

No.



201500303

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

The U.S. Government, as represented by the
Secretary of Agriculture

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

An application requesting a certificate of protection for an alleged distinct variety of sexually reproduced, or tuber propagated 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 TWENTY 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 conditioning it for propagation, or stocking it for any of the above purposes, or using it in producing a hybrid or different variety therefrom, to the extent provided by the PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA, FIELD

'Hampton'



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 sixth day of July, in the year two thousand and sixteen.

Attest:

rec'd from Tom 4/8/2015

Form Approved - OMIS No. 0581-0035

201500303

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

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).

70027.1

1. NAME OF OWNER The U. S. Government as represented by the Secretary of Agriculture		2. TEMPORARY DESIGNATION OR PS06100736	3. VARIETY NAME Hampton
4. ADDRESS (Street and No., or R. F.D. No., City, State, and ZIP Code, and Country) 1400 Independence Ave., SW Washington D.C. 20250		5. TELEPHONE (include area code) (301) 504-6905	FOR OFFICIAL USE ONLY
		6. FAX (include area code) (301)504-5060	PVPO NUMBER 201500303
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) U.S. Government	8. IF INCORPORATED, GIVE STATE OF INCORPORATION N/A	9. DATE OF INCORPORATION N/A	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)			FILING AND EXAMINATION FEES:

Rebecca J. McGee
USDA ARS
Grain Legume
Genetics and
Physiology
Research Unit
305 Johnson Hall
Washington State
University
Pullman, WA 99164

Mojdeh Bahar
USDA, ARS, OTT

5601 Sunnyside Ave.
Beltsville, MD 20705-5131

F	
E	
S	\$ 4,382
R	DATE 4/13/2015
E	CERTIFICATION FEE
C	\$
E	DATE
I	
V	
E	
D	

11. TELEPHONE (include area code) +1 509.335.0300	12. FAX (include area code) +1 509.335.7692	13. E-MAIL rebecca.mcgee@ars.usda.gov
14. CROP KIND (Common Name) Field Pea	16. FAMILY NAME (Botanical) Fabaceae	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) 0 YES X NO
15. GENUS AND SPECIES NAME OF CROP Pisum sativum L.	17. IS THE VARIETY A FIRST GENERATION HYBRID? 0 YES X NO	18. IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) XYES (if "yes", answer items 21 and 22 below) NO (if "no", go to item 23)
<input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner(s) Ownership <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) <input type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? x YES NO IF YES, WHICH CLASSES? x FOUNDATION x REGISTERED x CERTIFIED
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? 0 YES X NO		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? 0 YES x NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. D FOUNDATION D REGISTERED D CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? 0 YES X NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER 	SIGNATURE OF OWNER
------------------------	--------------------

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Form Approved - OMB No. 0781-0355

NAME (Please print or type)

NAME (Please print or type)

Mojdab Bahar

CAPACITY OR TITLE
Assistant Administrator, ARS

DATE Current Date

02/05/2015

CAPACITY OR TITLE

DATE

(See reverse for instructions and information collection burden statement)

ST-470 (02-00) designed by the Postal Security Protection Office using Word 2003.

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GENERAL INSTRUCTIONS: 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, F; (3) for a tuber reproduced variety, verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filing fee and \$3,864 examination fee), payable to "Treasurer of the United States" (*See Section 97.6 of the Regulations and Rules of Practice*). **NEW:** With the application for a seed reproduced variety or by direct deposit soon after filing, the applicant must provide at least 3,000 viable untreated seeds of the variety *per se*, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, 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 payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.*)

Plant Variety Protection Office
Telephone: (301) 504-5518 FAX: (301) 504-5291
General E-mail: PVPOmail@usda.gov
Homepage: <http://www.ams.usda.gov/science/pvpo/PVPindex.htm>

SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, Seed Regulatory and Testing Branch, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. <http://www.ams.usda.gov/lsg/seed.htm>

ITEM 19a. 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) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

- (1) Identify these varieties and state all differences objectively;
- (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

- 9d. 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.**
- 9e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.**
- 0. 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 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 Regulations and Rules of Practice, Section 97.103*).**

23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.

