

No.



201400091

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## University of Maine System Board of Trustees

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

POTATO

'Easton'



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 fourteenth day of August, in the year two thousand and fifteen.*

Attest:

Commissioner  
Plant Variety Protection Office

Secretary of Agriculture

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).

1. NAME OF OWNER University of Maine System Board of Trustees		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME AF3001-6		3. VARIETY NAME Easton	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 16 Central Street Bangor, ME 04101		5. TELEPHONE (include area code) 207-581-2201		FOR OFFICIAL USE ONLY	
		6. FAX (include area code) 207-581-1479		PVPO NUMBER 201400091	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Land Grant University, not for profit		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Maine		FILING DATE 1/7/2014	
9. DATE OF INCORPORATION 1865					

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Kristine H. Johnson MacMillan, Sobaski & Todd, LLC One Maritime Plaza, 5th Floor 720 Water Street Toledo, OH 43604		FILING AND EXAMINATION FEES: \$ 4,382	
		DATE 1/7/2014	
		CERTIFICATION FEE: \$	
		DATE	

11. TELEPHONE (Include area code) 419-255-5900	12. FAX (Include area code) 419-255-9639	13. E-MAIL docketing@mstfirm.com
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14. CROP KIND (Common Name) potato	16. FAMILY NAME (Botanical) Solanaceae	18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
15. GENUS AND SPECIES NAME OF CROP Solanum tuberosum	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	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 ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <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) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		<input type="radio"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="radio"/> NO (If "no", go to item 23) <input type="radio"/> UNDECIDED
		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED
		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
		IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)

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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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.)	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	
NAME (Please print or type) Kris A. Burton		NAME (Please print or type)	
CAPACITY OR TITLE Director, Tech. Commercialization, Univ. Maine	DATE 06 JAN 2014	CAPACITY OR TITLE	DATE



**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 initiated 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.
- 19d. 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.
- 19e. 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.
20. 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).)

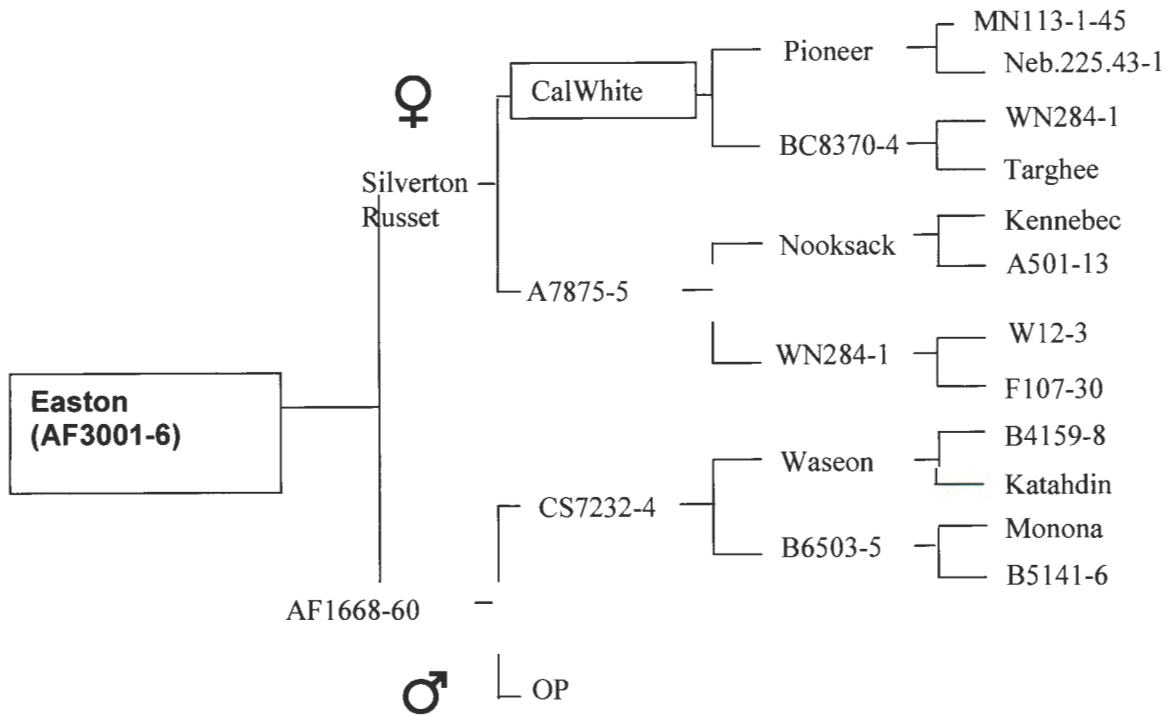
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to 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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**Exhibit A. Origin and Breeding History of the Variety.**

The potato clone Easton, previously evaluated as AF3001-6, resulted from a cross made by the University of Maine Potato Breeding Program in 2002 between the dual-purpose, russeted variety Silverton Russet (female parent) and AF1668-60 (pollen parent). Silverton Russet is a product of the Colorado State University potato breeding program, while AF1668-60 was developed by the University of Maine potato breeding program. Silverton Russet (CalWhite x A7875-5) was chosen as a parent due to its high yields, good tuber appearance, russeted skin, and long tuber type. AF1668-60 (CS7232-4 OP) was chosen as a parent due to its excellent chip color. The full pedigree of Easton is provided below.

**Pedigree of Easton (AF3001-6)**



Seeds from the Silverton Russet x AF1668-60 cross were planted in the greenhouse flats during spring 2003. Seedlings were transplanted to 3-inch pots and raised in the greenhouse at the University of Maine's Aroostook Research Farm, Presque Isle, ME. Several seedling tubers were harvested from each greenhouse pot and the largest from each pot was saved to create a family of seedling tubers from the cross (family AF3001). This family of seedling tubers was planted in the field at Aroostook Research Farm during spring 2004. Field selections were made in the fall of 2004 based on visual characteristics such as tuber shape, appearance, size, and yield. Clones selected during the first round of selection in 2004 were planted and evaluated as 8-hill plots in 2005 (2<sup>nd</sup>-year of field selection) and 20-hill plots in 2006 (3<sup>rd</sup>-year of selection). From the fourth year of selection (2007) onward selection took place in replicated yield trials at Presque Isle and other locations as well as from seed increase plots at Presque Isle. The size of the seed plots increases as material advanced through the program (3<sup>rd</sup>-year material, 60 hills; 4<sup>th</sup>-year material, 100 hills; 5<sup>th</sup>-year material, 300 hills; 6<sup>th</sup> and older material, 800 to 1600 hills). In each successive year, evaluation becomes more intensive and the plots increased in size and/or the number of locations, so that progressively fewer and fewer clones were retained. Many traits were evaluated including yield, tuber size profile, specific gravity, ability to fry from the field and/or storage, freedom from internal and external physical defects, appearance, maturity, and yield.

AF3001-6, also named Easton, was one of the individuals selected during fall 2004 from family AF3001. It was retained during successive years of selection because it exceeded standard varieties in yield and several quality attributes (fry color, size profile, and freedom from internal and external defects). It was evaluated in the eastern regional potato variety trials (formerly NE107, NE1084, NE1031 and now NE1231) from 2010 to 2013 where it has had high yields, wide adaptation, and excellent fry quality. Its yield, tuber size, and fry color typically exceeds the current high yielding, fry processing standard variety, 'Russet Burbank'. In addition, Easton typically provides better internal quality (less hollow heart, lower tuber glycoalkaloid levels) and fewer external defects (e.g. misshapes, growth cracks). Easton typically has similar tuber specific gravity to that of Russet Burbank (it has averaged 0.001 less in Maine trials). While primarily expected

to compete with Russet Burbank and Shepody as a fry processing variety, Easton can also be used for fresh market due to its fair to good external appearance, moderate specific gravity, good internal quality, favorable tuber size profile, and good sensory scores.

Easton has been observed in seed multiplication plots for 9 generations (since 2005) at Presque Isle, ME, as well as in replicated yield trials for eight years (since 2007) in Presque Isle, ME and other locations. It has been uniform and stable from generation to generation with no evidence of variants.

(Revised, clean copy)

**Exhibit B. Statement of Distinctness**

Potato variety Easton is most similar to potato variety Russet Burbank (reference variety 1 on Exhibit C and potato variety Shepody (reference variety 2 on Exhibit C). Easton (AF3001-6) is primarily expected to be useful for French fry production. Russet Burbank is currently the standard French fry processing variety used in North America. Shepody is a regional standard that is used for fry processing early in the storage season. Fresh market would be a secondary market for Easton. Russet Burbank is a standard fresh market as is Russet Norkotah (some Russet Norkotah information is provided here and in the data tables of exhibit D for comparison purposes). Documentation is provided in Exhibits C and D (objective descriptions, photos, data tables, and DNA fingerprinting).

Easton is clearly distinguished from Russet Burbank and Russet Norkotah in that Easton has pale purple flowers with white tips, while Russet Burbank and Russet Norkotah have white flowers. Easton is late maturing, like Russet Burbank, while Shepody and Russet Norkotah have mid-season maturity. Foliage of Easton is darker-colored than that of any of the standard varieties. Easton tubers have much lower incidence of internal tuber defects such as hollow heart than the standard varieties. Easton has much lighter fried product color from storage, especially from cooler storage temperatures. Like Russet Burbank, Easton tubers are long and slightly flattened; however, Easton tubers have a tan, netted to lightly russeted skin while Russet Burbank tubers are tan to light brown and russeted. Russet Norkotah tubers have brown, well-russeted skin. Shepody tubers have a white to buff skin that is not russeted. Easton tubers have generally better appearance and uniformity than Russet Burbank or Shepody, while Russet Norkotah has consistently better tuber appearance. Easton has good verticillium wilt resistance, while Russet Burbank is susceptible and Shepody is very susceptible. Easton is moderately susceptible to common scab, while Russet Burbank is resistant and Shepody is very susceptible. Easton is moderately resistant to powdery scab, while Shepody is very susceptible. Easton has significantly lower tuber glycoalkaloid and asparagine concentrations than Russet Burbank. DNA fingerprinting of Easton shows a banding pattern which is distinct from Russet Burbank and Shepody.

	<u>Easton (Af3001-6)</u>	<u>R. Burbank</u>	<u>Shepody</u>
<b><u>Qualitative Traits:</u></b>			
Terminal Leaflet	medium ovate	narrowly ovate	narrowly ovate
Plant size	med-large (6.8)	med-large (7.0)	med-large (6.5)
Maturity	late (6.8)	late (6.7)	medium (5.0)
Skin texture	netted (4.8)	lt. russeted (3.6)	mod. smooth (6.8)
Tuber shape	long (6.8)	long (7.0)	long (6.9)
Tuber appearance	fair-good (5.6)	poor (3.7)	poor (3.9)

**Color Traits:**

Leaf color	Dark Green RHS 137A	Med. Green RHS 138A	Med. Green RHS 138A
Flower color	Lt. Purple w/white tips RHS 76B:155A	White RHS 155C	Lt. purple w/white tips RHS 76B:155C
Stem anthocyanin	weak	weak	absent
Petiole anthocyanin	absent	absent	absent
Calyx anthocyanin	weak	absent	absent
Tuber Skin	tan (greyed-orange) RHS 164C	brown RHS N199D	buff/white (greyed-yel) RHS 161B

**Quantitative Traits:**

Tuber specific gravity	mod (1.081)	mod (1.082)	mod (1.081)
Hollow Heart Incid.	Low (2.8%)	med-high (15.5%)	med-high (14.1%)
Fry 50F (Agtron)	VG (56.4)	F (39.9)	F (46.4)
Fry 38 or 42F (Agtron)	F-G (42.7)	P (27.1)	P (27.6)
Tuber glycoalkaloids	low (8.57)	med-high (21.29)	n/a
Tuber asparagines	med-low (4.23)	med (5.46)	n/a

**Other Traits:**

Verticillium wilt	resistant	susceptible	very susceptible
Common scab	mod. susceptible	resistant	very susceptible
Powdery scab	mod. resistant	mod. resistant	very susceptible



REPRODUCE LOCALLY. Include form number and date on all reproductions.

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 Potato (*Solanum tuberosum* L.)

### INSTRUCTIONS

#### **The Objective Description Form:**

The objective description form lists characteristics to be used as the basis for developing the description of potato varieties. It is designed to guide the applicant in describing a variety in detail so a meaningful comparison with other potato varieties can be accomplished. It is recommended that this form be completed in as much detail as possible to ensure an accurate description. Please fill in the requested data and place the appropriate number that describes the varietal characters typical of this potato variety and the reference varieties in the respective boxes.

#### **Test Guidelines:**

Any statistical and trial (field test) data that may be necessary to support the variety description should be attached to this form. Please include for trial data the plot size, number of replications, number of plants, plant spacing, trial locations and growing periods. Trials should normally be conducted at one place, in the region that the variety has been adapted for, with a minimum of one growing period in the United States. All comparative data should be determined from varieties entered in the same trials. The size of the plots should be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made at the end of the growing period. As a minimum, each test should include a total of 60 plants which should be divided between two or more replicates. Separate plots for observation and measuring can only be used if they have been subject to similar environmental conditions. To determine color for a plant or plant parts a recognized standard color chart must be used such as the Royal Horticultural Society (RHS) Color Chart or Munsell Color Chart (MCC).

#### **Reference Varieties:**

The application variety should be compared to at least one reference variety preferably a set of reference varieties. The reference varieties should be market class standard varieties currently grown in the United States and or the variety (ies) most similar. The following varieties are recommended as market class standards to be used as reference varieties:

Yellow-flesh table-stock.....	Yukon Gold
Round-white table-stock.....	Superior
Chip-processing.....	Atlantic, Snowden, Norchip
Frozen-processing.....	Russet Burbank
Russet table-stock.....	Russet Burbank, Russet Norkotah, Goldrush
Red table-stock.....	Red Pontiac, Red Norland, Red Lasoda

If the applicant does not use one of the recommended reference varieties by the PVP office, a complete description of the reference variety should be submitted by the applicant (Exhibit C).

**Characteristics:**

Light sprout characteristics are supplied in **Figure 1**. The plant type and growth habit characteristics are collected at early first bloom. **Figure 2** is supplied to help visualize the growth habit. For this descriptor, look at the stems rather than the stems and foliage. Plant maturity is measured at natural vine senescence.

Stem characteristics are also collected at early bloom. Stem anthocyanin coloration is divided into two descriptors: Location and intensity. **Figure 3** is supplied to give an example of stem wings.

Leaf characteristics are observed at early first bloom. Fully-developed leaves located on the middle third of the plant should be used. Leaf pubescence refers to general trichomes. **Figure 4** is supplied for examples of leaf silhouette. Leaf stipules are shown in **Figure 5** for visual definition. **Figure 6** is supplied to define leaf characteristics. **Figure 7** should be used to describe terminal and primary leaflet shape. **Figures 8 and 9** are used to describe the terminal and primary leaflet shape of tip and base, respectively. To measure the total number of primary leaflets pairs, collect 10 fully developed petioles (with leaves attached from each replication) and take the average number of secondary and tertiary leaflets. Glandular trichomes should be described in the Additional Comments and Characteristics (Descriptor 15).

Inflorescence characteristics should be measured at early first bloom. **Figures 10, 11 and 12** are supplied to describe anther and stigma shape, respectively. Corolla, calyx, anther, stigma, and pollen should be observed on newly opened flowers. Berry production should be based on field-grown plants rather than greenhouse plants.

Tuber characteristics should be observed following harvest. **Figures 13 and 14** are available to describe distribution of secondary color and tuber shape, respectively.

Disease and pest reactions should be based upon specific tests or statistical analysis rather than just field observations, rating 1 as Highly Resistance and 9 as Highly Susceptible, please follow the scale on each descriptor. Other diseases or pests reactions not requested can be described if it is felt that it would be helpful to determine novelty of the variety.

Quality characteristics should be described according to the market use.

If the plant is transgenic, this gene insertion(s) should be described.

Chemical identification and any other characteristics can be described if they are helpful in distinguishing the variety.

Legend:

**V** = Application Variety

**R1-R4** = Reference Varieties

\* = Both the reference variety (ies) and application variety must be described for characteristics designated with an asterisk.

NAME OF APPLICANT (S) University of Maine System Board of Trustees	TEMPORARY OR EXPERIMENTAL DESIGNATION AF3001-6	VARIETY NAME Easton
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) University of Maine Dept of Industrial Cooperation 5717 Corbett Hall Orono, ME 04469		FOR OFFICIAL USE ONLY PVPO NUMBER

REFERENCE VARIETIES: Enter the reference variety name in the appropriate box.

Application Variety (V)	Reference Variety 1 (R1)	Reference Variety 2 (R2)	Reference Variety 3 (R3)	Reference Variety 4 (R4)
Easton (AF3001-6)	Russet Burbank	Shepody		

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

1. MARKET CHARACTERISTICS:

\*MARKET CLASS:

1 = Yellow-flesh Tablestock 2 = Round-white Tablestock 3 = Chip-processing 4 = Frozen-processing  
 5 = Russet Tablestock 6 = Other \_\_\_\_\_

V	4-5	R1	4-5	R2	4	R3		R4	
---	-----	----	-----	----	---	----	--	----	--

2. LIGHT SPROUT CHARACTERISTICS: (See Figure 1)

\*LIGHT SPROUT: GENERAL SHAPE

1 = Spherical 2 = Oval 3 = Conica 4 = Broad cylindrical 5 = Narrow cylindrical 6 = Other \_\_\_\_\_

V	3	R1	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

\*LIGHT SPROUT BASE: PUBESCENCE OF BASE

1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	4	R1	3	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

\*LIGHT SPROUT BASE: ANTHOCYANIN COLORATION

1 = Green 2 = Red-violet 3 = Blue-violet 4 = Other(describe) \_\_\_\_\_

V	2	R1	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

\*LIGHT SPROUT BASE: INTENSITY OF ANTHOCYANIN COLORATION (IF PRESENT)

1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	3	R1	3	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

\* LIGHT SPROUT TIP: HABIT

1 = Closed 2 = Intermediate 3 = Open

V	2	R1	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

2. LIGHT SPROUT CHARACTERISTICS: (continued)

LIGHT SPROUT TIP: PUBESCENCE

1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	3	R1	3	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

LIGHT SPROUT TIP ANTHOCYANIN COLORATION

1 = Green 2 = Red-violet 3 = Blue-violet 4 = Other(describe) \_\_\_\_\_

V	2	R1	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

LIGHT SPROUT TIP: INTENSITY OF ANTHOCYANIN COLORATION (IF PRESENT)

1 = Absent 2 = Weak 3 = Medium 4 = Strong 5 = Very Strong

V	2	R1	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

LIGHT SPROUT ROOT INITIALS: FREQUENCY

1 = Absent 2 = Some 3 = Abundant

V	3	R1	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

3. PLANT CHARACTERISTICS:

GROWTH HABIT: (See Figure 2)

3 = Erect (>45° with ground) 5 = Semi-erect (30-45° with ground) 7 = Spreading

V	5	R1	5	R2	5	R3		R4	
---	---	----	---	----	---	----	--	----	--

TYPE:

1 = Stem (Foliage open, stems clearly visible) 2 = Intermediate 3 = Leaf (Foliage closed, stems hardly visible)

V	2	R1	2	R2	2	R3		R4	
---	---	----	---	----	---	----	--	----	--

MATURITY: Days after planting (DAP) at vine senescence

V	>120	R1	>120	R2	~115	R3		R4	
---	------	----	------	----	------	----	--	----	--

PLANTING DATE:

V	early/mid May	R1	early/mid May	R2	early/mid may	R3		R4	
---	---------------	----	---------------	----	---------------	----	--	----	--

\*REGIONAL AREA:

1 = Pacific North West (WA, OR, ID, CO, CA) 2 = North Central (ND, WI, MI, MN, OH) 3 = North East (ME, NY, PA, NJ, MD, MA, RI,)  
 4 = Mid-Atlantic Erect (VI, NC, SC, South NJ, FL) 5 = South (LA, TX, AZ, NE) 6 = Canada  
 7 = Europe 8 = England 9 = Latin America 10 = Brazil 11 = Other \_\_\_\_\_

V	3 (ME)	R1	3 (ME)	R2	3 (ME)	R3		R4	
---	--------	----	--------	----	--------	----	--	----	--

MATURITY CLASS:

1 = Very Early (<100 DAP) 2 = Early (100-110 DAP) 3 = Mid-season (111-120 DAP) 4 = Late (121-130 DAP) 5 = Very Late (>130 DAP).

V	4	R1	4	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--



**4. STEM CHARACTERISTICS:** Measure at early first bloom

**\* STEM ANTHOCYANIN COLORATION:**

1 = Absent 3 = Weak 5 = Medium 7 = Strong 9 = Very Strong

V	3	R1	3	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

**STEM WINGS:** (See Figure 3)

1 = Absent 3 = Weak 5 = Medium 7 = Strong 9 = Very Strong

V	7	R1	5	R2	5	R3		R4	
---	---	----	---	----	---	----	--	----	--

**5. LEAF CHARACTERISTICS:**

**LEAF COLOR:** (Observe fully developed leaves located on middle 1/3 of plant)

1 = Yellowing-green 2 = Olive-green 3 = Medium Green 4 = Dark Green 5 = Grey-green 6 = Other \_\_\_\_\_

V	4	R1	3	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

**LEAF COLOR CHART VALUE:** Royal Horticulture Society Color Chart or Munsell Color Chart

(Observe fully developed leaves located on middle 1/3 of plant and circle the appropriate color chart)

V	137A	R1	138A	R2	138A	R3		R4	
---	------	----	------	----	------	----	--	----	--

**LEAF PUBESCENCE DENSITY:**

1 = Absent 2 = Sparse 3 = Medium 4 = Thick 5 = Heavy

V	2	R1	2	R2	2	R3		R4	
---	---	----	---	----	---	----	--	----	--

**LEAF PUBESCENCE LENGTH:**

1 = None 2 = Short 3 = Medium 4 = Long 5 = Very Long

V	2	R1	2	R2	2	R3		R4	
---	---	----	---	----	---	----	--	----	--

(Note Descriptor #15 can be used to describe the type and length of the glandular trichomes observed.)

**\* LEAF SILHOUETTE:** (See Figure 4)

1 = Closed 3 = Medium 5 = Open

V	3	R1	5	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

**PETIOLES ANTHOCYANIN COLORATION:**

1 = Absent 3 = Weak 5 = Medium 7 = Strong 9 = Very Strong

V	1	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

**LEAF STIPULES SIZE:** (See Figure 5)

1 = Absent 3 = Small 5 = Medium 7 = Large

V	1	R1	5	R2	5	R3		R4	
---	---	----	---	----	---	----	--	----	--

**TERMINAL LEAFLET SHAPE** (See Figures 6 and 7)

1 = Narrowly ovate 2 = Medium Ovate 3 = Broadly Ovate 4 = Lanceolate 5 = Elliptical 6 = Obovate 7 = Oblong 8 = Other \_\_\_\_\_

V	2	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

## 5. LEAF CHARACTERISTICS: (continued)

**TERMINAL LEAFLET TIP SHAPE:** (See Figures 6 and 8)

1 = Acute 2 = Cuspidate 3 = Acuminate 4 = Obtuse 5 = Other \_\_\_\_\_

V	3	R1	3	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

\* **TERMINAL LEAFLET BASE SHAPE:** (See Figure 9)

1 = Cuneate 2 = Acute 3 = Obtuse 4 = Cordate 5 = Truncate 6 = Lobed 7 = Other \_\_\_\_\_

V	3	R1	4	R2	4	R3		R4	
---	---	----	---	----	---	----	--	----	--

**TERMINAL LEAFLET MARGIN WAVINESS:**

1 = Absent 2 = Slight 3 = Weak 4 = Medium 5 = Strong

V	1	R1	2	R2	2	R3		R4	
---	---	----	---	----	---	----	--	----	--

**NUMBER OF PRIMARY LEAFLET PAIRS:** (See Figure 6)**AVERAGE:**

V	3.6	R1	3.9	R2	3.0	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

**RANGE:**

V	3 to 4	R1	3 to 4	R2	3 to 3	R3	to	R4	to
---	--------	----	--------	----	--------	----	----	----	----

**PRIMARY LEAFLET TIP SHAPE:** (See Figures 6 and 8)

1 = Acute 2 = Cuspidate 3 = Acuminate 4 = Obtuse 5 = Other \_\_\_\_\_

V	3	R1	3	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

**PRIMARY LEAFLET SIZE:**

1 = Very Small 2 = Small 3 = Medium 4 = Large 5 = Very Large

V	4	R1	3	R2	4	R3		R4	
---	---	----	---	----	---	----	--	----	--

**PRIMARY LEAFLET SHAPE:** (See Figures 6 and 7)

1 = Narrowly ovate 2 = Medium ovate 3 = Broadly ovate 4 = Lanceolate 5 = Elliptical 6 = Ovate 7 = Oblong 8 = Other \_\_\_\_\_

V	2	R1	2	R2	2	R3		R4	
---	---	----	---	----	---	----	--	----	--

**PRIMARY LEAFLET BASE SHAPE:** (See Figures 6 and 9)

1 = Cuneate 2 = Acute 3 = Obtuse 4 = Cordate 5 = Truncate 6 = Lobed 7 = Other \_\_\_\_\_

V	4	R1	3	R2	4	R3		R4	
---	---	----	---	----	---	----	--	----	--

**NUMBER OF SECONDARY AND TERTIARY LEAFLET PAIRS:** (See Figure 6)**AVERAGE:**

V	3.3	R1	6.8	R2	2.6	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

**RANGE:**

V	2 to 5	R1	5 to 9	R2	1 to 3	R3	to	R4	to
---	--------	----	--------	----	--------	----	----	----	----

5. LEAF CHARACTERISTICS: (continued)

NUMBER OF INFLORESCENCE/PLANT:

AVERAGE:

V	3.4	R1	2.6	R2	5.4	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

RANGE:

V	2 to 5	R1	2 to 4	R2	2 to 11	R3	to	R4	to
---	--------	----	--------	----	---------	----	----	----	----

NUMBER OF FLORETS/INFLORESCENCE:

AVERAGE:

V	8.86	R1	11.08	R2	10.89	R3		R4	
---	------	----	-------	----	-------	----	--	----	--

RANGE:

V	7.0 to 12.5	R1	8.0 to 14.0	R2	8.7 to 12.1	R3	to	R4	to
---	-------------	----	-------------	----	-------------	----	----	----	----

\* COROLLA INNER SURFACE COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Measure predominant color of newly open flower and circle the appropriate color chart)

V	76B:155A	R1	155C	R2	76A:155C	R3		R4	
---	----------	----	------	----	----------	----	--	----	--

\* COROLLA OUTER SURFACE COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Measure predominant color of newly open flower and circle the appropriate color chart)

V	76B:155A	R1	155C	R2	76A:155C	R3		R4	
---	----------	----	------	----	----------	----	--	----	--

\* COROLLA INNER SURFACE COLOR: (Measure predominant color of newly open flower, if flowers are bi-color please use the ratio codes)  
 1 = White 2 = Red-violet 3 = Blue-violet 4 = Cream 5 = Red-purple 6 = Blue 7 = Pink 8 = Pink-white 9 = Purple 10 = Violet  
 11 = Purple-violet 13 = Violet-White 1:1 14 = Violet-White 1:3 15 = Violet-White 3:1 16 = Violet-White Halo 17 = Pink-White 1:1 18 = Pink-White 1:3  
 19 = Pink-White 3:1 20 = Pink-White Halo 21 = Red-Violet-White 1:1 22 = Red-Violet-White 1:3 23 = Red-Violet-White 3:1  
 24 = Red-Violet-White Halo 25 = Blue-Violet-White 1:1 26 = Blue-Violet-White 1:3 27 = Blue-Violet-White 3:1 28 = Blue-Violet-White Halo  
 12 = Other Pale Purple-White 3:1

V	12	R1	1	R2	12	R3		R4	
---	----	----	---	----	----	----	--	----	--

COROLLA SHAPE: (See Figure 10)

1 = Very rotate 2 = Rotate 3 = Pentagonal 4 = Semi-stellate 5 = Stellate

V	4	R1	3	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

6. INFLORESCENCE CHARACTERISTICS:

CALYX ANTHOCYANIN COLORATION:

1 = Absent 3 = Weak 5 = Medium 7 = Strong 9 = Very strong

V	3	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

ANTHER COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsel Color Chart (Measure when newly opened flower is fully expanded and circle the appropriate color chart)

V	12A	R1	17A	R2	17A	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

ANTHER SHAPE: (See Figure 11)

1 = Broad cone 2 = Narrow cone 3 = Pear-shaped cone 4 = Loose 5 = Other

V	2	R1	3	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

6. INFLORESCENCE CHARACTERISTICS: (continued)

POLLEN PRODUCTION:

1 = None 3 = Some 5 = Abundant

V	3	R1	1	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

STIGMA SHAPE: (See Figure 12)

1 = Capitata 2 = Clavate 3 = Bi-lobed

V	1	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

STIGMA COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color chart)

V	146B	R1	146B	R2	146B	R3		R4	
---	------	----	------	----	------	----	--	----	--

BERRY PRODUCTION: (Under field conditions)

1 = Absent 3 = Low 5 = Moderate 7 = Heavy 9 = Very Heavy

V	3	R1	1	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

7. TUBER CHARACTERISTICS:

\* PREDOMINANT SKIN COLOR:

1 = White 2 = Light Yellow 3 = Yellow 4 = Buff 5 = Tan 6 = Brown 7 = Pink 8 = Red 9 = Purplish-red  
10 = Purple 11 = Dark purple-black 12 = Other \_\_\_\_\_

V	5	R1	6	R2	4	R3		R4	
---	---	----	---	----	---	----	--	----	--

PREDOMINANT SKIN COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color chart)

V	164C	R1	N199D	R2	161B	R3		R4	
---	------	----	-------	----	------	----	--	----	--

SECONDARY SKIN COLOR:

1 = Absent 2 = Present (please describe)

V	1	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

SECONDARY SKIN COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color)

V		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

SECONDARY SKIN COLOR DISTRIBUTION: (See Figure 13)

1 = Eyes 2 = Eyebrows 3 = Splashed 4 = Scattered 5 = Spectacled 6 = Stippled 7 = Other \_\_\_\_\_

V		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

SKIN TEXTURE:

1 = Smooth 2 = Rough (flaky) 3 = Netled 4 = Russetted 5 = Heavily russetted 6 = Other \_\_\_\_\_

V	3	R1	4	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--



## 7. TUBER CHARACTERISTICS: (continued)

\* TUBER SHAPE: (See Figure 14)

1 = Compressed    2 = Round    3 = Oval    4 = Oblong    5 = Long    6 = Other \_\_\_\_\_

V	5	R1	5	R2	5	R3		R4	
---	---	----	---	----	---	----	--	----	--

TUBER THICKNESS:

1 = Round    2 = Medium thick    3 = Slightly flattened    4 = Flattened    5 = Other \_\_\_\_\_

V	3	R1	3	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

TUBER LENGTH (mm):

AVERAGE:

V	126.6	R1	117.5	R2	123.1	R3		R4	
---	-------	----	-------	----	-------	----	--	----	--

RANGE:

V	97 to 158	R1	90 to 150	R2	95 to 157	R3	to	R4	to
---	-----------	----	-----------	----	-----------	----	----	----	----

STANDARD DEVIATION:

V	13.8	R1	16.7	R2	17.8	R3		R4	
---	------	----	------	----	------	----	--	----	--

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	291.5	R1	193.2	R2	246.7	R3		R4	
---	-------	----	-------	----	-------	----	--	----	--

TUBER WIDTH (mm)

AVERAGE:

V	70.0	R1	60.4	R2	67.9	R3		R4	
---	------	----	------	----	------	----	--	----	--

RANGE:

V	58 to 81	R1	48 to 98	R2	60 to 82	R3	to	R4	to
---	----------	----	----------	----	----------	----	----	----	----

STANDARD DEVIATION:

V	6.4	R1	10.7	R2	6.9	R3		R4	
---	-----	----	------	----	-----	----	--	----	--

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	292	R1	193	R2	247	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

## 7. TUBER CHARACTERISTICS: (continued)

## TUBER THICKNESS (mm):

## AVERAGE:

V	56.1	R1	50.5	R2	53.4	R3		R4	
---	------	----	------	----	------	----	--	----	--

## RANGE:

V	49 to 64	R1	34 to 64	R2	41 to 64	R3	to	R4	to
---	----------	----	----------	----	----------	----	----	----	----

## STANDARD DEVIATION:

V	4.9	R1	6.6	R2	4.7	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

## AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	292	R1	193	R2	247	R3		R4	
---	-----	----	-----	----	-----	----	--	----	--

## TUBER EYE DEPTH:

1 = Protruding    3 = Shallow    5 = Intermediate    7 = Deep    9 = Very deep

V	3	R1	5	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

## TUBER LATERAL EYES:

1 = Protruding    3 = Shallow    5 = Intermediate    7 = Deep    9 = Very deep

V	3	R1	5-7	R2	3	R3		R4	
---	---	----	-----	----	---	----	--	----	--

## NUMBER EYE/TUBER:

## AVERAGE:

V	9.0	R1	19.6	R2	10.2	R3		R4	
---	-----	----	------	----	------	----	--	----	--

## RANGE:

V	11 to 18	R1	9 to 31	R2	9 to 19	R3	to	R4	to
---	----------	----	---------	----	---------	----	----	----	----

## DISTRIBUTION OF TUBER EYES:

1 = Predominantly apical    2 = Evenly distributed

V	1	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

## PROMINENCE OF TUBER EYEBROWS:

1 = Absent    2 = Slight prominence    3 = Medium prominence    4 = Very prominent    5 = Other \_\_\_\_\_

V	3	R1	2	R2	3	R3		R4	
---	---	----	---	----	---	----	--	----	--

7. TUBER CHARACTERISTICS: (continued)

**PREDOMINANT TUBER FLESH COLOR**

1 = White    2 = Light Yellow    3 = Yellow    4 = Buff    5 = Tan    6 = Brown    7 = Pink    8 = Red    9 = Purplish-red  
 10 = Purple    11 = Dark purple-black    12 = Other \_\_\_\_\_

V	1	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

**PRIMARY TUBER FLESH COLOR CHART VALUE:** Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color chart)

V	155B	R1	158C	R2	155A	R3		R4	
---	------	----	------	----	------	----	--	----	--

**SECONDARY TUBER FLESH COLOR:**

1 = Absent    2 = Present, please describe: \_\_\_\_\_

V	1	R1	1	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

**SECONDARY TUBER FLESH COLOR CHART VALUE:** Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color chart)

V		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

**NUMBER OF TUBERS/PLANT:**

1 = Low (<8)    2 = Medium (8-15)    3 = High (>15)

V	1	R1	2	R2	1	R3		R4	
---	---	----	---	----	---	----	--	----	--

8. DISEASES CHARACTERISTICS:

DISEASES REACTION: 0 = Not Tested 1 = Highly Resistant 2 = Resistant Few Symptoms 3 = Resistance Few Lesions in Number and Size  
4 = Moderately Resistance 5 = Intermedia Susceptible 6 = Moderate Susceptible  
7 = Susceptible 9 = Highly Susceptible

LATE BLIGHT: (Phytophthora)

V	7	R1	7	R2	7	R3		R4	
---	---	----	---	----	---	----	--	----	--

EARLY BLIGHT: (Alternaria)

V	5	R1	5	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

SOFT ROT (Erwinia)

V	0	R1	0	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

COMMON SCAB (Streptomyces)

V	6	R1	2	R2	9	R3		R4	
---	---	----	---	----	---	----	--	----	--

POWDERY SCAB (Spongospora)

V	4	R1	4	R2	9	R3		R4	
---	---	----	---	----	---	----	--	----	--

DRY ROT (Fusarium)

V	5	R1	7	R2	4	R3		R4	
---	---	----	---	----	---	----	--	----	--

POTATO LEAF ROLL VIRUS (PLRV)

V	7	R1	7	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--



8. DISEASES CHARACTERISTICS: (continued)

POTATO VIRUS X (PVX)

V	0	R1	0	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

POTATO VIRUS Y (PVY)

V	7	R1	7	R2	7	R3		R4	
---	---	----	---	----	---	----	--	----	--

POTATO VIRUS M (PVM)

V	0	R1	0	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

POTATO VIRUS A (PVA)

V	0	R1	0	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

GOLDEN NEMATODE (*Globodera*)

V	7	R1	7	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

ROOT - KNOT NEMATODE (*Meloidogyne*)

V	0	R1	0	R2	0	R3		R4	
---	---	----	---	----	---	----	--	----	--

OTHER DISEASE Verticillium wilt

V	4	R1	7	R2	9	R3		R4	
---	---	----	---	----	---	----	--	----	--

PHYSIOLOGICAL DISORDER

1 = Malformed shape    2 = Tuber cracking    3 = Feathering    4 = Hollow heart    5 = Internal necrosis  
 6 = Blackheart    7 = Internal sprouting    8 = Other \_\_\_\_\_

V		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

9. PESTS CHARACTERISTICS:

PEST REACTION: 0 = Not Tested    1 = Highly Resistant    2 = Resistant Few Symptoms    3 = Resistance Few Lesions in Number and Size  
 4 = Moderately Resistance    5 = Intermedia Susceptible    6 = Moderate Susceptible  
 7 = Susceptible    9 = Highly Susceptible

COLORADO POTATO BEETLE (CPB) (*Leptinotarsa*)

V	0	R1		R2		R3		R4	
---	---	----	--	----	--	----	--	----	--

GREEN PEACH APHID (*Myzus*)

V	0	R1		R2		R3		R4	
---	---	----	--	----	--	----	--	----	--

OTHER:

V		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

OTHER:

V		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

**10. GENE TRAITS:**INSERTION OF GENES: 1 = YES 2 = NO 

IF YES, describe the gene(s) introduced or attach information:

**11. QUALITY CHARACTERISTICS:****CHIEF MARKET:**

SPECIFIC GRAVITY (wt. air/wt. air - wt. water)

1 = &lt;1.060 2 = 1.060-1.069 3 = 1.070-1.079 4 = 1.080-1.089 5 = &gt;1.090

V 3-4

R1 3-4

R2 3-4

R3

R4

**TOTAL GLYCOALKALOID CONTENT (mg./100 g. fresh tuber)**

V 8.57

R1 21.29

R2

R3

R4

**OTHER QUALITY CHARACTERISTICS:** Describe any other quality characteristics that may aid in identification, (e.g., chip-processing, french fry processing, baking, boiling, after-cooking darkening). Please attach data and corresponding protocol.

Easton has lighter fried product color than Russet Burbank, especially from cool storage, see attachment.

Boiled tubers of Easton have less sloughing than Russet Burbank,  $p < 0.0814$  (see attachment).

**12. CHEMICAL IDENTIFICATION:**

Describe chemical traits of the candidate variety that aid in its identification (e.g., protein or DSN electrophoresis). Please attach data and the corresponding protocol.

Tuber TGA levels of Easton are lower than Russet Burbank and high references, such as Snowden and Lenape (see attachment). Easton has lower tuber asparagine than Russet Burbank (see attachment).

**13. FINGER PRINTING MARKERS:**ISOZYMES 1 = YES 2 = NO 

IF YES, attach information

14. DNA PROFILE: 1 = YES 2 = NO 

IF YES, attach information

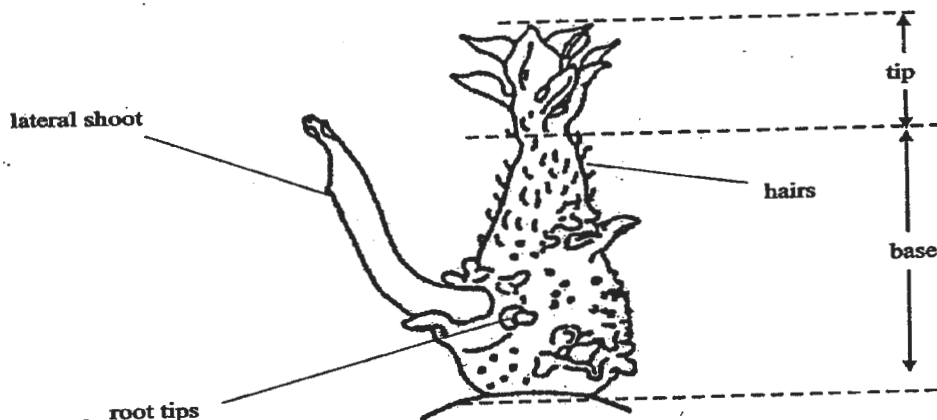
**15. ADDITIONAL COMMENTS AND CHARACTERISTICS:**

Include any additional descriptors that would be useful in distinguishing the candidate variety.

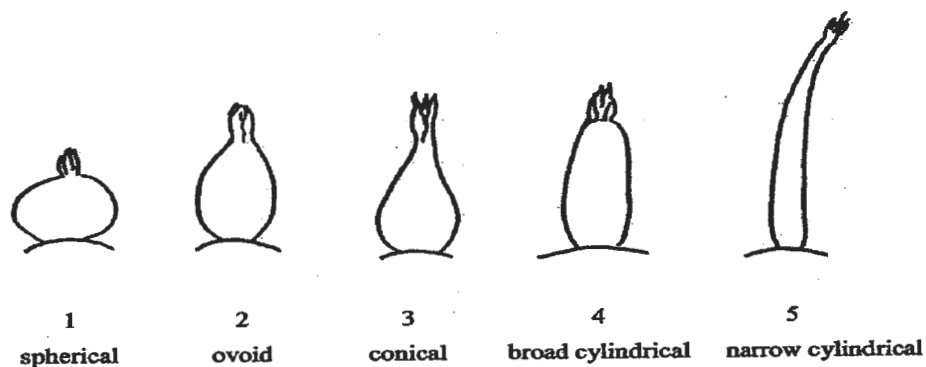
Easton has darker foliage color than Russet Burbank and has pale purple flowers with white tips. Russet Burbank flowers are white. Tubers of Easton have a tan-netted skin, while Russet Burbank tubers are tan to light brown and russeted. Shepody has smooth, white to buff-skinned tubers. Easton has more uniform tuber shape than Russet Burbank or Shepody. Easton is clearly distinguished from Russet Burbank and Shepody by producing lighter colored fried product, especially from cool storage (see attachment). It also has lower tuber concentrations of asparagine and glycoalkaloids than Russet Burbank (see attachment). It also has different DNA banding patterns than both Russet Burbank and Shepody (see attachment).

**Figure 1: Light sprout**

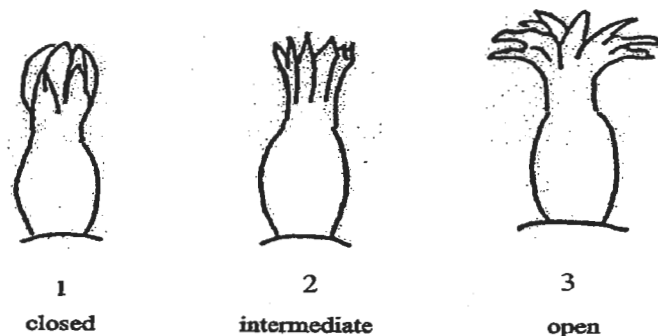
**Light sprout dissection**



**Light sprout shape**



**Light sprout tip habit**

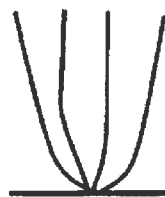


The characteristic should be observed after about 10 weeks to obtain a good differentiation in the collection.

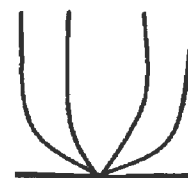
Figure 2: Growth Habit



Erect

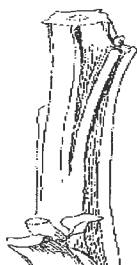


Semi Erect

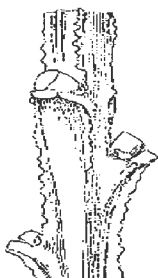


Spreading

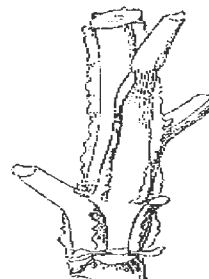
Figure 3: Stem Wings



Weak



Medium



Strong

Figure 4: Leaf Silhouette



Closed

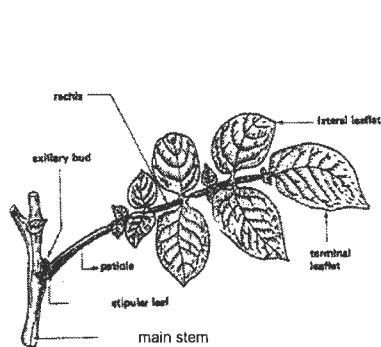


Medium

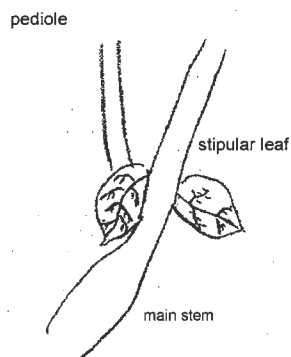


Open

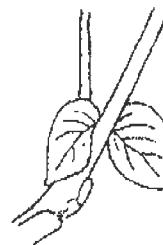
Figure 5: Leaf Stipules



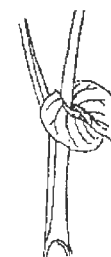
General structures



Small stipular leaf



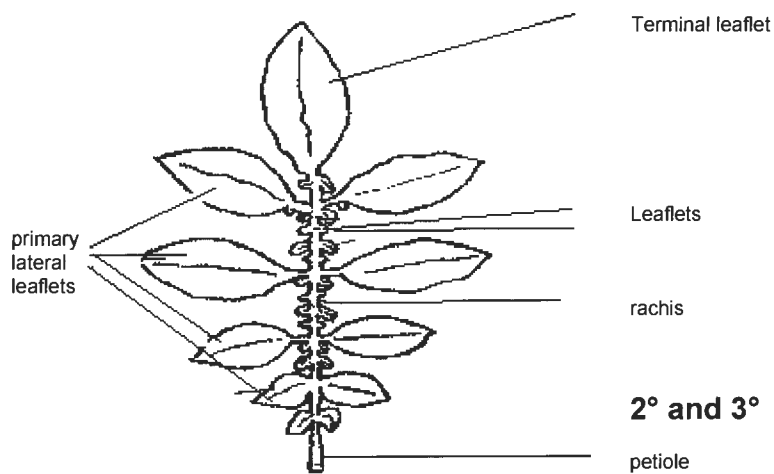
Medium stipular leaf



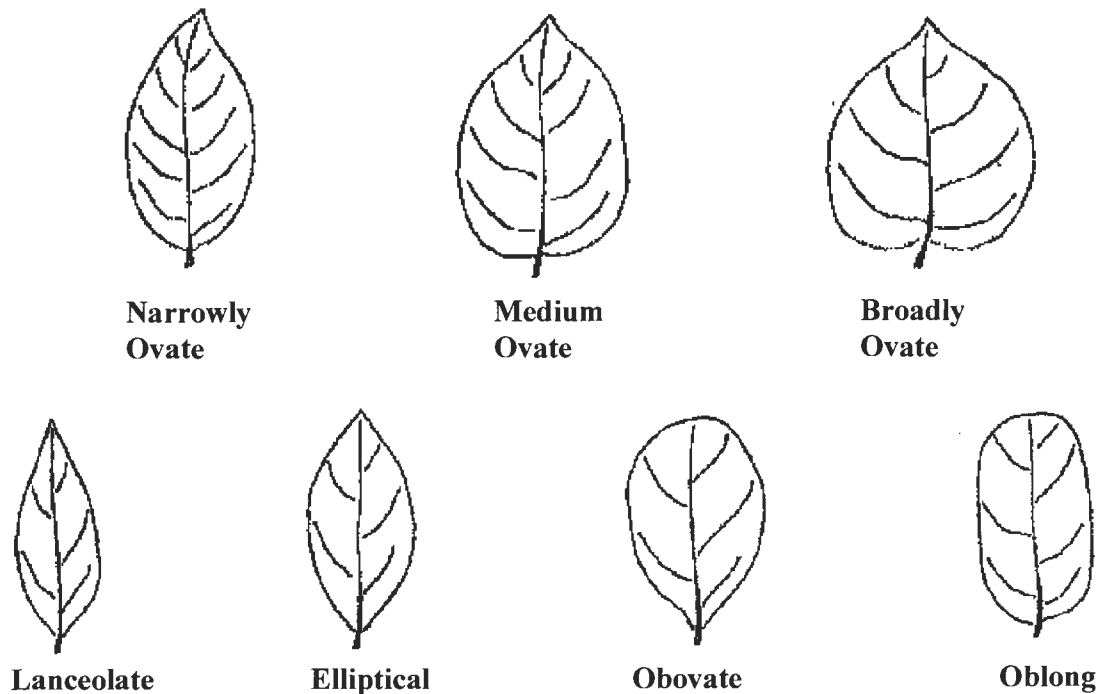
Large stipular leaf



**Figure 6: Leaf Dissection**



**Figure 7: Terminal Leaflet Shape/Primary Leaflet Shape**



**Figure 8: Terminal Leaflet Shape of Tip/Primary Leaflet Shape of Tip**

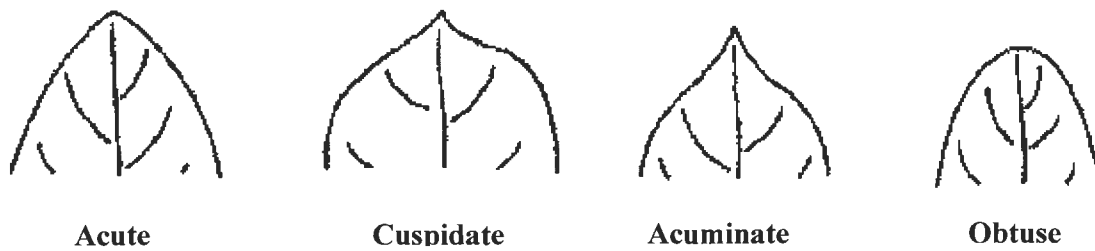


Figure 9: Terminal Leaflet Shape of Base/Primary Leaflet Shape of Base

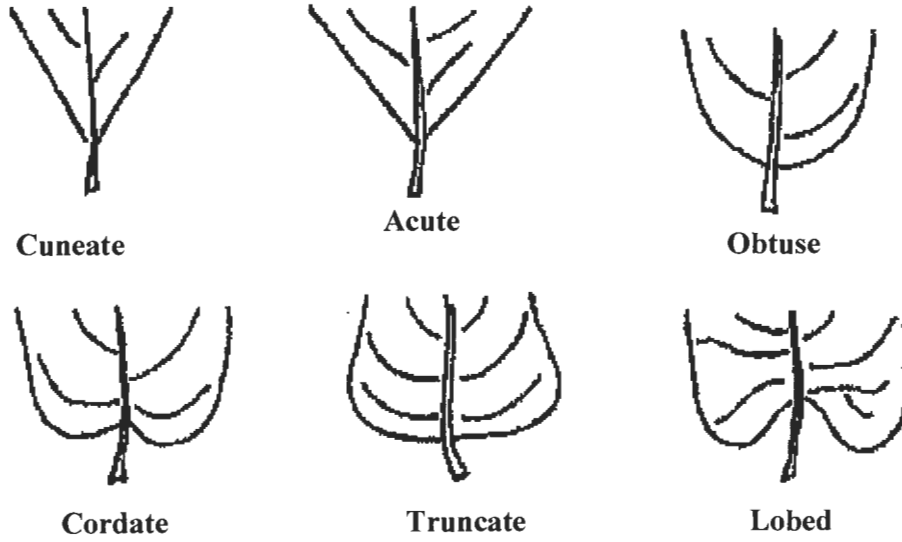


Figure 10: Corolla Shape

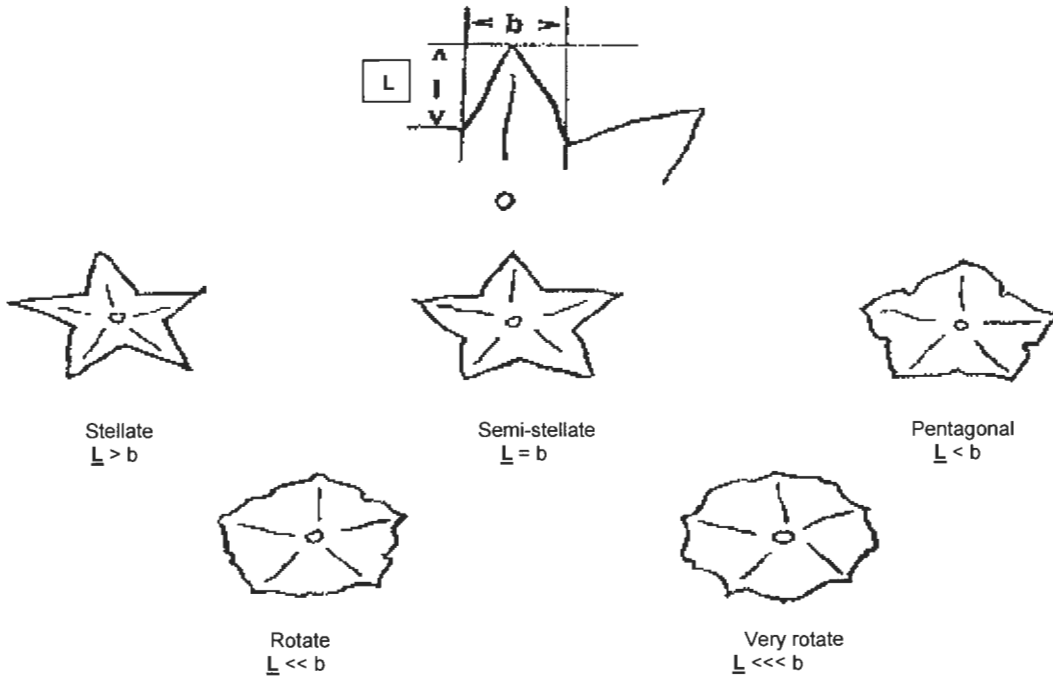


Figure 11: Anther Shape

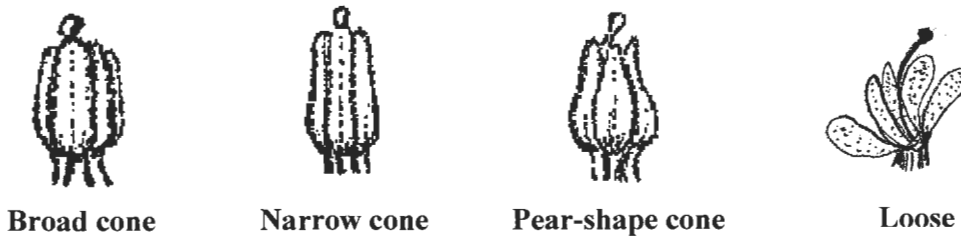


Figure 12: Stigma Shape



Capitate

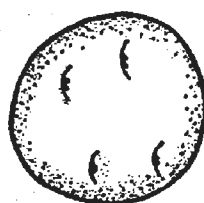


Clavate

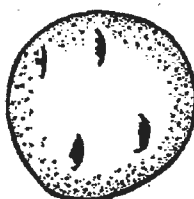


Bi-lobed

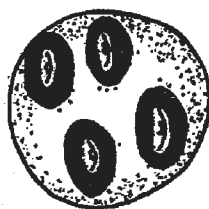
Figure 13: Distribution of Secondary Skin Tuber Color



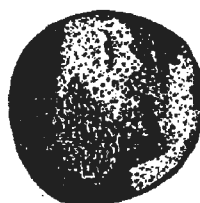
Eyes



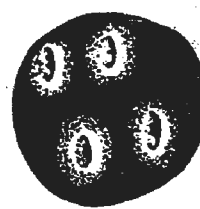
Eyebrows



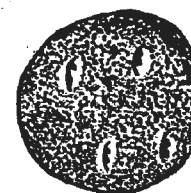
Splashed



Scattered



Spectacled



Stippled

Figure 14: Tuber Shape



Compressed



Round



Oval



Oblong



Long

## References:

Huaman, Z. 1986. Systematic botany and morphology of the potato. Technical information Bulletin 6. International Potato Center, Lima, Peru.

Huaman, Z., Williams, J.T., Salhuana, W. and Vincent, L. Descriptors for the cultivated potato and the maintenance and distribution of germplasm collections. 1977. International Board for Plant Genetic Resources. Rome, Italy.

Potato (*Solanum tuberosum* L.) Guidelines for the conduct of tests for distinctness, uniformity and stability. International union for the protection of new varieties of plants (UPOV). 2004-03-31.

**Exhibit C Easton (AF3001-6) Photos**



**Photo 1. Easton (AF3001-6) Flowers**



**Photo 2. Easton (AF3001-6) Leaves**



**Photo 3. Easton (AF3001-6) Foliage, center two rows**

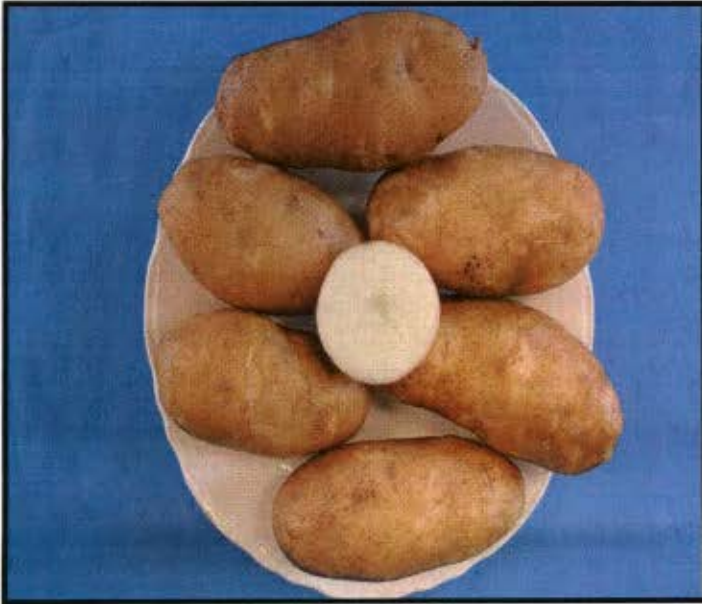




**Photo 4. Easton (AF3001-6) Foliage, center two rows**



**Photo 5. Easton (AF3001-6) Light Sprouts**



**Photo 6. Easton (AF3001-6) Tubers**

## Maine Fingerprint Data November 05, 2012

Potato 'Easton' AF 3001-6  
 PVP App Ex C Images (Page 5 of 7)  
 1-55486/UM 2012-21

Sample #	Name
1	AF3362-1 Sample 1
2	AF3362-1 Sample 2
3	AF3001-6 Sample 1
4	AF3001-6 Sample 2
5	Russet Burbank
6	Norkotah
7	Shepody
8	AF0338-17 Sample 1
9	AF0338-17 Sample 2
10	Atlantic

### Conclusion:

Samples were prepared from 2 independent tubers for each sample type and each pair appears to be identical and unique when compared to other samples and 4 controls. Pictures are a composite image, relative distance of migration for all bands has been preserved.

PCR Setup  
 Per 20ul reaction  
 6ul primer set 1\* (top gel) or 2^ (bottom gel)  
 4ul water  
 10ul Promega Go Green MM  
 1ul DNA sample

\*Primer Set 1 = add 1ul each of STM1024F and R, STM2022F and R, STM2028F and R.

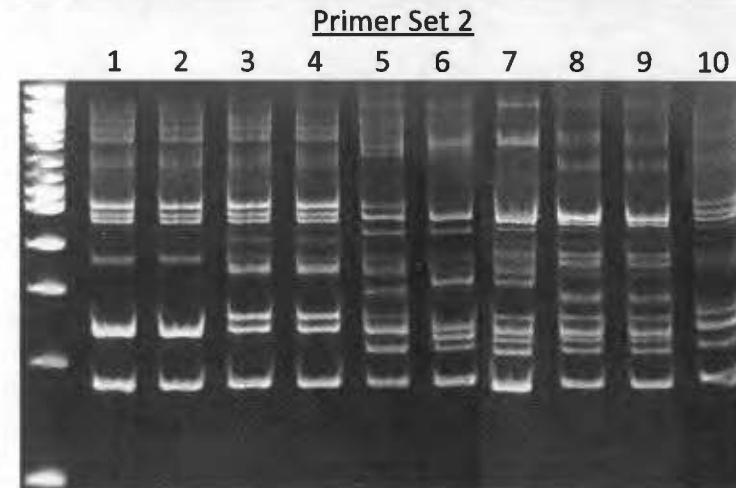
^Primer Set 2 = add 1ul each of STM3012F and R, STM5136F and R, STM5148F and R.

Amplify using program SSR50:  
 94' 3min 1 cycle; 94' 30sec; 50' 30sec; 72' 45sec; cycle 30x; then 72' 5min; Hold at 4'C.

Each lane represents DNA from a single tuber or plant leaves extracted with a Qiagen DNA extraction kit.

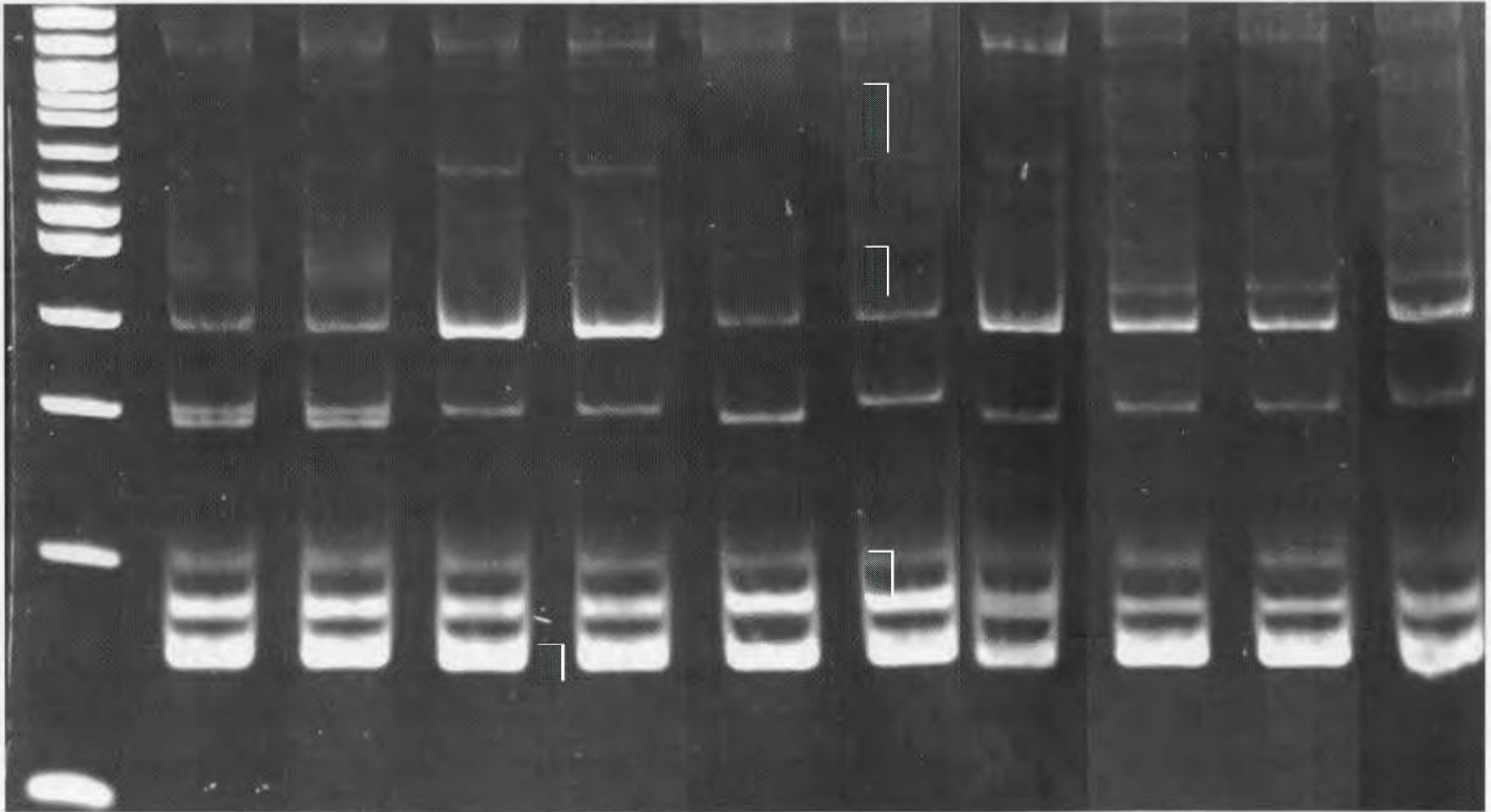
Ref. Reid, A., and E. M. Kerr. 2007. A rapid simple sequence repeat (SSR)-based identification method for potato cultivars. *Plant Genetic resources: Characterization and Utilization*. 5(1): 7-13.

Gels prepared using Sigma (A-6050) Acrylamide/bis-Acrylamide 40% stock). To make 2x 1.5mm minigels (Biorad Mini-Protean II) add 2ml Acrylamide, 1ml 10x TBE, 16ml water, 20mg APS, swirl then add 15ul TEMED. Cast gels using a syringe and let sit 30min. Load entire sample and run gel in 0.5x TBE at 84v for exactly 65min (blue runs off of bottom). Stain gel 20 min in 100ml water with 5ul EtBr. The size ladder used is the New England Biolabs 100bp DNA ladder (N3231).



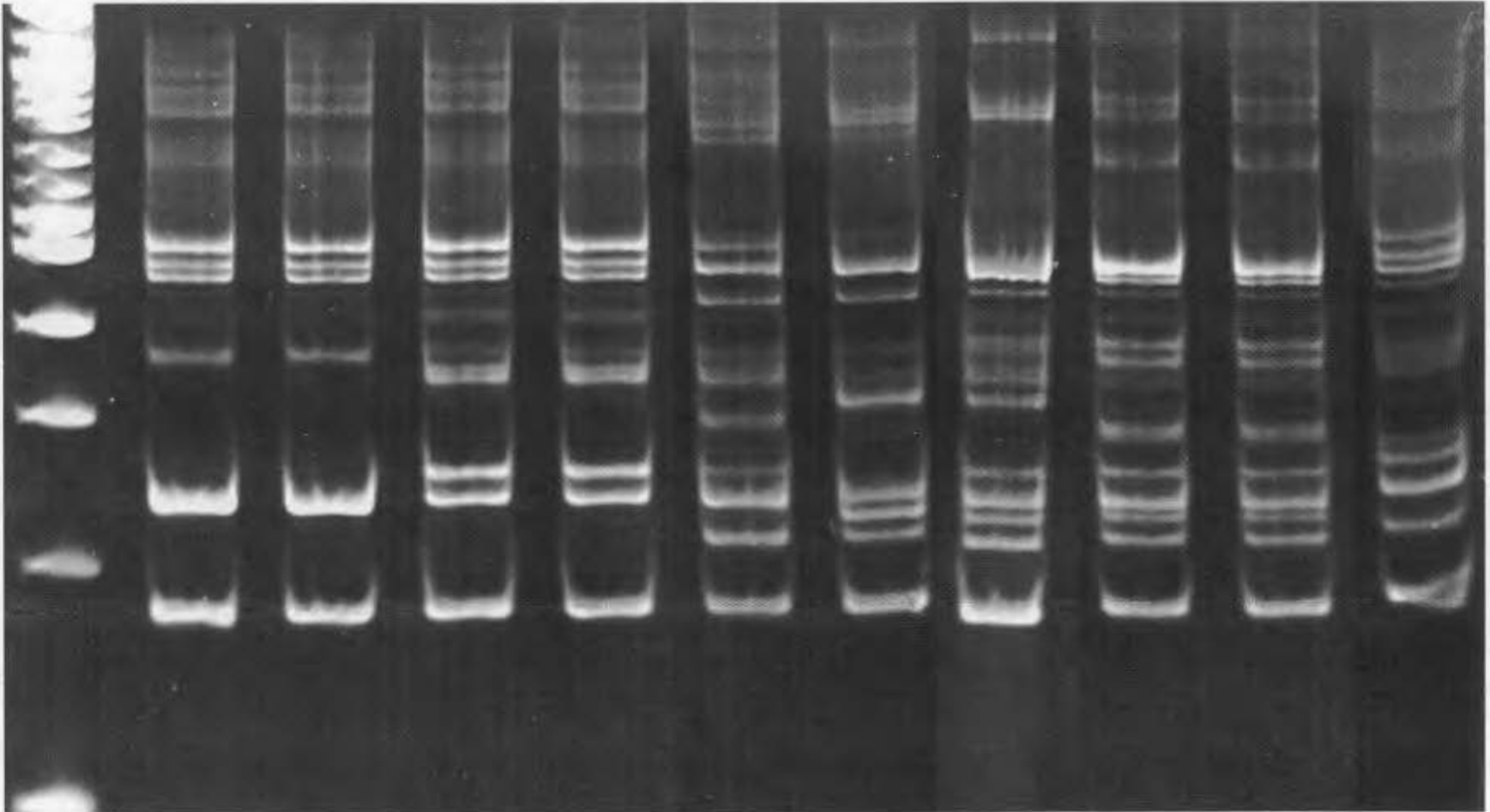


# Primer Set 1



Potato 'Easton' AF 3001-6  
PVP App Ex C Images (Page 7 of 7)  
1-55486/UM 2012-21

# Primer Set 2



## Exhibit D Easton (AF3001-6) Data Tables

Table 1. Plant and Tuber Characteristics, Maine (17 experiments 2007-2013)

Potato Variety	Plant Size	Plant Maturity	Tuber Skin Texture	Tuber Shape	Tuber Appearance
Easton (AF3001-6)	6.8	6.8	4.8	6.8	5.6
Russet Burbank	7.0	6.7	3.6	7.0	3.7
Russet Norkotah	6.1	4.4	3.0	6.3	6.4
Shepody	6.5	5.0	6.8	6.9	3.9
Mean	6.7	5.8	4.4	6.8	5.0
Std dev	0.738	0.522	0.447	0.303	0.624
Pr > F	0.0005	<.0001	<.0001	<.0001	<.0001
W-D LSD <sub>0.05</sub>	0.5	0.3	0.3	0.2	0.4
Easton					
Low	5.0	6.0	4.0	6.0	5.0
High	8.0	7.0	6.0	7.0	6.0
Russet Burbank					
Low	6.0	5.3	3.0	7.0	3.0
High	8.0	8.0	4.0	7.0	5.0



**Table 2. Tuber Yield and Quality Characteristics (numbers in parentheses indicate yield relative to the Russet Burbank standard or specific gravity differential relative to Russet Burbank), Maine (17 experiments 2007-2013)**

Potato Variety	Total Yield cwt/A	US#1 Yield cwt/A	Tuber Size		Specific Gravity	Ext. Defs. %	Hollow Heart %
			<4oz %	>8oz %			
Easton (AF3001-6)	372(113)	327(131)	14.4	41.2	1.081(-0.001)	11.2	2.8
Russet Burbank	331(100)	258(100)	18.9	38.7	1.082( 0.000)	18.5	15.5
Russet Norkotah	295( 90)	267(109)	29.6	22.6	1.075(-0.007)	7.7	13.7
Shepody	313( 95)	207( 87)	15.5	41.8	1.081(-0.001)	30.7	14.1
Mean	333	278	18.4	37.0	1.081	15.1	10.0
Std dev	36.13	54.50	6.55	9.94	0.0043	12.57	11.34
Pr > F	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0015
W-D LSD <sub>0.05</sub>	23	34	4.2	6.5	0.003	8.1	7.8
Easton							
Low	257	166	3.0	19.0	1.071	3.0	0.0
High	465	415	30.0	73.0	1.093	36.7	17.5
Russet Burbank							
Low	221	92	6.0	15.0	1.074	2.3	0.0
High	400	358	48.0	59.0	1.095	37.3	57.5

**Table 3. Agtron Fry Color Scores, Maine (December data from 14 experiments 2008-2013)**

Potato Variety	December 50F	Jan/Feb 50F	February 45F	Jan/Feb 38 or 42F	Jan/Feb Recondition
Easton (AF3001-6)	56.4	54.0	61.3	42.7	52.8
Russet Burbank	39.9	43.7	46.0	27.1	38.4
Russet Norkotah	40.9	43.6	48.3	25.0	35.7
Shepody	46.4	46.5	50.3	27.6	39.8
Mean	46.7	46.9	53.3	30.8	40.6
Std dev	4.987	5.060	2.503	4.223	5.032
Pr > F	<0.0001	0.0041	0.0005	<0.0001	<0.0001
W-D LSD <sub>0.05</sub>	3.3	5.5	4.6	4.2	5.0
Easton					
Low	40.0	44.0	54.0	36.0	45.0
High	68.0	69.0	68.0	50.0	61.0
Russet Burbank					
Low	26.0	26.0	42.0	22.0	30.0
High	59.0	58.0	54.0	34.0	50.0

**Table 4. Total Tuber Glycoalkaloids, Maine (5 experiments, 2008-2012)**

Potato Variety	Total Tuber Glycoalkaloids (mg/100 g fw)
Easton (AF3001-6)	8.57
Atlantic	13.43
Lenape	41.05
Russet Burbank	21.29
Snowden	23.93
Superior	8.67
Mean	20.05
Std dev	5.92
Pr > F	<0.0001
W-D LSD <sub>0.05</sub>	7.37
Easton	
Low	3.46
High	14.40
Russet Burbank	
Low	14.81
High	26.78

**Table 5. Baked and Boiled Quality Characteristics, Maine (5 experiments, 2008-2012)**

Potato Variety	<u>Baked Quality:</u>				<u>Boiled Quality:</u>	
	Color	Flavor	Texture	Overall	Sloughing	Graying
Easton (AF3001-6)	6.86	6.16	6.33	6.18	3.14	4.70
R. Burbank	6.36	6.08	6.31	6.12	5.77	3.68
Mean	6.61	6.12	6.32	6.15	4.57	4.19
Std dev	0.315	0.233	0.176	0.154	2.04	1.63
Pr > F	0.0736	0.648	0.894	0.577	0.0814	0.3537
Easton						
Low	6.40	6.00	6.20	6.00	1.60	2.70
High	7.10	6.30	6.50	6.40	4.80	6.47
Russet Burbank						
Low	6.10	5.80	6.10	5.77	2.90	1.80
High	6.70	6.50	6.50	6.30	9.40	6.53

**Table 6. Tuber Asparagine, Maine (8 experiments, ME, WI, ND, ID, WA, 2011-2012)**

<b>Potato Variety</b>	<b>Tuber Asparagine (mg/g dw)</b>
Easton (AF3001-6)	4.23
Russet Burbank	5.46
Mean	4.85
Std dev	0.443
Pr > F	0.0008
Easton	
Low	2.00
High	13.04
Russet Burbank	
Low	3.15
High	13.58

**Table 7. Sprouting and Weight Loss, Maine (3 experiments 2010-2012)**

Potato Variety	<u>Days to Indicated Sprout Length</u>		<u>Storage Weight Loss (%)</u>	
	1/8"	1/2"	38F	50F
Easton (AF3001-6)	168	192	6.2	13.4
Russet Burbank	189	211	4.7	9.9
Russet Norkotah	158	185	4.6	14.8
Shepody	126	156	4.8	19.4
Mean	152	179	5.25	16.2
Std dev	6.18	9.76	0.671	2.103
Pr > F	<0.0001	0.0003	0.0441	0.0004
W-D LSD <sub>0.05</sub>	10.9	17.7	1.37	3.83
Easton				
Low	164	185	4.1	10.5
High	175	203	8.3	16.4
Russet Burbank				
Low	180	201	3.4	6.7
High	203	225	6.2	15.5

**Table 8. Tuber Skinning, Shatter Bruise, and Blackspot Bruise Susceptibility Scores, Maine (2007-2013)**

Potato Variety	<u>Tuber Skinning Eval.</u>		Shatter Bruise Index	Blackspot Bruise Index
	Index	%Thumbnail Cracks		
Easton (AF3001-6)	3.59	14.8	1.42	1.32
Russet Burbank	2.53	23.7	0.95	1.51
Russet Norkotah	1.47	5.9	0.75	1.17
Shepody	1.74	9.9	1.00	1.06
Mean	2.21	12.6	0.98	1.19
Std dev	0.895	12.12	0.323	0.404
Pr > F	<0.0001	0.0199	0.0004	<0.0098
W-D LSD <sub>0.05</sub>	0.78	12.05	0.306	0.432
Easton				
Low	1.38	0.0	0.37	0.60
High	5.65	62.0	2.98	2.58
Russet Burbank				
Low	1.70	0.0	0.00	0.40
High	3.67	52.0	2.48	3.28



### **Methods (Tables 1 and 2).**

Data are means generated from 17 replicated yield trials conducted in Maine from 2007 to 2013. The trial locations were in Presque Isle and St. Agatha, ME. Each experiment was a randomized complete block design with four replications per treatment. Regional trial experiments and potato breeding program experiments were included.

Plant size, plant maturity, tuber skin texture, tuber shape, and tuber appearance are qualitative ratings using the Eastern regional variety evaluation project rating system:

**Plant size:** 1=very small; 3=small; 5=medium; 7=large; 9=very large

**Plant maturity:** 1=very early; 3=early; 4=medium-early; 5=medium; 6=medium-late; 7=late; 9=very late

**Tuber skin texture:** 1=partial russeting; 2=heavy russet; 3=moderate russeting; 4=light russet; 5=netted; 6=slightly netted; 7=moderately smooth; 8=smooth; 9=very smooth.

**Tuber shape:** 1=round; 2=mostly round; 3=round to oblong; 4=mostly oblong; 5=oblong;

**6=oblong to long;** 7=mostly long; 8=long; 9=extremely long.

**Tuber appearance:** 1=very poor; 3=poor; 5=fair; 7=good; 9=excellent.

Total yield: plots were harvested and all tubers collected here weighed to generate total yield data.

US#1 yield: total yield minus tubers <1-7/8" diameter, >4" diameter, and external defects (sunburn, off shapes, growth cracks, scab, and rot).

Tuber size: the harvested tubers were graded using a spool-type sizer. Percentage of yield <1-7/8" and >2-1/2" are reported.

Specific gravity is a measure related to tuber dry matter and starch content. Our specific gravity is calculated using the weight-in-air/weight-in-water method.

External defect is the percentage of yield with external defects (sunburn, off shapes, growth cracks, scab, and rot).

Hollow heart incidence is measured by cutting on 10 tubers per plot (40 tubers per experiment for each variety).

### **Methods (Tables 3).**

December 50F storage data are means generated from 14 replicated yield trials conducted in Maine from 2008 to 2013. The trial locations were in Presque Isle and St. Agatha, ME. Each experiment was a randomized complete block design with four replications per treatment. Regional trial experiments and potato breeding program experiments were included. January/February 50F, 38F/42F, and reconditioned data are from seven replicated regional project trials (February) and breeding program trials (January) conducted from 2009 to 2012. Cool temperature storage for the regional trials was 38F while for the breeding program is was 42F. Reconditioning was for 2 weeks at room temperature (~65F) regional project and for two weeks at 55F for the breeding program. February 45F data are from three replicated regional project trials conducted from 2009 to 2012.

Higher Agtron scores indicate lighter fry color. Scores are chip color scores using crushed chips measured three times per sample. Chips were fried at 350F for 3 minutes per sample. Scores are from an Agtron M35 calibrated with the black "0 disk" set equal to 0 and the white "90 disk" set at 90.

#### **Methods (Table 4).**

Total tuber glycoalkaloids were measured on tubers from six experiments conducted from 2007-2012. For each variety in each experiment, a 15-tuber sample was homogenized and analyzed using standard HPLC methods. Solanine and chaconine were used as standards to calculate total tuber glycoalkaloids.

#### **Methods (Table 5).**

Sensory quality evaluations are summarized for five experiments conducted from 2008 to 2012. Test lines were compared to appropriate industry standards using sensory panels at the University of Maine food science sensory quality facility. Only lines with acceptable total glycoalkaloid (TGA) content (<20 mg per 100g) were evaluated (Asano et al., 1996; Baker et al., 1991; Friedman and McDonald, 1997). A nine-point hedonic scale (Peryam and Pilgrim, 1957) was used for each of the baked attributes (e.g. cooked color, texture, flavor, and overall acceptability). Fifty panelists were utilized in each experiment. High scores indicate better quality. After cooking darkening and sloughing of boiled selections were evaluated subjectively using sensory panels and a 1 to 16 hedonic scale where lower numbers indicate better quality. Typically 10-20 panelists were used in each experiment.

#### **Methods (Table 6).**

Tuber asparagine was measured on tubers from eight experiments conducted from 2011-2012. The tubers were grown in National Fry Processing Trial experiments conducted in ME, WI, ND, ID, and WA. Freeze-dried tuber tissue was extracted in 70% ethanol. Diluted extracts were derivatized and analyzed for amino acids using the EZ:fast Amino Acid Analysis kit for GC-FID (Phenomenex, Torrance, CA).

#### **Methods (Table 7).**

Tuber sprouting and weight loss characteristics are from three NE1031 regional trial experiments conducted from 2010-2012. Days to indicated sprout length was determined on 1-tuber samples stored at 45°F, 85% R.H. Sprout length was determined on a weekly basis. Days from vinekill to indicated sprout length are reported. During each year, percentage sprout and weight loss was determined on duplicate samples following storage from October until early April at indicated temperature and 85% R.H. Total weight loss from moisture loss, respiration, and sprouting is reported.

#### **Methods (Table 8).**

Tuber sprouting and weight loss characteristics are from three NE1031 regional trial experiments conducted from 2010-2012. Skinning severity and thumbnail bruise incidence were measured using a tumbling bruise barrel procedure (usually within one day of harvest. Approximately 10 lbs of tubers that exceeded 1 7/8" diameter were tumbled in a drum with three stones for 1 minute at 15 rpm. Tubers were then rated for combined skinning and shatter bruise. Data presented represent indices where: 1=all tubers have 0% of surface affected and 9=all tubers have 100% of surface affected. Percentage of tubers with thumbnail cracks is reported.

Shatter and blackspot tests were conducted using the weight-drop method (12" for shatter and 6" for blackspot). The index presented indicates the combined incidence and severity of bruising/discoloration where: 0=no tubers show no bruising/discoloration and 4=all tubers have severe bruising/discoloration.

Evaluations were conducted on stored tubers. Blackspot tubers were allowed to develop color for 48 hours before rating bruise incidence and severity.

**Statistical Analysis:**

Statistical analysis was conducted with the SAS PROC GLM procedure using experiment as the blocking variable. Mean separation was conducted with the Waller-Duncan LSD test ( $k=100$ , approximates  $\alpha=0.05$ ).

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)  University of Maine System Board of Trustees	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  AF3001-6	3. VARIETY NAME  Easton
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  Department of Industrial Cooperation University of Maine 5717 Corbet Hall, Orono, ME 04469	5. TELEPHONE (Include area code)  207-581-2201	6. FAX (Include area code)  207-581-1479
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):

Breeder is obligated to assign to Applicant by virtue of employment with Applicant. Applicant is a U.S. based organization.

**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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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.

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Form Approved OMB NO 0581-0055

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

**EXHIBIT F  
DECLARATION REGARDING DEPOSIT**

<b>NAME OF OWNER (S)</b> University of Maine System Board of Trustees	<b>ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)</b> 16 Central Street Bangor, ME 04101	<b>TEMPORARY OR EXPERIMENTAL DESIGNATION</b> AF3001-6
<b>NAME OF OWNER REPRESENTATIVE (S)</b> Kris A. Burton	<b>ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)</b> Department of Industrial Cooperation University of Maine 5717 Corbett Hall Orono, Maine 04469	<b>VARIETY NAME</b> Easton <hr/> <b>PROFESSORIAL USE ONLY</b> <hr/> <b>PVPO NUMBER</b>

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

06 JAN 2014  
 \_\_\_\_\_  
 Date