No. 7500076

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

'Accord'

U.S. 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, DC *this* 19th *day of* July *in the year of our Lord one thousand nine hundred and* seventy-six

Attest:

L. H. Rollin

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	2. KIND NAME	FOR OFFICIAL USE ONLY	
~~XP C56~~ ACCORD	Pea	PV NUMBER 7500076	
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 3·13·75	TIME 10 A.M.
Pisum sativum	Leguminosae	FEE RECEIVED $ 250	BALANCE DUE $ —
	5. DATE OF DETERMINATION 1973	$ 250	$ —
		$ 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 49001	5 6605 (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~~ John A. Batchd
Asgrow Seed Company
Kalamazoo, Michigan 49001

HEF 4/1/76

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 [ ] 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.

March 10, 1975
(DATE)

Allen R Trotter
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

7500076

AMENDED EXHIBIT A

ORIGIN AND BREEDING HISTORY OF ~~XP-C56~~ ACCORD

1964 Original cross made - M61180 x Alsweet
F_1 grown in Florida during fall/winter season.

1965 F_2 grown. Single vine selections made.

1966 F_3 grown. Reselected.

1967 F_4 grown. Reselected.

1968 F_5 grown. Small increase grown and evaluated for uniformity.

1969 Small increase for type evaluation.

1970 Reselected from small increase planting.

1971 F_8 grown. Single line saved. Increased in Florida during fall/winter season.

1972 Yield and observation trials. Small increase.
Further increase in Mexico.

1973 Yield trials. Increase and mass selection. Designated ~~XP-C56~~ ACCORD.
265 single vine selections made for planting and testing on a progeny basis.

1974 Yield trials throughout company.

1975 Single vine selections made. These will be planted on a progeny basis. Each progeny to be evaluated for type and any off-type will be removed completely. Balance of progenies will be harvested as bulk, and this will become our basic stock seed.

This line segregated normally in the early generations but has been uniform and breeding true since 1971. The progeny trials in 1975 proved beyond doubt that this line is homozygous.

J. D. Atkin
January 8, 1976

7580076

EXHIBIT B

BOTANICAL DESCRIPTION OF ~~XP-C56~~ ACCORD

ACCORD ~~XP-C56~~ is a medium sieve, triple podded, Alaska type, canner pea. It flowers on the tenth node and reaches 100 tenderometer in about 1160 heat units.

The plant height is approximately 40cm and the plants are indeterminate. The stems are slim, non-branched and the internodes are straight. The leaflets are light green, marbled and have a light wax covering. There are two leaflet pairs per leaf. The non-clasping stipules are the same color as the leaflets and are larger than the leaflets. The flower color is white.

The light green pods are straight with a blunt end. The pod surface is smooth and dull. The pods are borne primarily as doubles with some singles and triples and even a few fours under good growing conditions.

The berry color is light green and the three year average sieve size is 2.70. (In 1974 it was 2.56.) The dry seed are round with a smooth dull surface. The primary color is blue-green with no color pattern. The hilum color is tan and the cotyledon color green.

ACCORD ~~XP-C56~~ has been tested and found resistant to Wilt but susceptible to Near Wilt. There is no reason to believe that this line is especially resistant to aphids or other insects.

ACCORD ~~XP-C56~~ is generally a typical Alaska except it is double and triple podded whereas most Alaskas are single and/or double podded.

Exhibit B is written from several years experience and is thus rather generalized due to the fact that conditions vary from year to year. Exhibit C is compiled from results of a one year replicated trial planted especially for PVP measurements where varieties can be compared in side by side plantings. Exhibits B and C therefore, compliment each other and may vary slightly.

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.

RECEIVED
MAR 13 1975
U. S. DEPARTMENT
AMS, Seed Div.
PVPO

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-14
(5-15-74)

EXHIBIT C
(Pea)

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

OBJECTIVE DESCRIPTION OF VARIETY

PEA *(PISUM SATIVUM)*

NAME OF APPLICANT(S)
ASGROW SEED COMPANY

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

VARIETY NAME OR TEMPORARY DESIGNATION
~~XP-G56~~ ACCORD

FOR OFFICIAL USE ONLY

PVPO NUMBER 7500076

Place the appropriate number that describes the varietal character 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:

[1] 1 = GARDEN 2 = FIELD 3 = EDIBLE-PODDED

2. MATURITY:

[1][0] Node number of first bloom: [0][6][5] No. of days to processing [1][1][6][0] Heat Units

[ ][ ] No. of days *Earlier* than . . . [ ] 1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL

[0][2] No. of days *Later* than . . . . [1] 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

3. PLANT HEIGHT:

[0][4][0] CM. HIGH

[0][6] Cm. *Shorter* than . . . . . [1] 1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL

[ ][ ] Cm. *Taller* than . . . . . [ ] 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

4. VINE:

[2] Habit: 1 = DETERMINATE 2 = INDETERMINATE [1] Stockiness: 1 = SLIM (Alaska) 2 = MEDIUM (Thomas Laxton WR) 3 = HEAVY (Alderman)

[1] Branching: 1 = NONE (Alaska) 2 - 1–2 BRANCHES (Little Marvel) 3 = MORE THAN 2 BRANCHES (Dwarf Gray Sugar

[1] Internodes: 1 = STRAIGHT 2 = ZIG ZAG [1][5] NUMBER OF NODES

5. LEAFLETS:

[1] 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] 1 = NOT MARBLED 2 = MARBLED (Alaska)

[3] Number of leaflet pairs: 1 = NOT PAIRED 2 = ONE 3 = TWO 4 = THREE OR MORE

6. STIPULES:

[2] 1 = LACKING 2 = PRESENT [1] 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