24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (*Please provide a statement as to the limitation and sequence of generations that may be certified.*)

23. CONTINUED FROM FRONT (*Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U. S. or other countries.*)

24. CONTINUED FROM FRONT (*Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).*)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

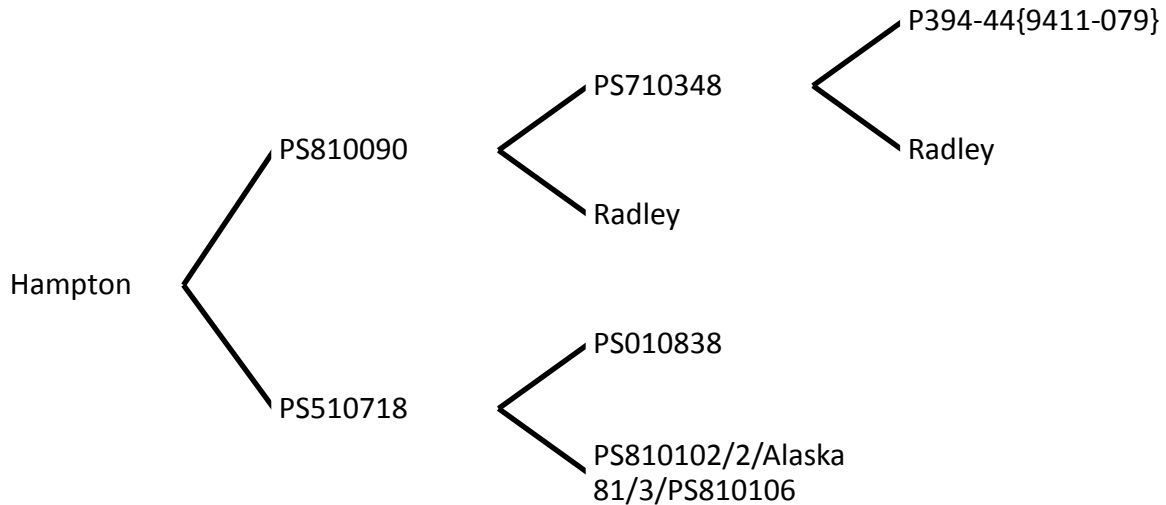
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To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S. W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

ST-470 (02-06) designed by the Plant Variety Protection Office using Word 2003.

Exhibit A

Origin and Breeding History of Hampton.



Hampton is derived from an F₆ selection from the cross PS810090 x PS510718. PS810090, PS510718, PS710348, PS010838, PS810102, PS810106 and P394-44 {9411-079} are all USDA breeding lines. Alaska 81 (IMPCS*4 / Wis7105) was released by USDA-ARS in 1984. It is immune to Pea Seed-borne Mosaic Virus and resistant to Fusarium Wilt race 1. Radley was developed and released by Booker Seeds, Essex, UK. Hampton was developed using a modified bulk pedigree breeding method.

Location	Gen	Year	Selection Criteria/Notes
Pullman, WA - Spillman Farm	Cross	2000	Assigned cross number X00P130
Pullman, WA - Greenhouse	F1	2000	None
Pullman, WA - Spillman Farm	F2	2001	None
Pullman, WA - Spillman Farm	F3	2002	None. Plot harvested in bulk.
Pullman, WA - Spillman Farm	F4	2003	None. Plot harvested in bulk.
Pullman, WA - Spillman Farm	F5	2004	0414 plot 86 – 9 SPS taken – sel leaf type and height
Pullman, WA - Greenhouse	F6	2004	P04SM021 plot 3196 is SPS -4 from 2004 field
Pullman, WA - Spillman Farm	F7	2005	0510 plot 736. Sel plant type, seed size
Pullman, WA - Spillman Farm	F8	2006	0605; entry 61. Unreplicated observation trial
Pullman, WA - Spillman Farm	F9	2007	USDA-ARS Replicated Preliminary Yield Trial. Selected for agronomic characteristics, yield and end use quality.
Pullman, WA - Spillman Farm; Walla Walla, WA, Genesee, ID, Fairfield, WA	F10	2008	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.
Pullman, WA - Spillman Farm; Fairfield, WA, Kendrick, ID, Genesee, ID	F10	2009	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.
Pullman, WA - Spillman Farm; Dayton, WA; Fairfield, WA;	F11	2010	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.

