No. 7300020

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Gallatin Valley 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

'Trident'

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* 26th *day of* February *in the year of our Lord one thousand nine hundred and* seventy-four

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-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 Trident	2. KIND NAME Pea	FOR OFFICIAL USE ONLY PVPO NUMBER 73020
3. GENUS AND SPECIES NAME Pisum sativum L.	4. FAMILY NAME *(Botanical)* Leguminosae	FILING DATE 10-31-72 / TIME 11:00 A.M.
	5. DATE OF DETERMINATION 1963	FEE RECEIVED $750 / CHARGES —
6. NAME OF APPLICANT(S) Gallatin Valley Seed Co.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* P. O. Box 167, Twin Falls, Idaho 83301	8. TELEPHONE AREA CODE AND NUMBER AC 208 733-8222
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION Montana	11. DATE OF INCORPORATION 9-28-22

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

Same as above

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 [X] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [ ] YES [ ] 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).

Oct. 31, 1972
(DATE)

per: Gallatin Valley Seed Co.
M C Parker M. C. Parker
(SIGNATURE OF APPLICANT)
Vice President and Research Director

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (REVERSE)

U. S. DEPARTMENT
RECEIVED
OCT 31 1972
AMS, GRAIN DIV.
PVPO

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.

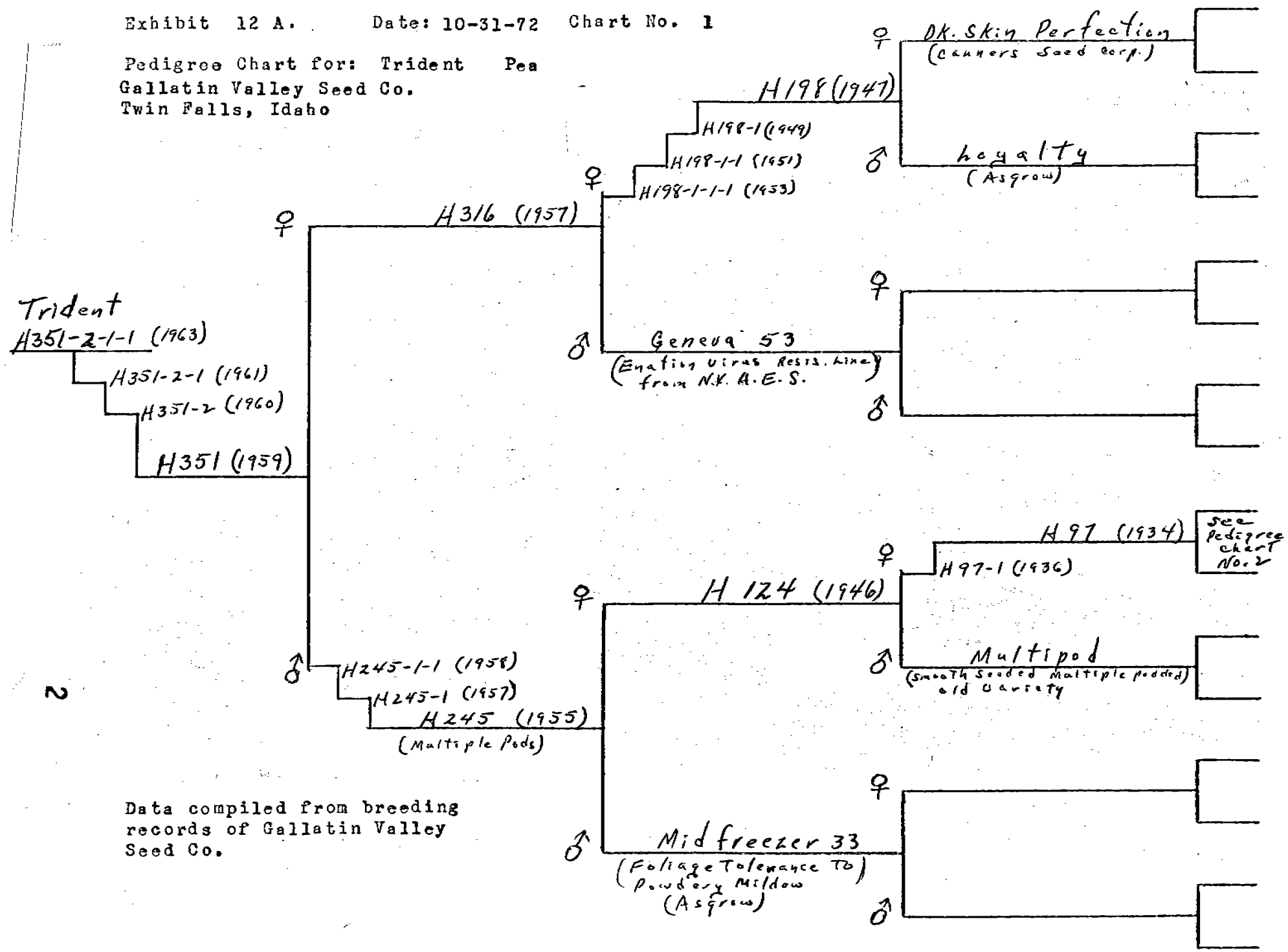
12c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

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.

