No. 7400084

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow 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

'Ivy'

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

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* first *day of* May *in the year of our Lord one thousand nine hundred and* seventy-five

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl L Butz

Secretary of Agriculture

FORM GR-470
(12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL 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 Ivy (XP F3007)	2. KIND NAME Pea	FOR OFFICIAL USE ONLY PV NUMBER 7400084
3. GENUS AND SPECIES NAME Pisum sativum	4. FAMILY NAME *(Botanical)* Leguminosae	FILING DATE 4.3.74 / TIME 8 A.M.
	5. DATE OF DETERMINATION 1971	FEE RECEIVED $250 / $250 / $250 — BALANCE DUE $ — / $ — / $ —
6. NAME OF APPLICANT(S) Asgrow Seed Company	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Kalamazoo, Michigan 49001	8. TELEPHONE AREA CODE AND NUMBER (616) 382-4000

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION Delaware	11. DATE OF INCORPORATION 22 March, 1968

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

Allen R. Trotter
Asgrow Seed Company
Kalamazoo, Michigan 49001

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

[X] 13B. Exhibit B, Botanical Description of the Variety

[X] 13C. Exhibit C, Objective Description of the Variety

[X] 13D. Exhibit D, Data Indicative of Novelty

[X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

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.)* [ ] YES [X] 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? [ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

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.

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.

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

April 8, 1974
(DATE)

Allen Trotter
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (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 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a 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.

13b 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.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

7400084

J. D. Atkin
March 21, 1974

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF IVY (XP F3007)

AMENDED
Application #7400084

1963 Original cross XP-L11 X M61180

1964 F_1 was grown.

1965 F_2 was grown and selections were made.

1966 F_3 was grown and single plant selections were made.

1967 F_4 was grown and single plant selections were made.

1968 F_5 was grown and single plant selections were made.

1969 F_6 was grown and single plant selections were made.

1970 F_7 was grown and single plant selections were made.

PRELIMINARY YIELD TRIALS

1971 F_8 was grown and reselected.

Yield trials conducted.

Designated XP-F3007

Increased during the winter.

1972 Trials, increase and mass selection.

1973 Trials, increase and mass selection.

Named Ivy.

This variety appears to be quite stable. No off types have been observed in field production except for a small percentage of steriles and bloaters. These steriles and bloaters are found in all varieties and appear to be caused by environmental conditions. In the 1973 increase the field was very carefully rogued and no off types were found, but when the seed was hand picked approximately 2 seeds per 10,000 (28 seeds in 193 lb sample) were larger and lighter colored than normal. Although this very small percentage is not considered serious and, in fact, the seeds may simply be bleached, the entire production was very carefully hand picked and all seeds which were questionable in any respect were removed. In addition the variety will be completely reworked to remove any possible variation.

EXHIBIT B

BOTANICAL DESCRIPTION OF IVY (XP F3007)

Ivy is a small sieve freezer pea which produces a rather short but fairly dense plant. It is very late maturing in that it generally flowers on the 18th node and reaches 95 tenderometer about 4 days later than Dark Skin Perfection.

The mature plant height is about 55 cm and the plants are fairly stocky and determinate. There is some branching. The leaflets are dark green in color with a light wax and also marbling. The stipules are clasping, the same color as the leaflets, and larger than the leaflets. The flower color is white.

The pods are straight with a blunt end and are dark green and have a smooth, dull surface. The pods are generally borne as doubles and average about eight seeds per pod. The berries at 95 tenderometer are dark green, round with a smooth and shiny surface. The average sieve size is approximately 2.4.

The mature seeds are small, dark green, wrinkled and have green cotyledons. The 100 seed weight is approximately 14 grams.

Ivy is resistant to Fusarium wilt but has not been tested for resistance to other diseases. It withstood extreme heat in 1973 at Twin Falls, Idaho, better than any other late varieties. Ivy resembles the variety Puget in many respects but is very different in others. Ivy is a full sieve size smaller at 95 tenderometer and is approximately three days later. Ivy seed is also much smaller. (plant)

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)
ASGROW SEED COMPANY

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

FOR OFFICIAL USE ONLY

PVPO NUMBER
7400084

VARIETY NAME OR TEMPORARY DESIGNATION
Ivy (XP-F3007)

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:

[ ][ ] No. of days *Earlier* than . . . . . [ ]
[0][8] No. of days *Later* than . . . . . [5]

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

4. PLANT HEIGHT:

[0][5][5] CM. HIGH

[0][1] Cm. *Shorter* than . . . . . [3]
[ ][ ] Cm. *Taller* than . . . . . [ ]

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

[1][8] 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) _____

[2] 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

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

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

4

7400084
XP-F3007

FORM GR-470-14 (REVERSE)

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

[2] Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPLE 5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) _____ Some 9

[0 6] CM. LENGTH [1 2] MM. WIDTH (Between sutures) [0 8] 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

[1] Surface: 1 = SHINY 2 = DULL

SEEDS (Mature, Dry):

[1] Color: 1 = MONOCOLOR 2 = BICOLOR

[7] 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)

[-] Secondary Color: 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

[1 4] GRAMS PER 100 SEED

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

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

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

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

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

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

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

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

[ ] OTHER (Specify) _____

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

[ ] APHIDS [ ] OTHER (Specify) _____

15. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	Puget	Fresh Seed Color	Puget
Leaf Color	Puget	Mature Seed Color	Puget
Pod Color	Puget	Seed Shape	Puget
Pod Shape	Puget	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.

7400084

EXHIBIT D

PROOF OF NOVELTY

Ivy is a small sieve freezer pea which is distinctly different from all other pea varieties known to us. Characteristics which are unique are:

1. Small sieve size and small seed.

2. Very late maturity.

3. Resistance to heat.

Ivy and Regent are both small sieve freezers but they have entirely different plant types, the sieve sizes differ considerably, and maturity is also very different. Following are data collected at Twin Falls, Idaho, in 1973.

	Degree Days	Average Sieve
Regent	1516	2.06
Ivy	1686	2.43
	+ 170	+ .37

Ivy is similar to Puget in many characteristics but differs in sieve size, and season of maturity. Following are data from Twin Falls, Idaho, in 1973.

	Degree Days	Average Sieve
Ivy	1686	2.43
Puget	1629	3.54
	+ 57	- 1.11

7400084

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP

Pea Ivy

Pea Ivy was originated by Dr. W. H. Pierce, retired, and was further developed into a commercial variety by Dr. Martin Schnock, Asgrow plant breeders. By agreement between employee and company, all rights to any invention, discovery, or development made by the employee are assigned to the company. No rights to such invention, discovery, or development are retained by the employee.