Genesee, ID			
Pullman, WA - Spillman Farm; Fairfield, WA; Garfield, WA; Genesee, ID	F12	2011	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.
Farmington, WA; Walla Walla, WA; Palouse, WA; Dusty, WA	F12	2011	WA State Univ Statewide Variety Trials. Selected for agronomic characteristics and yield.
Moscow, ID; Kambitsch, ID	F12	2011	Univ Idaho Statewide Variety Trials. Selected for agronomic characteristics and yield.
Pullman, WA - Spillman Farm; Fairfield, WA; Garfield, WA; Genesee, ID	F13	2012	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.
Farmington, WA; Walla Walla, WA; Palouse, WA; Dusty, WA	F13	2012	WA State Univ Statewide Variety Trials. Selected for agronomic characteristics and yield.
Moscow, ID; Kambitsch, ID, Genesee, ID; Camas Prairie, ID	F13	2012	Univ Idaho Statewide Variety Trials. Selected for agronomic characteristics and yield.
Pullman, WA - Spillman Farm; Dayton, WA; Fairfield, WA	F14	2013	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.
Pullman, WA - Spillman Farm; Dayton, WA; Fairfield, WA; Genesee, ID	F15	2014	USDA-ARS Replicated Advanced Yield Trials. Selected for agronomic characteristics, yield and end use quality.
Farmington, WA; Walla Walla, WA; Palouse, WA; Dusty, WA	F15	2014	WA State Univ Statewide Variety Trials. Selected for agronomic characteristics and yield.
Walla Walla, WA	F12	2011	Fusarium Wilt, Race 2 disease nursery*
Prosser, WA	F14	2013	Greenhouse screening for Bean Leaf Roll Virus (BLRV) and Pea Enation Mosaic Virus (PEMV).**
Pullman, WA – Spillman Farm	F9- F15	2007- 2014	Fusarium Wilt, Race 1 disease nursery*
Corvallis, OR	F13- F15	2012- 2014	PEMV and Powdery Mildew resistance*

*Hampton was evaluated in field nurseries which relied upon natural disease epidemics. Plots were scored on visual appearance of symptoms typical for each disease.

**Hampton was evaluated in controlled conditions for reaction to PEMV and BLRV using viruliferous aphids. Colonies of *Acryosiphon pisum* (pea aphid) viruliferous for BLRV and PEMV, respectively, were maintained on *Pisum sativum* L. cv. 'Early Perfection' (8221) in separate greenhouses inside 60 x 60 x 60 cm insect rearing tents (BugDorm-2120 Insect Rearing Tent, Megaview Science Company, Taichung, Taiwan). Viruses and aphid colonies were obtained from the Columbia Basin growing region of the state of Washington. Greenhouses were maintained at 23.9-29.4°C with a 12-hour photoperiod using 400 watt metal halide lamps (Eye Hortilux Metal Ace M400LU/HTL). Pea genotypes screened for BLRV or PEMV were grown in the same greenhouses as the aphids vectoring these viruses. Three to five plants of each genotype were planted in 10.2 cm diameter pot containing Sunshine Mix #1 (SunGro Horticulture, Bellevue, WA). Plants were allowed to emerge and were inoculated with 15-20 viruliferous aphids when plants were 1.3 to 2.5 cm in height. Clear plastic cups (296 ml) with bottoms made of fine mesh screen were placed over the top of the aphids and plants to inhibit aphid movement away from the plants, and

aphids were allowed to feed for 96 hours. Following inoculation, cups were removed and plants were sprayed with Insect Killing Soap (Safer Brand, Lititz, PA) to immediately kill the aphids, followed by treatment with the insecticide, 1% Granular Marathon® (OHP, Inc., Mainland, PA), according to manufacturer's instructions. Plants were watered as needed but not fertilized. To test for the presence of BLRV, the top two to four leaves were harvested from the plants 21 days post-inoculation, stored in a refrigerator at 4°C for 24 hours, then ground in individual 12 x 15 cm extraction bags (#430100 Universal extraction bags, BIOREBA AG, Reinach, Switzerland). Plant extract was removed from the extraction bags and DAS-ELISA using rabbit polyclonal antibodies specific for BLRV were used to detect the presence of the virus following company protocols (AC Diagnostics, Fayetteville, AR). Plates were read using a 7520 Microplate Reader (Cambridge Technology, Inc., Bedford, MA), and plates were read at a single wavelength of 405 nm. Wells with an optical density rating of 0.100 or greater were considered positive for the virus. Inoculated and non-inoculated plants of 'Early Perfection' were used as positive and negative controls. Non-inoculated control plants were placed in insect rearing tents in the greenhouses and planted and harvested simultaneously. The tents protected the plants from becoming inoculated by aphids. Pea plants infected with PEMV are readily detected visually (Jain et al., 2013). To screen plants for PEMV, the same protocol as that described for BLRV was used except plants were visually assessed 21 days after inoculation for resistance to PEMV based on the presence of classic symptoms such as translucent flecks or windows on leaves, mosaic leaf pattern, enations, chlorosis, and stunting. Pea genotypes were screened two or three times on separate occasions for each virus.

Statement of uniformity and stability: Hampton has been observed to be uniform and stable for 10 generations. No variants have been observed.

Exhibit B: Statement of Distinctness, ‘Hampton’

The following is the Statement of Distinctiveness for ‘Hampton’.

Hampton is a spring-sown field pea variety. It is semi-leafless (af) and has short internodes (le). It has white flowers (a). The seeds are smooth round (R) and have a clear, unpigmented testa and clear hilum (pl). The cotyledons are green (i). Hampton is resistant to Fusarium Wilt race 1 (FW1), Pea Enation Mosaic Virus (PEMV), Bean Leaf Roll Virus (BLRV) and Powdery Mildew. Hampton is susceptible to Pea Seed-borne Mosaic Virus (PSbMV) and Fusarium Wilt race 2 (FW2).

Hampton is most similar to two other spring-sown field peas – Aragorn and Banner. Aragorn and Banner are both susceptible PEMV and BLRV. Banner segregates for resistance to FW1 and is resistant to FW2. Aragorn is susceptible to powdery mildew and is resistant to FW1, FW2 and PSbMV.

Hampton is resistant to Pea Enation Mosaic Virus, Bean Leaf Roll Virus and Powdery Mildew, whereas Banner is susceptible to all three diseases and Aragorn is susceptible to Pea Enation Mosaic Virus and Bean Leaf Roll Virus.

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Form Approved OMB NO 0581-0055

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U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 SCIENCE AND TECHNOLOGY
 PLANT VARIETY PROTECTION OFFICE
 BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
 Pea (*Pisum sativum* L.)

NAME OF APPLICANT (S)	TEMPORARY OR EXPERIMENTAL DESIGNATION PS06100736	VARIETY NAME Hampton
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country)	FOR OFFICIAL USE ONLY	
Email:	PVPO NUMBER	

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., 0 9 9 or 0 9) when the number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ .Please answer all questions for your variety; lack of response may delay progress of your application.

1. TYPE:
 1 = Garden 2 = Field 3 = Edible-pod 4 = Other (Specify) _____

2. MATURITY:
 Node Number of First Bloom: No. of Days Processing Heat Units
 No. of Days Earlier Than } 1 = Alaska 2 = Thomas Laxton WR 3 = Little Marvel
 Days Same As } 4 = Wando 5 = Alderman WR 6 = Australian Winter
 No. of Days Later Than } 7 = Other (Specify) Aragorn

3. PLANT HEIGHT:
 cm High
 cm Shorter Than Name of Check Cultivar Aragorn
 Same As Same as Check Cultivar _____
 cm Taller Than Name of Check Cultivar _____

4. VINE:
 Habit: 1 = Determinate 2 = Indeterminate
 Branching: 1 = None (Alaska) 2 = 1-2 Branches (Little Marvel) 3 = More than 2 Branches (Dwarf Gray Sugar)
 Internodes: 1 = Straight 2 = Zig Zag
 Stockiness: 1 = Slim (Alaska) 2 = Medium (Thomas Laxton WR) 3 = Heavy (Alderman)
 Total Number of Nodes

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5. LEAFLETS:

Color: 1 = Light Green (Alaska WR) 2 = Medium Green (Thomas Laxton WR) 3 = Dark Green (Alderman)
 4 = Other (Specify) _____ 5 = Blue Green 6 = Yellow Green 0 = Not Applicable

Wax: 1 = None 2 = Light 3 = Medium 4 = Heavy 0 = Not Applicable

Molding: 1 = Not Marbled 2 = Marbled (Alaska) 0 = Not Applicable

Number of Leaflet Pairs: 1 = Not Paired 2 = One 3 = Two 4 = Three or More 0 = Not Applicable

Leaflet Type: 1 = Leafless 2 = Semi 3 = Normal

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 0 = Not Applicable

Color (Compared with Leaflets): 1 = Lighter 2 = Same 3 = Darker 0 = Not Applicable

Color: 1 = Light Green 2 = Medium Green 3 = Dark Green 4 = Blue Green 5 = Yellow Green 0 = Not Applicable

Color Chart Value: 137A

Select the Color Chart Used to Determine the Values:

Royal Horticulture Society Colour Chart
 Munsell Color Chart
 Other _____

Stipule Size: 1 = Small 2 = Medium 3 = Large

Please Provide Comparative Varieties (Check Varieties) and Stipule Color

	Variety (1)	Variety (2)	Variety (3)
Variety Name:	<u>Aragorn</u>		
Stipule Size:	<u>same</u>		
Color:	<u>same</u>		
Color Chart Value:	<u>137A</u>		

7. FLOWER COLOR:

Venation Standard Wing Keel

1 = White 2 = Greenish 3 = Lavender 4 = Purple 5 = Red 6 = Other (Specify) _____

8. PODS:

Shape: 1 = Straight 2 = Slightly Curved 3 = Curved

End: 1 = Pointed (Alderman) 2 = Blunt (Alaska)

Color: 1 = Light Green (Alaska WR) 2 = Medium Green 3 = Dark Green (Alderman)
 4 = Other (Specify) _____ 5 = Blue 6 = Purple 7 = Yellow

Surface: 1 = Smooth 2 = Rough Surface: 1 = Shiny 2 = Dull

Borne: 1 = Single 2 = Double 3 = Single and Double 4 = Single, Double & Triple 5 = Double & Triple
 6 = Triple 7 = Other (Specify) _____ 8 = Quad, Single, Double, Triple 9 = Quad

cm Length mm Width (Between Sutures) No. Seeds Per Pod

9. SEEDS: (95-100 Tenderometer)

Color: 1 = Light Green 2 = Green 3 = Dark Green 4 = Other (Specify) NA
 5 = Yellow 6 = Brown 7 = Yellow Green

	1	2	3	4	5	6	7	8	Average
Seive: %	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

9. SEEDS: (cont.) (Dry-Mature)

4 Shape: 1 = Flattened 2 = Angular 3 = Oval 4 = Rounded

1 Surface: 1 = Smooth 2 = Dimpled 3 = Wrinkled 2 Luster: 1 = Shiny 2 = Dull

1 Color Pattern: 1 = Monocolor 2 = Mottled 3 = Striped 4 = Dotted

4 Primary Color: } 1 = Creamy White 2 = Cream & Green 3 = Light Green 4 = Medium Green
 5 = Dark Green 6 = Blue Green 7 = Yellow 8 = Brown
 Secondary Color: } 9 = Red 10 = Gray 11 = Black 12 = Salmon
 13 = Purple 14 = Tan 15 = White 16 = Pink
 17 = Yellow-Green

1 Hilum Color: 1 = White 2 = Tan 3 = Black

1 Cotyledon Color: 1 = Green 2 = Yellow 3 = Orange 4 = Cream

2 1 Grams per 100 Seeds

10. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Moderately Resistant, 4 = Moderately Susceptible, 5 = Tolerant)

<input type="checkbox"/> 2 Fusarium Wilt -- Race 1	<input type="checkbox"/> 1 Fusarium Wilt (Near Wilt) -- Race 2
<input type="checkbox"/> 0 Ascochyta Blight	<input type="checkbox"/> 0 Common Mosaic
<input type="checkbox"/> 0 Bacterial Blight	<input type="checkbox"/> 2 Pea Enation Mosaic Virus
<input type="checkbox"/> 0 Downy Mildew	<input type="checkbox"/> 0 Seedborne Mosaic Virus
<input type="checkbox"/> 2 Powdery Mildew	<input type="checkbox"/> 0 Yellow Bean Mosaic Virus
<input type="checkbox"/> Other (Specify) _____	<input type="checkbox"/> 0 Leaf Roll Virus
<input type="checkbox"/> Other (Specify) _____	<input type="checkbox"/> 2 Other (Specify) <u>Bean Leaf Roll Virus</u>

11. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Moderately Resistant, 4 = Moderately Susceptible, 5 = Tolerant)

0 Aphids Other (Specify) _____

12. Additional information on any item above, or general comments that may aid in identification:

2: Hampton is harvested at physiological maturity - not for processing as garden peas are.
 9: Hampton is a dry pea - it is never harvested at 95-100 tenderometer and has no associated sieve size distribution. It is always harvested at physiological maturity.

Exhibit D.

Table 1. Morphological characteristics of green field pea Hampton.

Entry	Vine Type ¹	Leaf Type ²	Cotyledon Color	Disease Reactions				BLRV ⁷
				FW1 ³	FW2 ⁴	PM ⁵	PEMV ⁶	
Hampton	le	af	Green	R	S	R	R	R
Aragorn	le	af	Green	R	R	S	S	S
Banner	le	af	Green	R	R	S	S	S
Ariel	le	af	Green	R	R	S	S	S

¹: le = short internodes; Le = long Internodes

²: af = semi-leafless ; Af = normal leaflets

³: FW1 = Fusarium wilt race 1 (*Fusarium oxysporum* Schlecht. f.sp. *pisii* (Fop) (C.J.J. Hall) Snyder and Hansen)

⁴: FW2 = Fusarium wilt race 2 (*Fusarium oxysporum* Schlecht. f.sp. *pisii* (Fop) (C.J.J. Hall) Snyder and Hansen)

⁵: PM = Powdery Mildew (*Erysiphe pisi*)

⁶: PEMV = Pea Enation Mosaic Virus

⁷: BLRV = Bean Leaf Roll Virus

Table 2. Agronomic characteristics of Hampton (data from Pullman, WA 2008-2013).

Entry	Days to Flower	Days to Physiol Mat	Plnt Ht (cm)	Can Ht (cm)	PHI	Pod Ht (cm)	Pod Ht Mat (cm)	PodHI	HSW (g)	Disease Resistances
Hampton	62.7	93.8	56.3	43.7	0.75	40.5	30.7	0.79	20.7	FW1, PEMV, BLRV, PM
Aragorn	58.4	89.3	61.8	50.7	0.79	44.0	35.3	0.79	17.6	FW1, PM
Ariel	60.3	89.5	63.0	50.3	0.82	39.3	32.3	0.85	15.1	FW1, PM
Banner	59.9	90.0	68.0	45.0	0.67	46.5	29.0	0.70	17.7	FW1(seg)
Grand Average	60.8	91.7	61.0	47.8	0.77	41.9	30.9	0.78	18.3	

*: Pod Ht Index = Pod Ht Mat / Pod Ht Green

** : Plant Ht Index = Canopy Ht Mature/ Plant Ht Green

Table 3. Yield of Hampton in the Palouse region of Washington 2008-2013.

Entry	Pullman						Genesee				
	2008	2009	2010	2011	2012	2013	2008	2009	2010	2011	2012
Hampton	2134	1982	1787	2101	2806	2989	1440	2816	1495	2778	3058
Aragorn	2120	1718	1444	1818	2134	2612	1297	2529	972	2427	2602
Ariel	2307	1650	1435	1600	2026	2476	1485	2209	1110	2200	1953
Banner	2227	1219	1560	1563	2360	2550	1569	2329	1164	2215	2902
Trial	2061	1883	1706	1664	2395	2504	1247	2323	1139	2300	2806
Average											
CV	9.6	15.9	11.9	13.9	4.0	11.8	16.1	10.8	15.8	7.1	11.0
LSD (0.05)	271	409	398	316	173	483	274	344	354	225	534

Entry	Fairfield					Dayton			Garfield		Average 2008-2012
	2009	2010	2011	2012	2013	2010	2012	2013	2011	2012	
Hampton	2717	1532	1940	3156	2403	2173	2677	1839	2959	1644	2306
Aragorn	2503	1769	1990	2841	2282	1479	1980	1704	2593	1470	2014
Ariel	2464	1755	1893	2872	2500	1597	2001	1777	2847	1513	1984
Banner	2422	1948	1962	3094	2541	1679	2308	1579	2660	1750	1076
Trial											
Average	2556	1778	1802	3017	2311	1684	2196	1591	2828	1666	2069
CV	6.7	12.3	13.3	7.0	16.7	8.9	14.0	11.2	10.1	9.0	
LSD (0.05)	235	429	327	345	583	295	523	290	392	269	

Table 4. Yield of Hampton in the Washington State University Statewide Variety Trials 2011, 2012 and 2014.

Entry	Dusty		Farmington			Palouse			Walla Walla			Average 2011- 2012;2014
	2011	2012	2011	2012	2014	2011	2012	2014	2011	2012	2014	
Hampton	2720	3293	2970	2688	1501	2850	3091	2531	2190	2218	2150	2364
Aragorn	2070	2744	2610	2352	1523	2400	2688	2475	2230	2330	2296	2338
Ariel	2160	2688	2890	2464	1781	2350	2677	2632	2330	2430	2296	2427
Banner Trial	2290	2677	2950	2542	1478	3180	2699	2520	2360	2486	2195	2489
Average	2252	2677	2972	2509	1736	2648	2901	2554	2362	2363	2374	2486
LSD (.10)	308	314	293	168	302	487	146	202	289	81	213	

Table 5. Yield of Hampton in the University of Idaho Statewide Variety Trials 2011, 2012 and 2014.

Entry	Moscow (UI)			Kambitsch			Genesee SW	Camas Prairie		Average 2011- 2014
	2011	2012	2014	2011	2012	2014	2012	2012	2014	
Hampton	1303	3328	2567	3358	4120	2612	2119	2615	2084	2678
Aragorn	2202	2867	1850	3568	3274	2274	1693	2409	1721	2429
Ariel	1586	3061	1483	3371	3421	2027	1932	2288	1487	2295
Banner Trial	2014	3016	1595	4124	3912	23286	2062	2734	2203	2672
Average	1953	3087	1953	3511	3791	2363	2364	2755	1989	2641
LSD (.05)	512	448	416	424	647	177	553	460	535	

'Hampton' (PS06100736), originated as an F₆ selection from the cross PS810090 x PS510718. PS810090, PS510718, PS710348, PS010838, PS810102, PS810106 and P394-44 {9411-079} are all USDA breeding lines. Alaska 81 (IMPCS*4 / Wis7105) was released by USDA-ARS in 1984 and is immune to Pea Seed-borne Mosaic Virus and resistant to Fusarium Wilt race 1. Radley was developed and released by Booker Seeds, Essex, UK. Hampton was developed using a modified bulk pedigree breeding method. The primary reasons for the release, registration and PVP of Hampton is its general adaptation and its unique disease resistance package, including resistance to the two most important aphid-vectorred virus diseases of pea in the Pacific Northwest – Pea Enation Mosaic Virus (PEMV) and Bean Leaf Roll Virus (BLRVO).

Hampton was evaluated in replicated yield trials in the Palouse Region of eastern Washington northern Idaho 41 location years from 2008 - 2013. On average, it yields as well as, or better than, Aragorn, Ariel and Banner. Hampton is resistant to Fusarium Wilt race 1, powdery mildew, Pea Enation Mosaic Virus and Bean Leaf Roll Virus. Canopy height of Hampton averaged 44 cm tall at maturity compared to 51, 50, 45 cm for Aragorn, Ariel and Banner respectively. Hampton is a full season variety - it reaches physiological maturity in approximately 94 days, compared to 89, 90, 90 days for Aragorn, Ariel and Banner, respectively..

Hampton is semi-leafless (af) has a short vine type (le) and unpigmented flowers (a). The seeds are smooth (R) and have green cotyledons (i), a clear testa (a) and a clear hilum (pl). The weight of 100 seeds is 20.7 g.

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). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E
 STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
7. PVPO NUMBER		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** YES NO

9. Is the applicant a U.S. national or a U.S. based entity? **If no, give name of country.** YES NO

10. Is the applicant the original owner? YES NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

YES NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

YES NO **If no, give name of country**

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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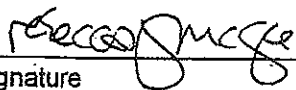
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705

EXHIBIT F DECLARATION REGARDING DEPOSIT

U.S. Government as Represented by the Secretary of Agriculture	1400 Independence Ave., SW Washington D.C. 20250	PS06100736
		Hampton
Dr. Rebecca McGee	USDA-ARS 305 Johnston Hall, WSU Pullman, Washington 99164	FOR OFFICIAL USE ONLY
		PVPO NUMBER

Unofficial Copy

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.


Signature

15 January 2015
Date