

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 *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, 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 NO. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA

'Plus'



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, D.C. this 30th day of December in the year of our Lord one thousand nine hundred and eighty-two

Attest:

Kenneth H. Egan
Acting
Commissioner
Plant Variety Protection Office

John R. Block

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

This certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 53).

1. NAME OF APPLICANT(S) Asgrow Seed Company		2. TEMPORARY DESIGNATION XP-C112		3. VARIETY NAME PLUS	
4. ADDRESS (Street and No. or R.F.D. Mo., City, State, and Zip Code) Kalamazoo, M 49001 9620-190-25		5. PHONE (Include area code) (616) 385-6605		FOR OFFICIAL USE ONLY VPO NUMBER 8200097	
6. GENUS AND SPECIES NAME Pisum Sativum		7. FAMILY NAME (Botanical) Leguminosae		FILING DATE 4/12/82 TIME 12:15 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	AMOUNT FOR FILING \$ 500.00 DATE 4/12/82
8. KIND NAME Garden Pea		9. DATE OF DETERMINATION July 1980			
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation				12. DATE OF INCORPORATION March 22, 1968	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware					

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
**John A. Batcha
Asgrow Seed Company 9620-190-25
Kalamazoo, M 49001**

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)	c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
b. <input type="checkbox"/> Exhibit B, Novelty Statement	d. <input type="checkbox"/> Exhibit D, Additional Description of the Variety

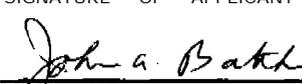
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) Yes (If "Yes," answer items 16 and 17 below) No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input checked="" type="checkbox"/> Registered <input type="checkbox"/> Certified
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18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
Germany January 12, 1982 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.

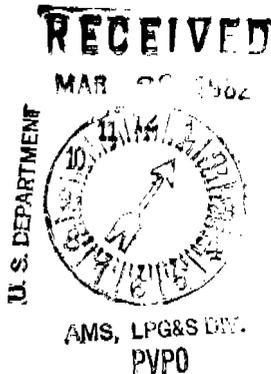
SIGNATURE OF APPLICANT 	DATE March 26, 1982
SIGNATURE OF APPLICANT	DATE

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 180.775 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 780.16 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.



Asgrow Seed Company
Application PVP XP-C112 Garden Pea
March 26, 1982

8200097

'PLUS'
<XP-C112>

EXHIBIT A

Origin and Breeding History

The original cross, made in 1972, was between two breeding lines, (W3 x M) and (Champ x Neptune). <XP-C112> has been developed by straight selection from that cross. In 1980, fifteen F₁₀ progenies were planted and observed. These progenies were very uniform, except for one which was suspected of being off-type and was eliminated. Since then we have detected no further-segregation.

<XP-C112> is uniform and stable within commercially acceptable limits based on observations in 1980 and 1981. To our knowledge, there are no predictable variants in <XP-C112>. As is true with other pea varieties, a small percentage of variants can occur within commercially acceptable limits, for almost any characteristic during the course of repeated commercial multiplication.

Asgrow Seed Company
Application PVP XP-C112 Garden Pea
July 14, 1982

'PLUS'
<XP-C112>

EXHIBIT B

Novelty Statement

To our knowledge, the variety most similar to XP-C112 is Pomak. Differences include but are not necessarily restricted to the following:

1. <XP-C112> has a degree of resistance to Pea Leaf Roll Virus while Pomak is susceptible. 1980 data when the disease was severe in Twin Falls, Idaho is:

<XP-C112> 1 - 2
Pomak 2.5, 3, 4

1 = resistant
5 = susceptible

2. <XP-C112> has larger seed size as is illustrated by the following data.

Replication	<u>XP-C112</u>			<u>Pomak</u>		
	<u>Year/Lot</u>		<u>Seed/Lb.</u>	<u>Year/Lot</u>		<u>Seed/Lb.</u>
1	1981 216		2000	1981 201		2368
2	1979 158		2328	1979 54		2732
3	1979 401		<u>2276</u>	1979 161		<u>2600</u>
Average			2201			2567

The difference, 366 seed/lb., is significant at the 1% level. 1980 data was not included due to the effect of Pea Leaf Roll Virus on Pomak.

3. In 1981 trials the average sieve of <XP-C112> corrected to 115 TDR, was 4.25; whereas the sieve of Pomak was 3.5. The fresh berries of XP-C112 are therefore larger than those of Pomak.