Exhibit 12 A. Date: 10-31-72 Chart No. 1

Pedigree Chart for: Trident Pea
Gallatin Valley Seed Co.
Twin Falls, Idaho



Data compiled from breeding records of Gallatin Valley Seed Co.

Con
Ped

2

#73020

Exhibit 12 A (2) Trident (H351-2-1-1) Pea.

Details of Selection and Multiplication.

1963 Single plant selection number H351-2-1-1 made from H351-2-1 which was a single plant selection from H351-2 which was a single plant selection from Hybrid number H351 (see pedigree chart). The single plant selections had been made for multiple podding, resistance to pea enation mosaic virus, foliage tolerance to mildew, plant structure, resistance to common pea mosaic, common pea wilt, season of maturity, etc. After these repeated single plant selections and detailed study it was determined this was a new and distinct variety.

1964 Planted 2 oz., harvested 16 oz.

1965 Planted 3 oz., harvested 28 oz.

1966 Planted 44 oz., harvested 51#.

1967 Planted four pounds for evaluation of processing qualities, yield potential, etc.

1968 Planted 47#, harvested 1585#

1969 Planted 715#, harvested 17,380#

1970 Planted 3200#, harvested 38,400#

1971 Planted 2450#, harvested 27,845#.

1972 Planted 8100#, harvested 97,115#.

<u>Note</u>: In order to "introduce" a new pea variety to the processing trade it is often necessary, and a common practice in the pea seed industry, to supply "key" processors with seed for pilot test plantings of sufficient size they can have a "run" through their processing equipment, quality control lab., etc. This may result in plantings of 10 to 20 acres requiring 2500-5000# of pea seed for each trial. This accounts for the fairly large build-up of seed before a variety can be considered as actually entering commercial channels.

#73020

Exhibit 12 A (3) - Type and Frequency of Variants Found During Reproduction and Multiplication.

Trident Pea.

During the reproduction and multiplication of Trident Peas no variants or mutants have been observed.

Exhibit 12 A (4) - Evidence of Stability of the Line.

Trident is the result of the multiplication of a single plant selection from a segregating hybrid population. The single plant selection was studied closely over several increase generations. Pure-line increase methods were used following the original plant selection. Increase of the line was supervised by competent trained plant breeders during each increase generation and the variety is considered to be stable.

#7302

Exhibit 12 B. Botanical Description.

Trident Pea

Trident is a pea variety with dark green colored green peas and is thus suitable for processing as a quick frozen product or for canning by canners desiring a darker green canned product. It has a shorter, more compact vine, and smaller sieve sizes than Dark Skin Perfection.

Trident is a multiple podded type capable of producing triple pods when cultural conditions are good and with the potential of producing quadruple pods if conditions are exceptionally good (see photos of vine and pods with Exhibit 12 D).

Trident is resistant to common fusarium wilt (*Fusarium oxysporum f. pisi* (Linford) race 1 (Snyder & Hansen); resistant to common pea mosaic (possessing *mo/mo* genotype); and resistant to pea enation mosaic virus (PEMV). Trident also possesses fair tolerance to infection of foliage by powdery mildew (*Erysiphe polygoni* D.C.) but not to powdery mildew infection of pods and stems.

Trident resembles the variety "Puget" in plant type. Trident differs from "Puget" in being slightly later in season; Trident is resistant to pea enation mosaic and has foliage tolerance to powdery mildew. Puget is susceptible to both of these diseases. Trident has the potential of producing quadruple pods.

#73020

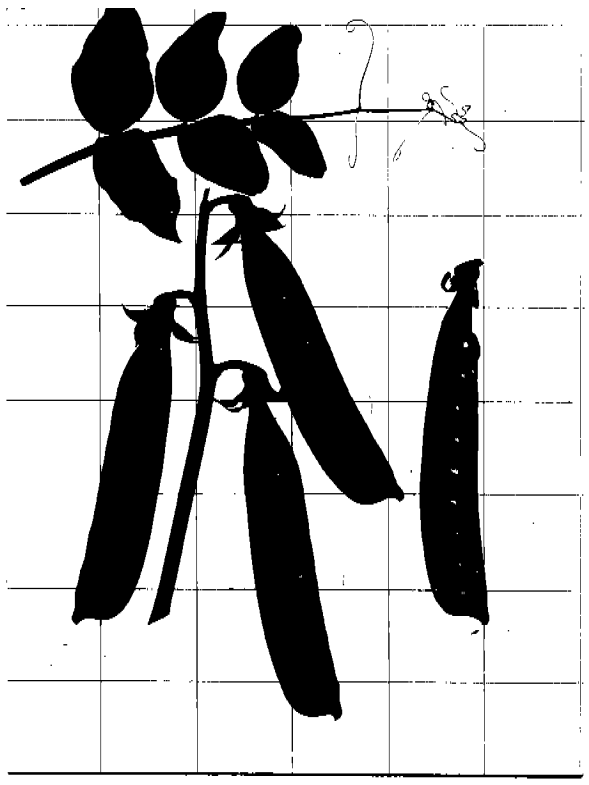
Exhibit 12 D. Data Indicative of Novelty.

Trident Pea

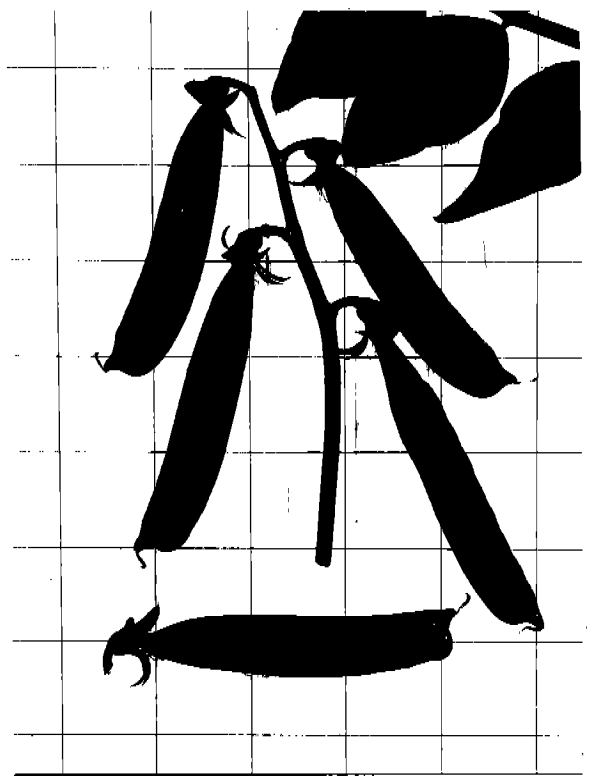
The accompanying photographs illustrate the potential of this variety to produce triple and quadruple pods. (First two sets of pods in vine picture are quadruple sets, next 6 nodes carry triple pods.)

Trident differs from other multiple podded pea varieties, in its season, in being resistant to pea enation mosaic virus, and in possessing foliage tolerance to powdery mildew.

Trident also possesses more potential for producing quadruple pod sets.



Set Triple Pods



Set Quadruple Pods

(Rulings in one inch squares)

#13020

GALLATIN VALLEY SEED CO.

BOX 167 • TWIN FALLS, IDAHO 83301

Date: Oct. 31, 1972

12E. Exhibit E.

Statement of the Basis of Applicant's Ownership.

The undersigned specifies that Gallatin Valley Seed Co., applicant, is the employer of the breeder responsible for the development of the subject plant variety of this application, namely Trident Peas.

Gallatin Valley Seed Co.

per: M C Parker M. C. Parker

Title: Vice President and
Director of Research

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73020

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

INSTRUCTIONS: *See Reverse.*

PEA *(PISUM SATIVUM)*

NAME OF APPLICANT(S)
Gallatin Valley Seed Co.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
P. O. Box 167,
Twin Falls, Idaho 83301

FOR OFFICIAL USE ONLY

PVPO NUMBER
73020

VARIETY NAME OR TEMPORARY DESIGNATION
Trident

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:

[2] 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][1] 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][8][0] CM. HIGH

[3][0] Cm. *Shorter* than ..... [5]
[0][8] 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)

[2] 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

[2][5] NUMBER OF NODES

[0][7] 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) _____

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

[2] 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

[2] 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

7

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

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

9. PODS:

[1] 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) _____

[1] 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) Double, Triple, Quadruple

[09] CM. LENGTH [16] MM. WIDTH (Between sutures) [09] 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

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

[2] Surface: 1 = SHINY 2 = DULL

SEEDS (Mature, Dry):

[1] Color: 1 = MONOCOLOR 2 = BICOLOR

[7] Primary Color:

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

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

[1] Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK

[3] Cotyledon Color: 1 = YELLOW 2 = ORANGE 3 = GREEN

[23] GRAMS PER 100 SEED

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

Sieve (%): [03]1 [10]2 [18]3 [26]4 [32]5 [11]6 [00]7 [00]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)

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

[0] ASCOCHYTA BLIGHT [2] POWDERY MILDEW → Has Tolerance [0] BACTERIAL BLIGHT

[2] MOSAIC [2] PEA ENATION MOSAIC [0] YELLOW BEAN MOSAIC

[0] OTHER (Specify) _____

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 Perf.	Fresh Seed Color	Dark Skin Perf.
Leaf Color	" " "	Mature Seed Color	" " "
Pod Color	" " "	Seed Shape	" " "
Pod Shape	" " "	Plant Habit	Puget

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.