7. FLOWER COLOR:

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

8. PODS:

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

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

[1] 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

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

[0 5] CM. LENGTH [1 2] MM. WIDTH (Between sutures) [0 6] NO. SEEDS PER POD

9. SEEDS (95–100 Tenderometer):

[1] Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) _____

Seive: %	1	2	3	4	5	6	7	8	AVERAGE
	10	34	47	08	01				256

SEEDS (Dry, Mature):

[4] Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED

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

[2] Surface: 1 = SHINY 2 = DULL

[1] Color Pattern: 1 = MONOCOLOR 2 = MOTTLED 3 = STRIPED 4 = DOTTED

[6] 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

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

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

[1 7] GRAMS PER 100 SEEDS

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

[2] FUSARIUM WILT

[1] 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) _____

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

[0] APHIDS

[0] OTHER (Specify) _____

12. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	Alaska 14A	Fresh Seed Color	Alaska 14A
Leaf Color	Alaska 14A	Mature Seed Color	Alaska 14A
Pod Color	Alaska 14A	Seed Shape	Alaska 14A
Pod Shape	Alaska 14A	Plant Habit	Alaska 14A

COMMENTS:

AMENDED EXHIBIT D

PROOF OF NOVELTY OF ACCORD ~~XP-C56~~

ACCORD ~~XP-C56~~ is quite similar to most Alaska type peas except it is double and triple podded. Cameo, M163, and Aska are also double and triple podded Alaska types but ACCORD ~~XP-C56~~ differs from them in that it has a larger sieve size.

The following data regarding sieve size are from replicated yield trials at Twin Falls. Each figure is the average of two replications.

	ACCORD ~~XP-C56~~		ASKA		M163		CAMEO	
	TDR.	SIEVE	TDR.	SIEVE	TDR.	SIEVE	TDR.	SIEVE
1972	110	2.80	105	2.32	112	2.37		
1973	114	2.74	110	2.27	115	2.14		
1974	112	2.55	104	2.08	116	2.04	101	2.22
1975	108	3.00	112	2.64	103	2.12	91	2.30
1974-75 Ave.	110	2.78	108	2.36	110	2.08	96	2.26
4 Yr. Ave.	111	2.77	108	2.33	112	2.17		

Sieve size is not an absolute value. It is influenced by moisture, temperature, maturity and probably other factors. The season of maturity of the above varieties is practically identical and the stage of maturity as measured by the tenderometer was very nearly the same except for Cameo which was harvested probably about one day too early. The above data indicate that ACCORD ~~XP-C56~~ is considerably larger in sieve size than the other varieties.

Data for Cameo is available for only 1974 and 1975 and although the sieve size is considerably different than that of Accord ~~XP-C56~~ additional evidence would be desirable. In the original PVP application for Accord ~~XP-C56~~, Exhibit C was completed using data from a special PVP trial grown in 1974. 1974 was an adverse year and plants were very short. Accord ~~XP-C56~~ was 40cm in height and we said that Cameo was considerably shorter than Accord ~~XP-C56~~. This did not agree with the description on file with the PVP office which indicated that Cameo was 80cm in height.

Height of peas varies very widely depending upon environmental conditions. This is especially true of early varieties. The variety Sprite can range from a height of six or eight inches under dry land conditions, to three or more feet in Sweden.

We have observed Cameo for two years but in several different plantings each year. This includes PVP plantings, Category I on wire trellises; Category IV on wire trellises and yield plots grown on the ground. In these plantings, Accord ~~XP-C56~~ and Cameo were grown in adjacent plots or in plots close to each other. Under Asgrow conditions at Twin Falls, Idaho, Cameo has always been considerably shorter than Accord ~~XP-C56~~. The long term average height for Accord ~~XP-C56~~ is approximately 80cm and I would judge Cameo to be approximately 70cm. We have actually made only two measurements comparing the two varieties in adjacent row plantings. The results are as follows:

YEAR	ACCORD ~~XP-C56~~	CAMEO
1974	40 cm	35 cm
1975	75 cm	63 cm

Both 1974 and 1975 were adverse and peas in our trial grounds were somewhat shorter than normal.

In Exhibit C, Alaska 14A was listed as the variety most closely resembling ~~XP-C56~~ ACCORD. This is true for the characters listed but Alaska 14A is practically 100% single podded. Asgrow counts the number of pods and seeds on the first three nodes of ten plants selected at random as a first measure of yield potential. Data were not obtained in 1973 and 1975 but the 1972 and 1974 data are summarized below:

Pods and Seeds Per Plant on Ten Plants - First Three Nodes Only

	PODS			SEEDS		
	TOTAL	PER PLANT	STANDARD ERROR	TOTAL	PER POD	PER PLANT
1972						
~~XP-C56~~ ACCORD	51	5.1	.28	251	4.9	25.1
Alaska 14A	31	3.1	.09	158	5.1	15.8
1974						
~~XP-C56~~ ACCORD	52	5.2	.20	262	5.0	26.2
Alaska 14A	31	3.1	.09	154	5.0	15.4

The differences concerning pods and seeds per plant are rather obvious and explain why the four year average yield of ~~XP-C56~~ ACCORD has been 153% of that of Alaska 14A. This is in replicated trials at Twin Falls, Idaho.

7500076

EXHIBIT E

Statement of the Basis of Applicant's Ownership

Pea, ~~XP-C56~~ ACCORD

Pea, ~~XP-C56~~ ACCORD, was originated and developed by Dr. C. G. Briggs and Dr. John D. Atkin, Asgrow Plant Breeders. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the company. No rights to such invention, discovery, or development are retained by the employee.