/27/83	1541
8300015	Pea	Arctic	Pure Line Seeds	I	3/26/84	1561
8400031	Pea	Misty	Pure Line Seeds	I	12/21/84	1756
8500041	Pea	Sunfire	Pure Line Seeds	I	12/27/85	1923
8500042	Pea	Early Sweet 41	Pure Line Seeds	I	10/31/85	1924
8500043	Pea	Bold	Pure Line Seeds	I	10/31/85	1925
8900065	Pea	Sun-Up	Pure Line Seeds	I	3/29/91	2792
8900067	Pea	Sentry	Pure Line Seeds	I	7/31/19	2794

Together with all extensions and renewals of the foregoing Certificates, together with all goodwill associated with said Certificates and together with all proceeds thereof regardless of the form thereof and however evidenced. The foregoing Certificates of Plant Variety Protection and related rights and proceeds are hereinafter referred to as "the Collateral."

Borrower further agrees that its assignment of and grant of a security interest in the Collateral shall be subject to and governed by the following terms and conditions:

1. **INDEBTEDNESS SECURED.** The assignment and security interest granted above shall secure all past, present and future indebtedness of Borrower to Bank, including all interest thereon, whether direct or indirect, absolute or contingent, including, but not limited to, indebtedness



APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

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

1. NAME OF APPLICANT(S) Pure Line Seeds, Inc.		2. TEMPORARY DESIGNATION MISTY	3. VARIETY NAME MISTY
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 8400031
6. GENUS AND SPECIES NAME Pisum sativum	7. FAMILY NAME (Botanical) Leguminosae		
8. KIND NAME Pea	9. DATE OF DETERMINATION December 1, 1981		FILING DATE 12/30/83 TIME 8:30 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			FEE RECEIVED AMOUNT FOR FILING \$ 1,000 DATE 12/30/83 AMOUNT FOR CERTIFICATE \$ 500.00 DATE 12/10/84
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Washington			12. DATE OF INCORPORATION 1948
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			

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- b. Exhibit B, Novelty Statement
- c. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- d. Exhibit D, Additional Description of the Variety

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

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? Yes No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? Foundation Registered Certified

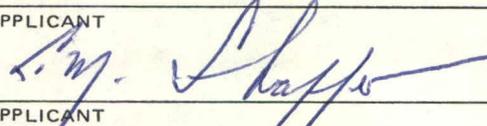
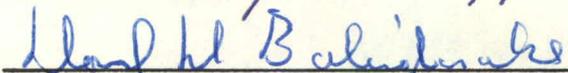
18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES? Yes (If "Yes," give names of countries and dates) No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES? Yes (If "Yes," give names of countries and dates) No

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

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

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

SIGNATURE OF APPLICANT 	DATE 12-23-83
SIGNATURE OF APPLICANT 	DATE 12/20/83

INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (*\$250 filing fee and \$250 examination fee*) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (*See section 180.175 of the Regulations and Rules of Practice.*) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

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

EXHIBIT AORIGIN AND BREEDING HISTORY OF THE VARIETY

1. Misty originated during the summer of 1979 from a hand pollinated hybridization using the pedigree method between two of Pure Line Seeds F₁ hybrids. Misty's pedigree consists of the following: [(Sprite X Banff) F₁ X (Kraft 1284 F₇) F₁] X [(Small Sieve Freezer X Banff) F₁]

One of the F₁ hybrids contained the breeding line 1284 released by Dr. John Kraft, U.S.D.A., Prosser, Washington. Dr. Kraft's release is resistant to wilt race 1, 2, 5 and 6 and is tolerant to Fusarium and Pythium root rots. It flowers on the 13th node and is double podded. The breeding line 1284 consists of the following pedigree: [74BK10 (257593 X PH 91-3) F₆ X 74SN3 (210568 X [Small Sieve Freezer X C-165) F₃] F₇

Subsequent generations F₂ through F₄ were increased without selection. Three selections were bulked in the F₄ generation and further increased through the seventh generation. Three plants were then selected and bulked. Fifty seeds from this bulk were then sent to Dr. John Kraft, U.S.D.A., Prosser, Washington and tested for wilt race 2. Two plants survived. They were bulked. Increase began in the eighth generation and have continued through the present date now in the 12th generation. In the tenth generation forty seeds were again sent to Dr. Kraft to confirm resistance to near wilt. Dr. Kraft's tests confirmed homozygous resistance.

Field observations have indicated a uniform, stable and true to type variety with no observable variants since the seventh generation.

DATA INDICATIVE OF NOVELTY

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

Misty most closely resembles the variety Sprite, but differs by being 12 cm shorter, double podded, and is resistant to near wilt where Sprite is taller, single podded and is not resistant to near wilt.



Sprite

MISTY
83-2272
RJS

SPRITE

MISTY RJS

8. PODS:

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

9. SEEDS (95--100 Tenderometer):

Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) _____
 Seive: % AVERAGE
 SEEDS (Dry, Mature):
 Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED
 Surface: 1 = SMOOTH 2 = DIMPLED 3 = WRINKLED Surface: 1 = SHINY 2 = DULL
 Color Pattern: 1 = MONOCOLOR 2 = MOTTLED 3 = STRIPED 4 = DOTTED
 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
 Secondary Color: 10 = GRAY 11 = BLACK
 Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK Cotyledon Color: 1 = GREEN 2 = YELLOW 3 = ORANGE
 GRAMS PER 100 SEEDS

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

FUSARIUM WILT NEAR-WILT DOWNY MILDEW
 ASCOCHYTA BLIGHT POWDERY MILDEW BACTERIAL BLIGHT
 MOSAIC PEA ENATION MOSAIC YELLOW BEAN MOSAIC
 OTHER (Specify) _____

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

APHIDS OTHER (Specify) _____

12. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	Sprite	Fresh Seed Color	Sprite
Leaf Color	Sprite	Mature Seed Color	Sprite
Pod Color	Sprite	Seed Shape	Sprite
Pod Shape	Sprite	Plant Habit	Sprite

COMMENTS: