

No.



9000015

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

W. Brotherton Seed Co., Inc.

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, 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 (STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA

'Athena'

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 August in the year of our Lord one thousand nine hundred and ninety-one.

Attest:

Kenneth Hoover
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Ed Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
 (Instructions on reverse)

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) W. Brotherton Seed Co., Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. FREEZER 732	3. VARIETY NAME ATHENA
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) P. O. Box 1136 Moses Lake, WA 98837		5. PHONE (include area code) 509/765-1816	FOR OFFICIAL USE ONLY PVPO NUMBER 9000015
6. GENUS AND SPECIES NAME Pisum Sativum L.	7. FAMILY NAME (Botanical) Leguminosae		
8. CROP KIND NAME (Common Name) Garden Pea	9. DATE OF DETERMINATION 1983		FILING INFORMATION Date: Oct. 19, 1989 Time: 9:45 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation		Filing and Examination Fee: \$ 250.- Date: Oct. 19, 1989	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Washington	12. DATE OF INCORPORATION 1955		Certificate Fee: \$ 250.00 Date: Aug. 7, 1991

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Jerome Brotherton
W. Brotherton Seed Co., Inc.
P. O. Box 1136
Moses Lake, WA 98837 PHONE (include area code): **(509) 765-1816**

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. Exhibit A, Origin and Breeding History of the Variety
- b. Exhibit B, Novelty Statement.
- c. Exhibit C, Objective Description of Variety
- d. Exhibit D, Additional Description of Variety
- e. Exhibit E, Statement of the Basis of Applicant's Ownership
- f. Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office 10/13/89
- g. Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

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 (If "NO," skip to item 18 below) *per conversation w/ Jerome Brotherton*

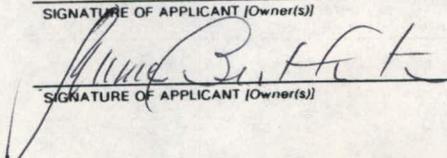
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
 YES NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
 FOUNDATION REGISTERED CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
 YES (If "YES," through Plant Variety Protection Act Patent Act Give date _____)
 NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?
 YES (If "YES," give names of countries and dates) **"ATHENA" was initially sold for trial in the U.S. and Spain in the Spring of 1989.**
 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 (Owner(s)) 	CAPACITY OR TITLE President	DATE 13 Oct. 1989
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed Exhibits A,B,C,E; (3) at least 2,500 viable untreated seeds; (4) check, drawn on a U.S. bank, payable to "Treasurer of the United States" in the amount of \$2,150 (\$250 filing fee and \$1,900 examination fee). (See section 180.175 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for 30 days, then returned to the applicant as unfiled. Mail application and other requirements to: Plant Variety Protection Office, AMS, USDA, Rm. 500, NAL Building, 10301 Baltimore Blvd., Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the Application are self-explanatory unless noted below. Corrections on the Application form and Exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a Certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$250 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: 301/344-2518

ITEM

9. Give the date when there has been at least a tentative determination that the variety has been sexually reproduced with recognized characteristics, whether or not the novelty of those characteristics has been determined. [See section 41(d) of the Plant Variety Protection Act (Act).]
- 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. (See sections 41 and 52 of the Act.)
- 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 are clear differences; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons which clearly indicate novelty.
- 14c. Exhibit C forms are available from the PVPO; specify crop kind. Fill in the Exhibit C (Objective Description of Variety form) to describe your variety.
- 14d. Optional additional characteristics and/or photographs: Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 14e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employer of the breeder, the owner through purchase or inheritance, 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 this affirmative decision after the variety has either been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified the applicant may change the choice. (See section 180.16 of the Regulations and Rules of Practice.)
19. See sections 41 (i, j) and 42 of the Act and section 180.7 of the Regulations and Rules of Practice for eligibility requirements.

NOTES:

It is the responsibility of the applicant/owner to keep the PVPO informed of any change of address or change of ownership or assignment during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment is \$25. [See section 101 of the Act, and sections 180.130, 180.131, 180.132, and 180.175(h) of the Regulations and Rules of Practice.]

To avoid conflict with other variety names in use, the applicant should check the variety names proposed by contacting: Seed Branch, AMS, USDA, Rm. 213, Building 306, Beltsville Agricultural Research Center -- East, Beltsville, MD 20705. Telephone: 301/344-2089.



Exhibit A, Origin and Breeding History of the Variety 'ATHENA'

ATHENA is a selection from a progeny of a cross between P.F. 70A (our selection from DARK SKIN PERFECTION) and an unnamed line similar to 'PUGET' and having resistance to powdery mildew. The cross was made during the summer of 1979. The hybrid was grown in our greenhouse that winter and the F₂ generation was grown in our nursery near Moses Lake the following summer. Mass selection was practiced on the F₃ near Yuma, Arizona that winter, followed by pedigree selection at Moses Lake during the summers of 1981 and 1982. Selection at this stage was primarily for multipodded habit, powdery mildew resistance, and general appearance. In 1983 seed of a promising selection was bulked for further increase and testing. The new variety was increased in each succeeding year and also included in our trials. It was included in public trials beginning in 1986 and in customer trials beginning in 1987.

