No. 200400138

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Idaho Research Foundation, Inc.

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 PORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE E PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT P BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

POTATO

'Summit Russet'

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 first day of March, in the year two thousand and five.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Agriculture

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

Form Approved - OMB No. 0581-0055

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
Idaho Research Foundation, Inc. representing the interests of the entities listed under Exhibit E – Item 11

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
A84118-3

3. VARIETY NAME
Summit Russet

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
PO Box 442337
University of Idaho
Moscow, ID 83844-2337
USA

5. TELEPHONE *(include area code)*
208-885-7173

6. FAX *(include area code)*
208-885-6654

FOR OFFICIAL USE ONLY

PVPO NUMBER
200400138

FILING DATE
MARCH 11, 2004

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Non-profit

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
Idaho

9. DATE OF INCORPORATION
1947

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
~~Richard C. Heimsch~~ DR: Gregory Bohach MMB 6/28/04
PO Box 442337
University of Idaho
Moscow, ID 83844-2337
USA

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 3652.00
DATE 3/11/2004

CERTIFICATION FEE:
$ 432.00
DATE 10/26/04

11. TELEPHONE *(Include area code)*
208-885-7173

12. FAX *(Include area code)*
208-885-6654

13. E-MAIL
agres@uidaho.edu

14. CROP KIND *(Common Name)*
Potato

16. FAMILY NAME *(Botanical)*
Solanaceae

15. GENUS AND SPECIES NAME OF CROP
Solanum tuberosum

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*
☐ YES ☐ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
(Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

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)*
☐ YES *(If "yes", answer items 21 and 22 below)* ☐ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☐ YES ☒ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
☐ FOUNDATION ☐ REGISTERED ☐ 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?
☐ YES ☒ 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.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ 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	
Alison Nowakowski			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Alison Nowakowski			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Asst. Director, IRF, Inc.	02/26/2004		

(See reverse for instructions and information collection burden statement)

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received by the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties 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; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. 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 check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 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 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).)*

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.)*

DPA 6/16/04

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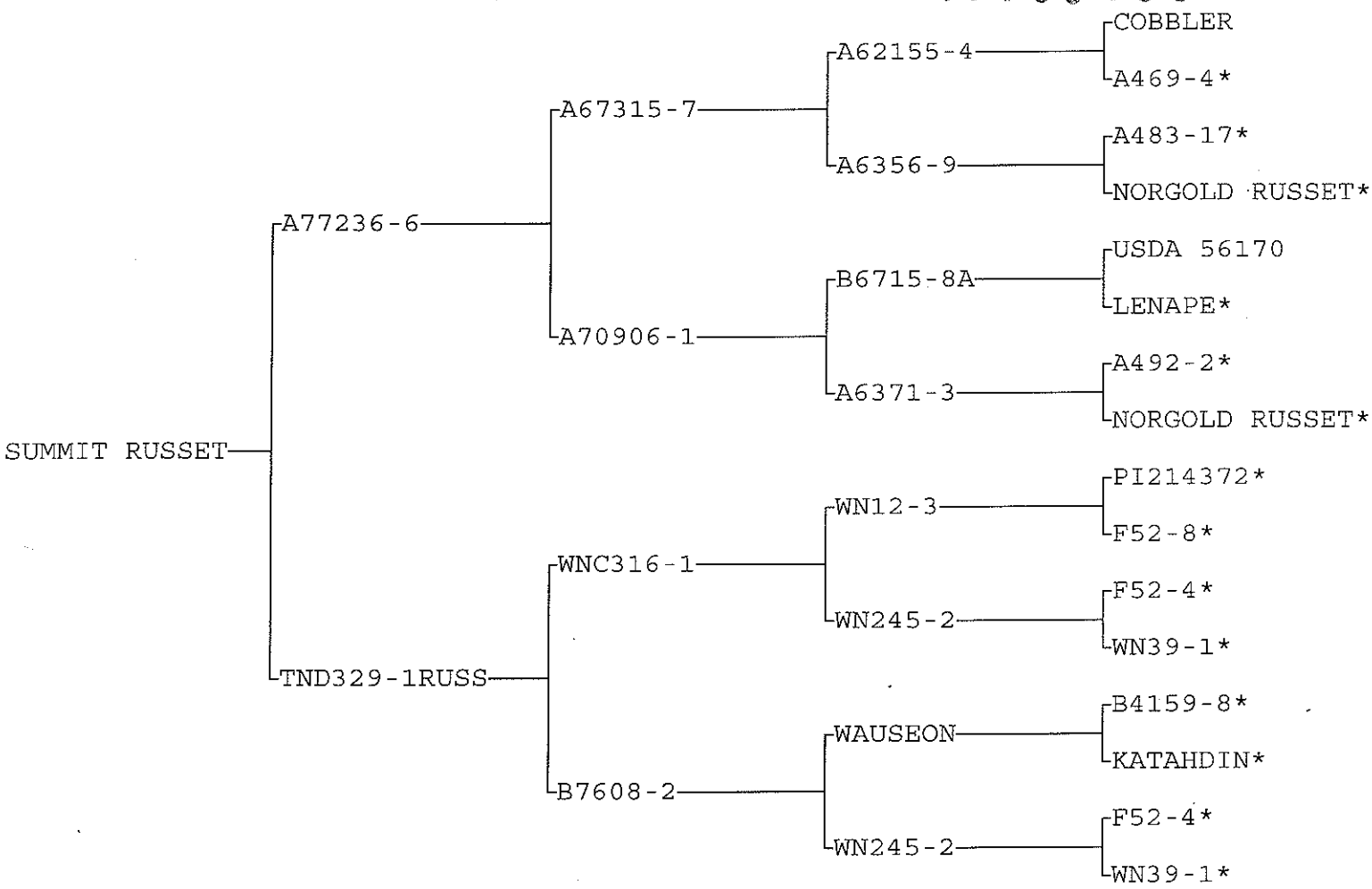
Application for Plant Variety Protection Certificate

Exhibit A: Origin and Breeding History of the Variety
Variety: Summit Russet
Owner: Idaho Agricultural Experiment Station

Summit Russet was derived from a sexual hybridization made at the University of Idaho's Aberdeen Research and Extension Center in 1984. It was first selected in the field in 1986 and subsequently evaluated for 16 years. In 1996-1998, Summit Russet was entered and evaluated in the Western Regional Variety Trial. Summit Russet was originally maintained under the breeding designation A84118-3. A four-generation pedigree is attached.

Summit Russet originated from a cross of A77236-6 and TND329-1Russ. It was selected specifically for use in the russet tablestock and french fry processing markets using the following criteria: yield, appearance, specific gravity, resistance to tuber defects, and resistance to common field diseases including Verticillium wilt, common scab, and tuber net necrosis.

Summit Russet has been clonally propagated since the first year of selection. The variety has remained ~~true-to-type~~ uniform and stable during all subsequent years of maintenance and propagation. It has not produced recognizable variants.



CLONE: SUMMIT RUSSET
BREEDER: NOVY YEAR: 2003
INSTITUTIONS: ARS,ID,WA,OR
CITATION:

TUBER TYPE: LONG
SKIN TYPE: HV RUSSET
FLOWER COLOR: WHITE
MATURITY CLASS: MEDIUM
YIELD CATEGORY: MEDIUM
USAGE CLASS: DUAL
OTHER INFORMATION:
SYNONYMS: A84118-3

* PEDIGREE CONTINUES BEYOND FOURTH GENERATION IN DATABASE

Application for Plant Variety Protection Certificate

Exhibit B: Statement of Distinctness
Variety: Summit Russet
Owner: Idaho Agricultural Experiment Station

Summit Russet is distinct from Russet Burbank, the best comparative variety. The plants of Summit Russet are later maturing than those of Russet Burbank and often produce a high number of berries in the field (Exhibit C). The tubers of Summit Russet are somewhat similar in appearance to those of Russet Burbank, but have fewer eyes and a somewhat prominent eyebrow (Exhibit C). In direct comparisons with Russet Burbank, Summit Russet tubers have produced higher tuber specific gravity, have less susceptibility to blackspot bruise, and have better fry color following cold (40 F) storage (See Exhibit D).

In Exhibit C, other differences are documented between the two varieties. Compared with Russet Burbank, Summit Russet has fewer secondary and tertiary leaflets, a greater number of florets per inflorescence, has tubers with shallower eyes, and shows more resistance to late blight and verticillium wilt. Summit Russet also produces large quantities of viable pollen while Russet Burbank does not.

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

200400138

OBJECTIVE DESCRIPTION OF VARIETY

POTATO (*Solanum tuberosum* L.)

NAME OF APPLICANT(S)	FOR OFFICIAL USE ONLY PVPO NUMBER
Idaho Agricultural Experiment Station	
ADDRESS (*Street and No. or R.F.D. No., City, State, and Zip Code*) College of Agriculture University of Idaho Moscow, ID 83844	**VARIETY (V) NAME** Summit Russet
	TEMPORARY OR EXPERIMENTAL DESIGNATION A84118-3

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

Reference Variety 1 (R1)	Reference Variety 2 (R2)	Reference Variety 3 (R3)	Reference Variety 4 (R4)
Russet Burbank			

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	R1	R2	R3	R4
4,5	4,5			

2. PLANT CHARACTERISTICS:

GROWTH HABIT: (*See figure 1*)
3 = Erect (>45° with ground); 5 = Semi-erect (30-45° with ground); 7 = Spreading.

V	R1	R2	R3	R4
3	6			

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

V	R1	R2	R3	R4
3	2			

MATURITY: Days after planting (DAP) at vine senescence

V	R1	R2	R3	R4
145	130			

PLANTING DATE:

V	R1	R2	R3	R4
28 Apr 97 28 Apr 98	28 Apr 97 28 Apr 98			

REGION/AREA:

V	R1	R2	R3	R4
Aberdeen, ID	Aberdeen, ID			

200400150

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	R1	R2	R3	R4
5	4			

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

STEM ANTHOCYANIN COLORATION:
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very Strong

V	R1	R2	R3	R4
1	2			

STEM WINGS: *(See figure 12)*
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very Strong

V	R1	R2	R3	R4
2	3			

4. LEAF CHARACTERISTICS:

LEAF COLOR: *Observe fully developed leaves located on middle 1/3 of plant*
1 = Yellowish-green; 2 = Olive-green; 3 = Medium green; 4 = Dark green; 5 = Grey-green; 6 = Other_____

V	R1	R2	R3	R4
1	1			

LEAF COLOR: *Observe fully developed leaves located on middle 1/3 of plant and circle the appropriate color chart*
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4
146A	146B			

LEAF PUBESCENCE DENSITY:
1 = Absent; 2 = Sparse; 3 = Medium; 4 = Thick; 5 = Heavy

V	R1	R2	R3	R4
2	3			

LEAF PUBESCENCE LENGTH:
1 = None; 2 = Short; 3 = Medium; 4 = Long; 5 = Very long

V	R1	R2	R3	R4
2	2			

(Note: Descriptor #19 can be used to describe the type and length of the glandular trichomes observed.)

LEAF SILHOUETTE: *(See figure 2)*
1 = Closed; 3 = Medium; 5 = Open

V	R1	R2	R3	R4
3	4			

OBJECTIVE DESCRIPTION OF VARIETY

PRIMARY LEAFLET SHAPE: *(See figure 3 & 11)*
1 = Narrowly ovate; 2 = Medium ovate; 3 = Broadly ovate; 4 = Lanceolate; 5 = Elliptical; 6= Obovate; 7 = Oblong; 8 = Other_____

V	R1	R2	R3	R4
1	2			

PRIMARY LEAFLET BASE SHAPE: *(See figure 5 & 11)*
1 = Cuneate; 2 = Acute; 3 = Obtuse; 4 = Cordate; 5 = Truncate; 6 = Lobed; 7 = Other_____

V	R1	R2	R3	R4
4	3			

NUMBER OF SECONDARY AND TERTIARY LEAFLET PAIRS: *(See figure 11)*

AVERAGE:

V	R1	R2	R3	R4
2.5	4.6			

RANGE:

V	R1	R2	R3	R4
0 to 9	0 to 10	to	to	to

5. INFLORESCENCE CHARACTERISTICS:

NUMBER OF INFLORESCENCE / PLANT:

AVERAGE:

V	R1	R2	R3	R4
1.7	2.2			

RANGE:

V	R1	R2	R3	R4
1 to 4	1 to 5	to	to	to

NUMBER OF FLORETS / INFLORESCENCE:

AVERAGE:

V	R1	R2	R3	R4
10.7	8.6			

RANGE:

V	R1	R2	R3	R4
3 to 15	5 to 15	to	to	to

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

V	R1	R2	R3	R4
155B	155A			

COROLLA OUTER SURFACE COLOR: *Circle the appropriate color chart*
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4
155B	155A			

PETIOLES ANTHOCYANIN COLORATION:
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very Strong

V	2	R1	3	R2		R3		R4	

LEAF STIPULES SIZE: *(See figure 13)*
1 = Absent; 3 = Small; 5 = Medium; 7 = Large

V	7	R1	5	R2		R3		R4	

TERMINAL LEAFLET SHAPE: *(See figure 3 & 11)*
1 = Narrowly ovate; 2 = Medium ovate; 3 = Broadly ovate; 4 = Lanceolate; 5 = Elliptical;
6= Obovate; 7 = Oblong; 8 = Other_____

V	2	R1	2	R2		R3		R4	

TERMINAL LEAFLET TIP SHAPE: *(See figure 4 & 11)*
1 = Acute; 2 = Cuspidate; 3 = Acuminate; 4 = Obtuse; 5 = Other_____

V	3	R1	3	R2		R3		R4	

TERMINAL LEAFLET BASE SHAPE: *(See figure 5 & 11)*
1 = Cuneate; 2 = Acute; 3 = Obtuse; 4 = Cordate; 5 = Truncate; 6 = Lobed; 7 = Other_____

V	3	R1	3	R2		R3		R4	

TERMINAL LEAFLET MARGIN WAVINESS:
1 = Absent; 2 = Slight; 3 = Weak; 4 = Medium; 5 = Strong

V	4	R1	2	R2		R3		R4	

NUMBER OF PRIMARY LEAFLET PAIRS: *(See figure 11)*

AVERAGE:

V	4.5	R1	4.3	R2		R3		R4	

RANGE:

V	4 to 6	R1	2 to 5	R2	to	R3	to	R4	to

PRIMARY LEAFLET TIP SHAPE: *(See figure 4 & 11)*
1 = Acute; 2 = Cuspidate; 3 = Acuminate; 4 = Obtuse; 5 = Other_____

V	3	R1	3	R2		R3		R4	

COROLLA SHAPE: *(See figure 6)*
1 = Very rotate; 2 = Rotate; 3 = Pentagonal; 4 = Semi-stellate; 5 = Stellate

V	R1	R2	R3	R4
4	4			

CALYX ANTHOCYANIN COLORATION:
1 = Absent; 3 = Weak; 5 = Medium; 7 = Strong; 9 = Very strong

V	R1	R2	R3	R4
3	3			

ANTHER COLOR: *Measure when newly opened flower is fully expanded and circle the appropriate color chart*
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4
13A	15A			

ANTHER SHAPE: *(See figure 7)*
1 = Broad cone; 2 = Narrow cone; 3 = Pear shape cone; 4 = Loose; 5 = Other_____

V	R1	R2	R3	R4
1	3			

POLLEN PRODUCTION:
1 = None; 3 = Some; 5 = Abundant

V	R1	R2	R3	R4
5	1			

STIGMA SHAPE: *(See figure 8)*
1 = Capitate; 2 = Clavate; 3 = Bi-lobed

V	R1	R2	R3	R4
1	1			

STIGMA COLOR: *Circle the appropriate color chart*
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4
143B	146B			

BERRY PRODUCTION: *Under field conditions*
1 = None; 3 = Low; 5 = Moderate; 7 = Heavy; 9 = Very heavy

V	R1	R2	R3	R4
7	2			

OBJECTIVE DESCRIPTION OF VARIETY

Exhibit C (*Potato*) Pa

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5. 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	R1	R2	R3	R4
5	5			

GIVE COLOR CHART VALUE AND CIRCLE THE APPROPRIATE COLOR CHART
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4
164B	164A			

SECONDARY SKIN COLOR:
1 = Absent; 2 = Present, please describe_____

V	R1	R2	R3	R4
1	1			

IF PRESENT, GIVE COLOR CHART VALUE AND CIRCLE THE APPROPRIATE COLOR CHART
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4

SECONDARY SKIN COLOR DISTRIBUTION: *If present*
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 = Netted; 4 = Russetted; 5 = Heavily russetted; 6 = Other_____

V	R1	R2	R3	R4
4	4			

TUBER SHAPE: *(See figure 10)*
1 = Compressed; 2 = Round; 3 = Oval; 4 = Oblong; 5 = Long; 6 = Other_____

V	R1	R2	R3	R4
5	5			

TUBE THICKNESS:
1 = Round; 2 = Medium thick; 3 = Slightly flatted; 4 = Flatted; 5 = Other_____

V	R1	R2	R3	R4
4	3			

OBJECTIVE DESCRIPTION OF VARIETY

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TUBER LENGTH (mm):

AVERAGE:

V	R1	R2	R3	R4
108	110			

RANGE:

V	R1	R2	R3	R4
88 to 131	82 to 138	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
9.6	10.1			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4
App 230g	App 220g			

TUBER WIDTH (mm):

AVERAGE:

V	R1	R2	R3	R4
64	65			

RANGE:

V	R1	R2	R3	R4
58 to 73	58 to 76	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
3.4	3.3			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4
App 230g	App 220g			

TUBER THICKNESS (mm):

AVERAGE:

V	R1	R2	R3	R4
55	53			

RANGE:

V	R1	R2	R3	R4
47 to 68	46 to 63	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
3.5	3.8			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4
App 230g	App 220g			

TUBER EYE DEPTH:

1 = Protruding; 2 = Shallow; 3 = Intermediate; 4 = Deep; 5 = Very deep

V	R1	R2	R3	R4
2	3			

OBJECTIVE DESCRIPTION OF VARIETY

200400138

TUBER LATERAL EYES
1 = Protruding; 2 = Shallow; 3 = Intermediate; 4 = Deep; 5 = Very deep

V	R1	R2	R3	R4
2	3		---	

NUMBER EYE / TUBER:
AVERAGE:

V	R1	R2	R3	R4
10.3	19.7			

RANGE:

V	R1	R2	R3	R4
9 to 12	15 to 26	to	to	to

DISTRIBUTION OF TUBER EYES:
1 = Predominantly apical; 2 = Evenly distributed

V	R1	R2	R3	R4
1	2			

PROMINENCE OF TUBER EYEBROWS:
1 = Not prominent; 2 = Slight prominence; 3 = Medium prominence; 4 = Very prominence; 5 = Other_____

V	R1	R2	R3	R4
2	1			

PRIMARY TUBER FLESH COLOR: *Circle the appropriate color chart*
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4
159B	159D			

SECONDARY TUBER FLESH COLOR:
1 = Absent; 2 = Present, please describe_____

V	R1	R2	R3	R4
1	1			

IF PRESENT, CIRCLE THE APPROPRIATE COLOR CHART:
Royal Horticulture Society Color Chart value or Munsell Color Chart value

V	R1	R2	R3	R4

NUMBER OF TUBER / PLANT:
1 = Low (<8); 2 = Medium (8 -15); 3 = High (>15)

V	R1	R2	R3	R4
1	2			

OBJECTIVE DESCRIPTION OF VARIETY

6. DISEASES CHARACTERISTICS:

DISEASES REACTION: 0 = NOT TESTED; 1 = RESISTANT; 3 = MODERATELY RESISTANT; 5 = MODERATELY SUSCEPTIBLE; 7=SUSCEPTIBLE; 9=HIGHLY SUSCEPTIBLE

	V	R1	R2	R3	R4
BACTERIAL RING ROT: Foliar reaction	0	0			
BACTERIAL RING ROT: Tuber reaction	5	5			
LATE BLIGHT	3	7			
PLRV (leaf roll)	7	7			
PVX	7	7			
PVY	7	7			
OTHER: Verticillium wilt	1	7			
OTHER: Common Scab	3	1			

7. PESTS CHARACTERISTICS:

PEST REACTION: 0 = NOT TESTED; 1 = RESISTANT; 3 = MODERATELY RESISTANT; 5 = MODERATELY SUSCEPTIBLE; 7=SUSCEPTIBLE; 9=HIGHLY SUSCEPTIBLE

	V	R1	R2	R3	R4
GOLDEN NEMATODE	0	7			
OTHER: _____					

8. GENE TRAITS:

INSERTION OF GENES: ☐ YES ☒ NO

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

OBJECTIVE DESCRIPTION OF VARIETY

Exhibit C (*Potato*) Pag

9. QUALITY CHARACTERISTICS:

CHIEF MARKET:

200400138

SPECIFIC GRAVITY (wt. air /wt. air - wt. water)
1 < 1.060; 2 = 1.060-1.069; 3 = 1.070-1.079; 4 = 1.080-1.089; 5 > 1.090

V	5	R1	4	R2		R3		R4	

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

V	6.7	R1	6.2	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.

Specific gravity: V=1.091, R1=1.082 (approximation of tuber starch content). Measured using the weight-in-air, weight-in-water method.

Blackspot bruise susceptibility: V=1.8, R1=3.0 (1-5 where 5=susceptible)
French fry color - 40°F storage: V=3.0, R1=3.7 (0-4 where 4=dark color)

11. CHEMICAL IDENTIFICATION:

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

12. ADDITIONAL COMMENTS AND CHARACTERISTICS:

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

Application for Plant Variety Protection Certificate

Exhibit D: Additional Description Information
Variety: Summit Russet
Owner: Idaho Agricultural Experiment Station

Summit Russet provides some distinct quality advantages over Russet Burbank. These include greater resistance to blackspot bruise, higher tuber specific gravity, and better fry color following cold (40°F) storage. Evidence for these differences and the procedures used to quantify them are attached.

Standard Operating Procedure

Title: Blackspot Bruise Evaluation of Potato Tubers

1. Select ten tubers from each plot, avoiding rotten or green tubers.

2. Condition the tubers at approximately 40°F for at least 48 hours.

3. Place the tubers into the Hobart abrasive peeler for approximately 30 seconds.

4. Place the tubers back into the original sample bag and set aside at room temperature for 18-24 hours. The tubes need to be kept at near 100% humidity during this time period. This can be accomplished by simply covering with plastic sheeting.

5. Rate the tubers individually for the development of black pigment on the surface. The rating scale is 1-5 with 1 indicating no gray or black pigment present, 5 indicating the whole tuber or the area around the stem end of the tuber is completely and intensely black.

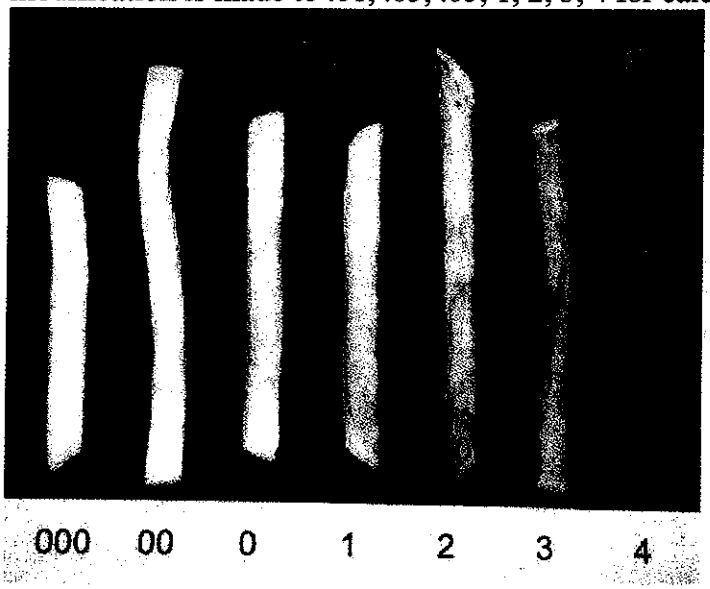
6. Record the rating score for each tuber. Average the values for the 10 tubers to obtain a single value for each plot.

Protocol for frying russet variety potatoes at the University of Idaho

After harvest, potatoes are graded sized and weighed. A three-tuber sample is used for two temperature regimes. Tubers are gradually cooled to approximately 45-50° F during a 4-6 week period. The samples are then moved to 40 and 45° storage units, where they remain for 6-10 weeks.

Tubers are cut stem to bud end using a Shaver Specialty Co Cutter (20608 Earl Street Torrance, CA 90503. Phone (310) 370-6941). Four or nine 3/8" fry strips are cut from the center of each of the three tubers. Oil temperature is 375° F and fry time is 3.5 minutes. A creamy liquid frying shortening "Pocahontas" made from soybean oil. (Purchased from the local grocery/bakery). Frying is done in a Hobart commercial fryer.

Color is rated visually using the USDA fry color chart with a scale of 000-4. A scale modification is made to .01, .03, .05, 1, 2, 3, 4 for calculating averages.



.01 .03 .05

This is not an official USDA chart. The USDA chart is copyrighted.

The GLM Procedure

Dependent Variable: Blkspot

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	9.82083333	0.70148810	11.43	0.0004
Error	9	0.55250000	0.06138889		
Corrected Total	23	10.37333333			

R-Square	Coeff Var	Root MSE	Blkspot Mean
0.946738	10.39585	0.247768	2.383333

Source	DF	Type I SS	Mean Square	F Value	Pr > F
year	2	0.50583333	0.25291667	4.12	0.0537
REP	3	0.11666667	0.03888889	0.63	0.6118
year*REP	6	0.43083333	0.07180556	1.17	0.3995
CLONE	1	7.70666667	7.70666667	125.54	<.0001
year*CLONE	2	1.06083333	0.53041667	8.64	0.0080

Source	DF	Type III SS	Mean Square	F Value	Pr > F
year	2	0.50583333	0.25291667	4.12	0.0537
REP	3	0.11666667	0.03888889	0.63	0.6118
year*REP	6	0.43083333	0.07180556	1.17	0.3995
CLONE	1	7.70666667	7.70666667	125.54	<.0001
year*CLONE	2	1.06083333	0.53041667	8.64	0.0080

Tests of Hypotheses Using the Type III MS for year*REP as an Error Term

Source	DF	Type III SS	Mean Square	F Value	Pr > F
year	2	0.50583333	0.25291667	3.52	0.0973

The GLM Procedure

Dependent Variable: SpecGrav

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	0.00053683	0.00003835	5.84	0.0058
Error	9	0.00005912	0.00000657		
Corrected Total	23	0.00059596			

R-Square	Coeff Var	Root MSE	SpecGrav Mean
0.900790	0.235913	0.002563	1.086458

Source	DF	Type I SS	Mean Square	F Value	Pr > F
year	2	0.00001433	0.00000717	1.09	0.3765
REP	3	0.00002746	0.00000915	1.39	0.3068
year*REP	6	0.00003267	0.00000544	0.83	0.5759
CLONE	1	0.00039204	0.00039204	59.68	<.0001
year*CLONE	2	0.00007033	0.00003517	5.35	0.0294

Source	DF	Type III SS	Mean Square	F Value	Pr > F
year	2	0.00001433	0.00000717	1.09	0.3765
REP	3	0.00002746	0.00000915	1.39	0.3068
year*REP	6	0.00003267	0.00000544	0.83	0.5759
CLONE	1	0.00039204	0.00039204	59.68	<.0001
year*CLONE	2	0.00007033	0.00003517	5.35	0.0294

Tests of Hypotheses Using the Type III MS for year*REP as an Error Term

Source	DF	Type III SS	Mean Square	F Value	Pr > F
year	2	0.00001433	0.00000717	1.32	0.3358

The GLM Procedure

Dependent Variable: Fry40Col

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	14	6.95250000	0.49660714	3.23	0.0412
Error	9	1.38375000	0.15375000		
Corrected Total	23	8.33625000			

R-Square	Coeff Var	Root MSE	Fry40Col Mean
0.834008	11.74860	0.392110	3.337500

Source	DF	Type I SS	Mean Square	F Value	Pr > F
year	2	1.75750000	0.87875000	5.72	0.0250
REP	3	0.77791667	0.25930556	1.69	0.2387
year*REP	6	0.34583333	0.05763889	0.37	0.8775
CLONE	1	3.15375000	3.15375000	20.51	0.0014
year*CLONE	2	0.91750000	0.45875000	2.98	0.1014

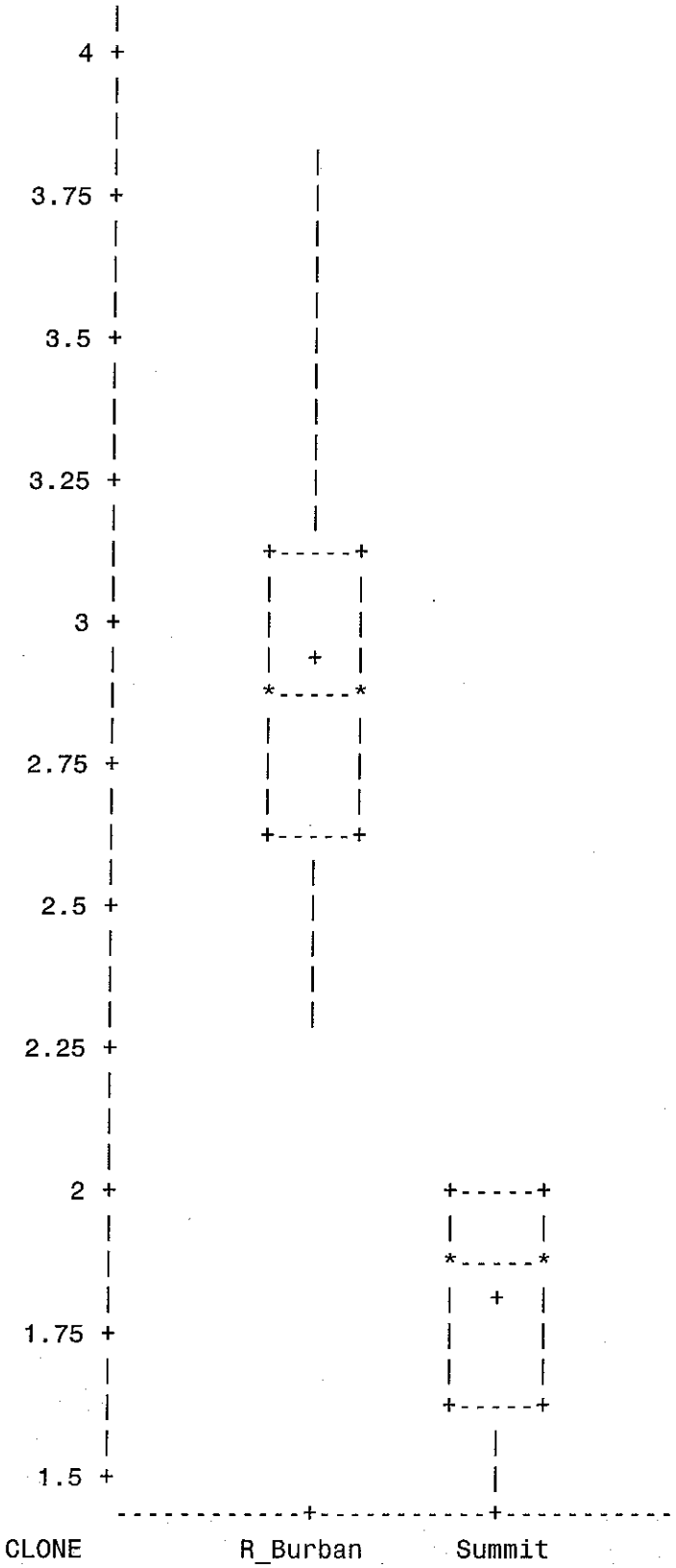
Source	DF	Type III SS	Mean Square	F Value	Pr > F
year	2	1.75750000	0.87875000	5.72	0.0250
REP	3	0.77791667	0.25930556	1.69	0.2387
year*REP	6	0.34583333	0.05763889	0.37	0.8775
CLONE	1	3.15375000	3.15375000	20.51	0.0014
year*CLONE	2	0.91750000	0.45875000	2.98	0.1014

Tests of Hypotheses Using the Type III MS for year*REP as an Error Term

Source	DF	Type III SS	Mean Square	F Value	Pr > F
year	2	1.75750000	0.87875000	15.25	0.0044

The UNIVARIATE Procedure
Variable: Blkspot

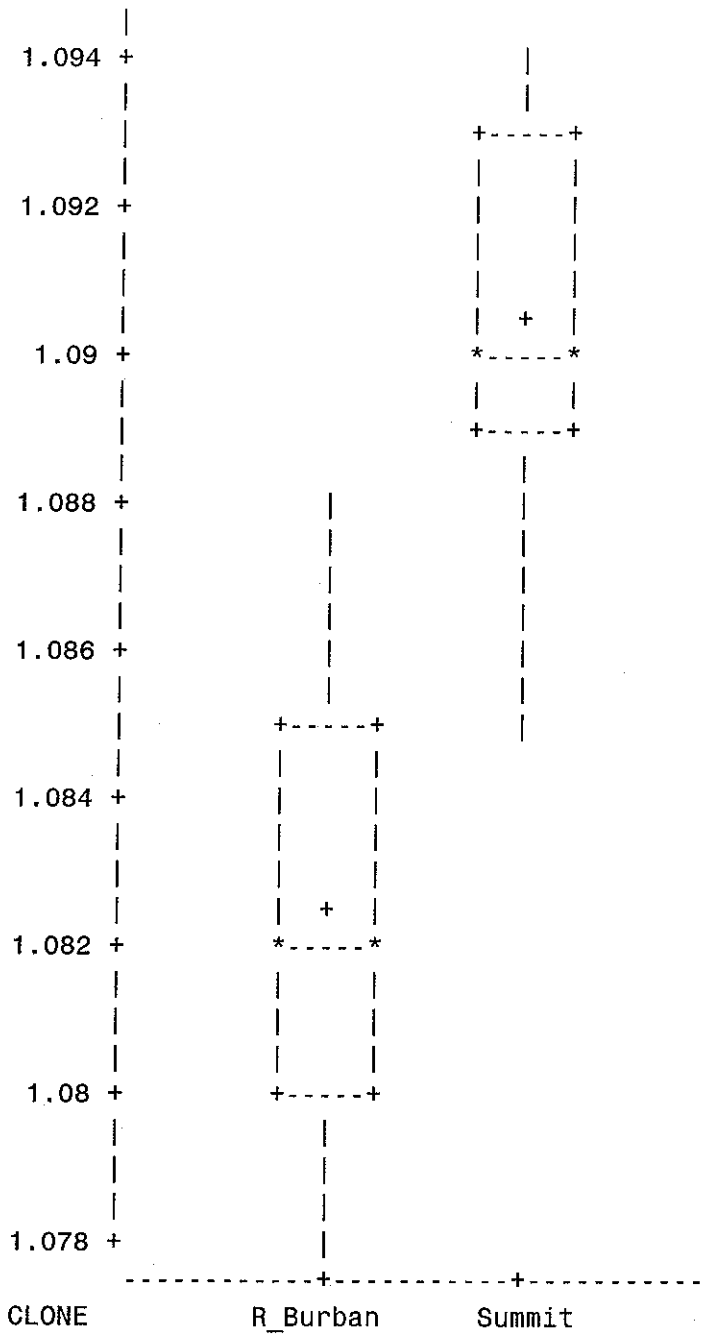
Schematic Plots



The UNIVARIATE Procedure
Variable: SpecGrav

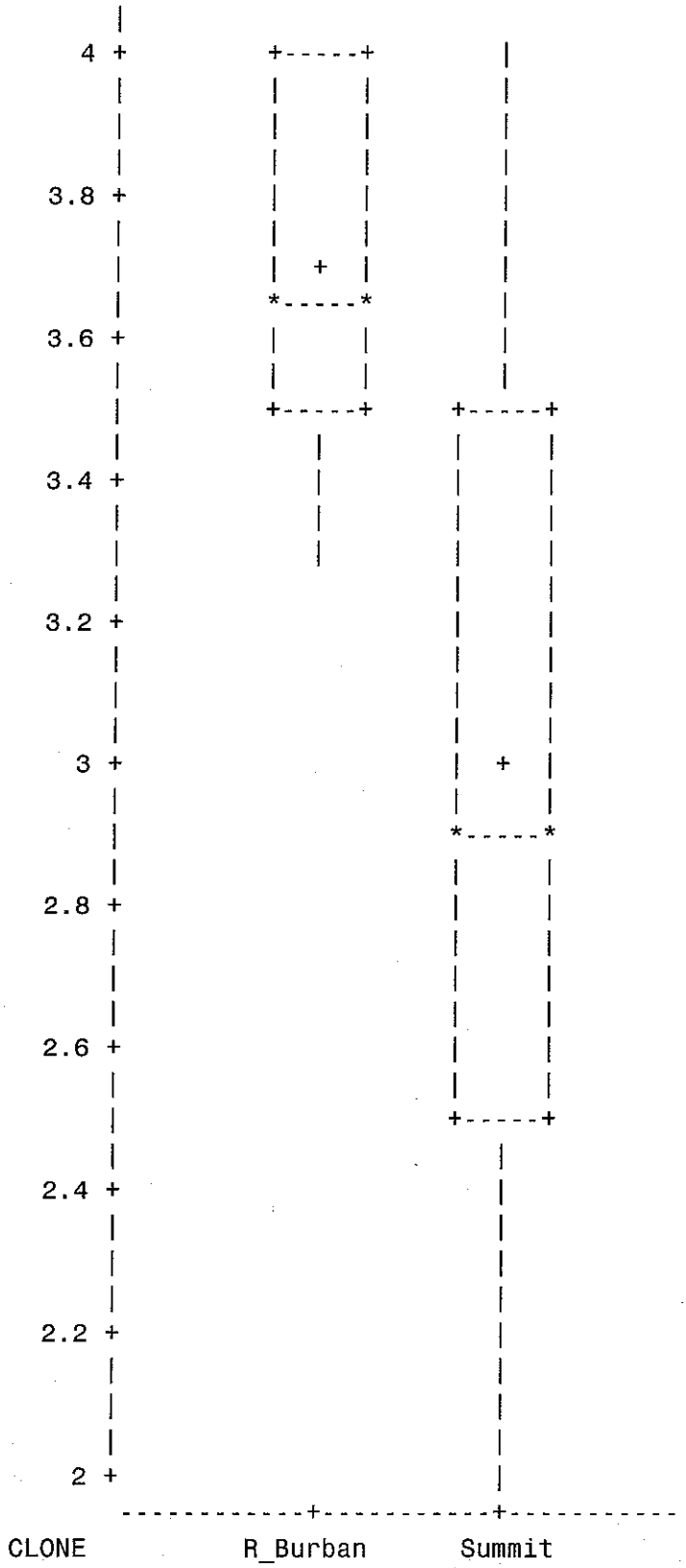
2004 00 138

Schematic Plots



The UNIVARIATE Procedure
Variable: Fry40Col

Schematic Plots



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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

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)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Idaho Research Foundation, Inc. representing the interests of the entities listed under Exhibit E – Item 11	A84118-3	Summit Russet
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)*
PO Box 442337 University of Idaho Moscow, ID 83844-2337 USA	208-885-7173	208-885-6654
	7. PVPO NUMBER 200400138	

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 (individual or company) a U.S. national or a U.S. based company? **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)*:

The Idaho Research Foundation, Inc., (representing the interests of the Washington State University Research Foundation, State of Oregon, Acting by and Through the State Board of Higher Education on behalf of Oregon State University, and United States Department of Agriculture/Agricultural Research Service.

The Idaho Research Foundation, Inc., is a partner in the Northwest (Tri-State) Potato Variety Development Program and a signatory of the General Agreement on Policy and Procedure for Release of New Publicly Developed Plant Varieties in Idaho, Oregon and Washington, between Washington State University, Oregon State University, University of Idaho and U.S. Department of Agriculture, Agricultural Research Service. In accordance with provision 2.2 of this Agreement, Idaho Research Foundation is applying for this PVPC.

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.