No. 7200027

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

'Charger'

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* June *in the year of our Lord one thousand nine hundred and* seventy-four

Attest:

S. J. Rollin

Commissioner
Plant Variety Protection Office

Earl L. Butz

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	2. KIND NAME	FOR OFFICIAL USE ONLY
Charger	Garden Pea	PV NUMBER 72027
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 8.27.71 / TIME 11 A.M.
Pisum Sativum	Leguminosae	FEE RECEIVED $ 250 / BALANCE DUE $ —
	5. DATE OF DETERMINATION	$ 250 / $ —
	1965	$ 250 / $ —

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Asgrow Seed Company	Kalamazoo, Michigan	(616) 382-4000

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Delaware	March 22, 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 9620-190-1
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.

October 2, 1973
(DATE)

Allen R. 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.

72027

Plant Variety Protection
Asgrow Seed Company
June 29, 1973

EXHIBIT A

ORIGIN AND BREEDING HISTORY

Pea - Charger PVPO 72027

1958 - The origin of Charger is from the cross New Season x Elf.

1959-68 - Selection and trials.

1968 Given experimental designation XPC 23 on the basis of trial performance and uniformity of line.

1968-71 - Continued trial and seed stock increases.
In 1971 it was named Charger and entered for PVP protection.

We have not observed any consistent off-types or variants and since 1968 this variety has remained stable in plantings in the U.S. and Europe.

72027

Plant Variety Protection
Asgrow Seed Company
June 29, 1973

EXHIBIT B

DESCRIPTION OF THE VARIETY

Pea - Charger PVPO 72027

Charger is a garden pea of the canning type, i.e., the color of the seed at processing stage is light in color. It is a dwarf blooming on the 12-13th node on the average. It usually matures in about 84 days or at about 1450 heat units, being about 5 days earlier than Alderman and 3 days later than Little Marvel.

Plant height is about 70 cm compared to 65 cm for Little Marvel. Vine habit is strongly determinate and "finishes" well. The plants are of medium stockiness and of medium branching habit. Nodes are green. Node length is about 7 cms.

Leaflets are medium green or about the color of Thomas Laxton. They are lightly waxed and marbled. The number of leaflets pairs average about 3. Stipules are present, clasping, marbled and larger than the leaflets. Color is that of the leaflets.

Flower color is entirely white.

Pods are straight, blunt, medium green, smooth, borne in pairs. Average length is about 7 cms. width is 12 mm. The average number of seed per pod is 6.

Seed at processing stage is light green and equivalent to that of Perfection Canner. The seed is rounded. Seed surface is smooth and shiny. Dry seed is monocolored, blue-green, with white hilum. Cotyledons are green. Average seed weight is 18 gms per 100 seed.

The variety is considered to be a 2-3-4 sieve with an average sieve size of ~~2.91~~ 3.31 ltr 10/30/73 MF. It most closely resembles champ.

While it has not been specifically tested for resistance to heat, drought, or cold, its general field performance and adaptation range indicates a good tolerance to a wide range of environmental conditions. The variety is resistant to fusarium wilt but no other resistance is claimed other than some tolerance to root rot.

EXHIBIT C - ATTACHMENT

PEA - CHARGER PVPO 72027

Various characteristics identified and described above can be significantly influenced by factors such as environment (moisture, temperature, soil type, disease, etc.) as well as population density.

ASGROW SEED COMPANY

January 24, 1973

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

FORM APPROVED. OMB NO. 40-R 3712

EXHIBIT C
(Pea)

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

DATE: Jan. 24, 1973

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*)
9620-190-1
Kalamazoo, Michigan 49001

FOR OFFICIAL USE ONLY

PVPO NUMBER
72027

VARIETY NAME OR TEMPORARY DESIGNATION
Charger

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][5] No. of days *Earlier* than ..... [5]
[0][1] No. of days *Later* than ..... [3]

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

4. PLANT HEIGHT:

Note: All Data reported in this description was obtained in field or green house plantings at Asgrow Research Center (A.R.C.), Twin Falls, Idaho. Information not recorded in the normal plant breeding operation, may be from different years or special greenhouse plantings.

[0][7][0] CM. HIGH

[ ][ ] Cm. *Shorter* than ..... [ ]
[0][5] Cm. *Taller* than ..... [3]

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) 3 = HEAVY (Alderman) 2 = MEDIUM (Thomas Laxton WR)

[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][3] NUMBER OF NODES

[0][7] CM. INTERNODE LENGTH (Just below 1st flowering node)

6. LEAFLETS:

[2] 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)

[3] 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) _____

5

72027

Plant Variety Protection
Asgrow Seed Company
Une 29, 1973

EXHIBIT D

NOVELTY

Pea - Charger PVPO 72027

Charger is unique in its combination of characters in the Perfection Canner Class. It fits almost midway between Elf and Champ. It can be distinguished from these two varieties on the basis of maturity. It most closely resembles Champ but has a notable higher level of tolerance to root rot complex than does Champ, particularly in Wisconsin.

Plant Comparisons - Charger, Champ, Elf

	Days to 1st Blossom	Node	Days/Cut	Pl. Ht. (CM)	Ave.Sieve	HU
Charger	55	12-14	85	64	~~2.91~~ 3.31	1450
Champ	57	13-15	87	71	3.08	1511
Elf	53	10-14	83	64	2.79	1426

While all of the above measurements will vary from year to year and location to location, the relative position of each variety with respect to the others will remain reasonably constant. With respect to maturity Charger is almost exactly midway between Elf and Champ. Charger is shorter vined than Champ and may be taller than Elf under certain conditions. Sieve size is larger than Elf but approximately equal to Champ.

Yield data on a four year average basis in Wisconsin indicates that Charger will yield more consistently than Champ under moderate to severe root rot conditions:

Comparative Yield Data - Wisconsin Trials - 4 years.

	Ave. Net Yield	Range in Yield (4 years)
Charger	3793	3177 - 5025
Champ	2945	2356-3280
Elf	2731	2422-3230

EXHIBIT E

Basis of Ownership

Charger was developed by Dr. W. H. Pierce, retired, a former employee of Asgrow Seed Company and Dr. C. G. Briggs, a current Asgrow employee. By agreement between the employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by the employee while employed by Asgrow Seed Company, were assigned to Asgrow Seed Company with no rights of any kind retained by the employee.

Garden Pea - Charger
Asgrow Seed Company
August 16, 1971

9. PODS:

[1] Shape: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED

[2] End: 1 = POINTED (Alderman) 2 = BLUNT (Alaska)

[2] 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) _____

[0 7] CM. LENGTH [1 2] MM. WIDTH (Between sutures) [0 6] NUMBER OF SEEDS PER POD

10. SEEDS (95 - 100 Tenderometer):

[1] 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

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

[1] Surface: 1 = SHINY 2 = DULL

SEEDS (Mature, Dry):

[1] Color: 1 = MONOCOLOR 2 = BICOLOR

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

[-] Secondary Color:

[-] 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 8] GRAMS PER 100 SEED

11. SEED SIEVE SIZE DISTRIBUTION (95 - 100) Tenderometer): AVG = 2.03

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

[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	Champ	Fresh Seed Color	Champ
Leaf Color	"	Mature Seed Color	"
Pod Color	"	Seed Shape	"
Pod Shape	"	Plant Habit	"

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.