8. PODS:

1 Shape: 1 = STRAIGHT CURVED 2 SLIGHTLY CURVED a 2 End: 1 = POINTED (Alderman) 2 = BLUNT (Alaska)
 c 2 Color: 1 = LIGHT GREEN (Alaska WR) 2 = MEDIUM GREEN 3 = DARK GREEN (Alderman)
 4 = OTHER (Specify) _____
 cl 2 Surface: 1 = SMOOTH 2 = ROUGH cl 2 Surface: 1 = SHINY 2 = DULL
 a 7 Borne: 51 = SINGLE DOUBLE & TRIPLE 2 = DOUBLE 6 = TRIPLE 3 = SINGLE 7 = OTHER AND DOUBLE (Specify) 2, 3 = SINGLE, and 4 & TRIPLE
 pods/node _____

8. 4 CM. LENGTH 1 2 MM. WIDTH (Between sutures) 0 8 NO. SEEDS PER POD

9. SEEDS (95-100 Tenderometer):

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

Seive: %

1	2	3	4	5	6	7	8	AVERAGE
0.2	0.4	2.2	4.9	2.2	0.2			3.9

SEEDS (Dry, Mature):

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

3 Surface: 1 = SMOOTH 2 = DIMPLED 3 = WRINKLED 2 Surface: 1 = SHINY 2 = DULL

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

3 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

2 Secondary Color: } 10 = GRAY 11 = BLACK

1 Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK 1 Cotyledon Color: 1 = GREEN 2 = YELLOW 3 = ORANGE

2 1 GRAMS PER 100 SEEDS

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

2 FUSARIUM WILT 1 NEAR-WILT 0¹ DOWNY MILDEW
 0 ASCOCHYTA BLIGHT 2* POWDERY MILDEW 0¹ BACTERIAL BLIGHT
 0 MOSAIC 0¹ PEANUT MOSAIC 0 YELLOW BEAN MOSAIC
 2 OTHER (Specify) Pea Leaf Roll Virus *Note: C112 moderately resistant to powdery
mildew, but does not carry the gene "er"

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	Pomak	Fresh Seed Color	Pomak
Leaf Color	Pomak	Mature Seed Color	Pomak
Pod Color	Pomak	Seed Shape	Pomak
Pod Shape	Pomak	Plant Habit	Botero

COMMENTS:

FORM GR-470-14
(3-78)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705
OBJECTIVE DESCRIPTION OF VARIETY
PEA (PISUM SATIVUM)

EXHIBIT C
(Pea)

NAME OF APPLICANT(S) Asgrow Seed Company	VARIETY NAME OR TEMPORARY DESIGNATION <XP-C112> 'PLUS'
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Kal amazoo, MI 49001 9620- 190-25	FOR OFFICIAL USE ONLY PVPO NUMBER 8200097

Place the appropriate number that describes the varietal character in the boxes below.

Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

1. TYPE:

1 = GARDEN 2 = FIELD 3 = EDIBLE-PODDED

2. MATURITY:

Node number of first bloom: No. of days to processing n i t s

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

No. of days Later than . } 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

3. PLANT HEIGHT:

H I G H

Cm. Shorter than . } 1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL

Cm. Taller than . } 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

4. VINE:

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

Branching: 1 = NONE (Alaska) 2 = 1-2 BRANCHES (Little Marvel) 3 = MORE THAN 2 BRANCHES (Dwarf Grav Sugar)

Internodes: 1 = STRAIGHT 2 = ZIG ZAG NUMBER OF NODES

5. LEAFLETS:

Color: 1 = LIGHT GREEN (Alaska WR) 2 = MED. GREEN (Thomas Laxton WR) 3 = DARK GREEN (Alderman)
4 = OTHER (Specify)

Wax: 1 = NONE 2 = LIGHT 3 = MEDIUM 1 = NOT MARBLED 2 = MARBLED (Alaska)
4 = HEAVY

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

6. STIPULES:

1 = LACKING 2 = PRESENT 1 = NOT CLASPING 2 = CLASPING

1 = NOT MARBLED 2 = MARBLED Size (Compared with leaflets): 1 = SMALLER 2 = SAME
3 = LARGER

Color (Compared with leaflets): 1 = LIGHTER 2 = SAME 3 = DARKER

7. FLOWER COLOR:

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