The only characteristic rogue noted in ATHENA has been taller, more profusely flowering and larger podded. These rogues are infrequent. The variety otherwise seems uniform, stable and free of mixture.

Exhibit B, Novelty Statement for 'ATHENA'

ATHENA is similar to DARK SKIN PERFECTION (DSP) in most respects. It differs in several respects from DSP.

- 1) ATHENA is multipodded, producing typically three to four flowers and two or three (occasionally four) pods per peduncle whereas DSP does not produce more than two flowers or pods per peduncle.
- 2) ATHENA has moderate resistance to powdery mildew whereas DSP is susceptible.
- 3) ATHENA is taller, higher yielding, smaller in sieve size, and paler in berry color than DSP as shown in the following data:

TRIAL	VINE (cm)		YIELD t/ha*		SIEVE SIZE*		COLOR RATING	
	ATHENA	DSP	ATHENA	DSP	ATHENA	DSP	ATHENA	DSP
OSU 1986	50	48	6.9	4.0	4.1	4.3	21.6	27.1
OSU 1987	60	60	7.3	4.4	3.6	4.0	25.2	32.8
OSU 1988	80	76	4.1	4.5	3.1	3.6	13.9	25.8
WBSCo 1986	53	46	11.6	10.2	4.2	5.5		N/A
WBSCo 1987	88	54	13.2	8.1	5.2	5.4		N/A
WBSCo 1988	68	55	9.9	4.9	5.0	5.0		N/A
MEANS	66	56	8.8	6.0	4.2	4.6	20.2	28.6
PROBABILITY	.11		.02		.07		.05	

* Yield and sieve size adjusted to 100 tenderometer.

8. PODS:

1 Shape: 1 = STRAIGHT 2 = SLIGHTLY CURVED 2 End: 1 = POINTED (Alderman) 2 = BLUNT (Alaska)
 2 Color: 3 = CURVED 1 = LIGHT GREEN (Alaska WR) 2 = MEDIUM GREEN 3 = DARK GREEN (Alderman)
 2 Color: 4 = OTHER (Specify) _____
 1 Surface: 1 = SMOOTH 2 = ROUGH 2 Surface: 1 = SHINY 2 = DULL
 5 Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPEE
 5 Borne: 5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) _____
 0 8 CM. LENGTH 1 9 MM. WIDTH (Between sutures) 0 7 NO. SEEDS PER POD

9. SEEDS (95-100 Tenderometer):

3 Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) _____
 Seive: % 0 1 0 2 0 6 2 7 4 3 1 9 0 2 0 0 4 . 7 AVERAGE

SEEDS (Dry, Mature):

3 Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED
 3 Surface: 1 = SMOOTH 2 = DIMPLED 2 Surface: 1 = SHINY 2 = DULL
 3 Surface: 3 = WRINKLED
 1 Color Pattern: 1 = MONOCOLOR 2 = MOTTLED 3 = STRIPED 4 = DOTTED
 5 Primary Color: 1 = CREAMY-WHITE 2 = CREAM & GREEN 3 = LIGHT GREEN 4 = MEDIUM GREEN
 5 Primary Color: 5 = DARK GREEN 6 = BLUE-GREEN 7 = YELLOW 8 = BROWN 9 = RED
 4 Secondary Color: 10 = GRAY 11 = BLACK
 1 Hilum Floor Color: 1 = WHITE 2 = TAN 1 Cotyledon Color: 1 = GREEN 2 = YELLOW 3 = ORANGE
 3 Hilum Floor Color: 3 = BLACK

2 2 GRAMS PER 100 SEEDS

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

2 FUSARIUM WILT 0 NEAR-WILT 0 DOWNY MILDEW
 0 ASCOCHYTA BLIGHT 2 POWDERY MILDEW 0 BACTERIAL BLIGHT
 0 MOSAIC 0 PEA ENATION MOSAIC 0 YELLOW BEAN MOSAIC
 OTHER (Specify) _____

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

0 APHIDS OTHER (Specify) _____

12. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	DARK SKIN PERFECTION	Fresh Seed Color	PUGET
Leaf Color	" " "	Mature Seed Color	"
Pod Color	" " "	Seed Shape	"
Pod Shape	" " "	Plant Habit	DARK SKIN PERFECTION

COMMENTS:

(Continued)

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Exhibit D, Additional Description of Variety 'ATHENA'.

ATHENA is a freezing-type pea developed for the pea processing industry. It combines the high yield potential of the multipodded trait with the vigor and stress resistance associated with the indeterminate vine habit of DARK SKIN PERFECTION (DSP). The heavy foliage and tall vine of ATHENA make it best suited for use in areas where drought stress frequently limits vine growth and yield of peas. In these areas DSP is the standard variety. Our experience has been that, when DSP reaches harvest maturity of 100 tenderometer, ATHENA is at about 80-85 tenderometer and already higher in yield with much smaller and more tender peas.

ATHENA reaches 100 tenderometer one to two days later at a much higher yield level and slightly smaller sieve size than DSP.

Exhibit E, Statement of the Basis of Applicants Ownership of 'ATHENA'.

W. Brotherton Seed Co, Inc., Moses Lake, Washington, believes it is the sole, original, and first breeder of the ATHENA variety of garden pea for which it solicits a certificate of protection.