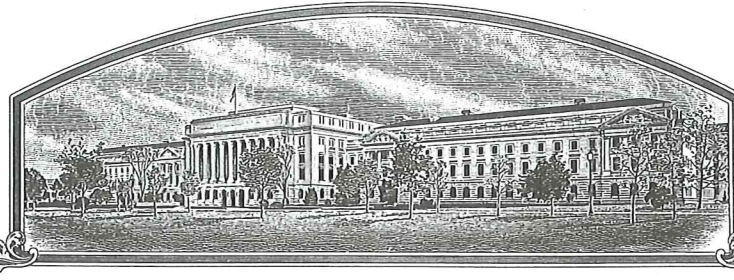


No.

200500232



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

President Colorado Certified Potato Growers' Association, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

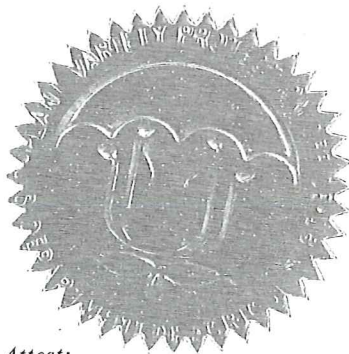
Secretary of Agriculture

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 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

'Mountain Rose'



Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

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 September, in the year two thousand and twelve.

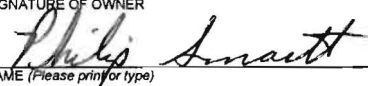

Secretary of Agriculture

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

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).

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

1. NAME OF OWNER President, Colorado Certified Potato Growers' Association, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME CO94183-1R/R	3. VARIETY NAME Mountain Rose
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 0249 East Road 9 North Center, CO 81125		5. TELEPHONE (include area code) (719) 754-3496	FOR OFFICIAL USE ONLY PVPO NUMBER 200500232 FILING DATE <i>April 19, 2005</i>
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Association		6. FAX (include area code) (719) 754-2619	
8. IF INCORPORATED, GIVE STATE OF INCORPORATION CO	9. DATE OF INCORPORATION January 1, 1949		
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) President Colorado Certified Potato Growers' Association, Inc. 0249 East Road 9 North Center, CO 81125		F E E S R E C E I V E D FILING AND EXAMINATION FEES: \$ <i>3652.00</i> DATE <i>4/15/05</i> CERTIFICATION FEE: \$ DATE	
11. TELEPHONE (Include area code) (719) 754-3496	12. FAX (Include area code) (719) 754-2619	13. E-MAIL slvctr@coop.ext.colostate.edu	
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 IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Solanum tuberosum L.	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	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). <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
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 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"/> 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. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input 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 checked="" type="checkbox"/> YES <input 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.)		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, 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) Philip Smartt		NAME (Please print or type) Philip Smartt	
CAPACITY OR TITLE President	DATE 04/05/2005	CAPACITY OR TITLE President	DATE 04/05/2005

(See reverse for instructions and information collection burden statement)

INSTRUCTIONS

200500232

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) 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 unfilled. 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/pvpindex.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.)

Tissue-cultured plantlets and tuber seed stocks of CO89097-2R were pre-released to local seed growers for research and evaluation purposes under an agreement regarding experimental potato selections. A copy of this agreement is attached as Appendix 1.

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.)

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A Form

1. Describe the genealogy (back to and including public and commercial varieties, lines, or clones used) and the breeding method(s).

Mountain Rose, tested under pedigree number CO94183-1R/R, was selected in 1996 at the San Luis Valley Research Center, Center Colorado. It resulted from a cross of All Red and ND2109-7 made by the Colorado State University Potato Breeding and Selection Program in 1994. Refer to Exhibit A - Attachment 1 for a detailed pedigree.

2. Give the details of subsequent stages of selection and multiplication.

Year	Detail of Stage	Selection Criteria
	Refer to Exhibit A - Attachment 2 for details regarding stages of selection and multiplication.	

3a. Is the variety uniform? Yes No

How did you test for uniformity?

Mountain Rose has been observed since original selection in 1996 during the course of seed tuber production and is stable and uniform. No variants have been observed in Mountain Rose since it was first selected in 1996 for a total of 13 generations of production.

3b. Is the variety stable? Yes No

How did you test for stability? Over how many generations?

Refer to 3a above.

4. Are genetic variants observed or expected during reproduction and multiplication? Yes No

If yes, state how these variants may be identified, their type and frequency.

Continue on additional pages if necessary.

Exhibit A - Attachment 1

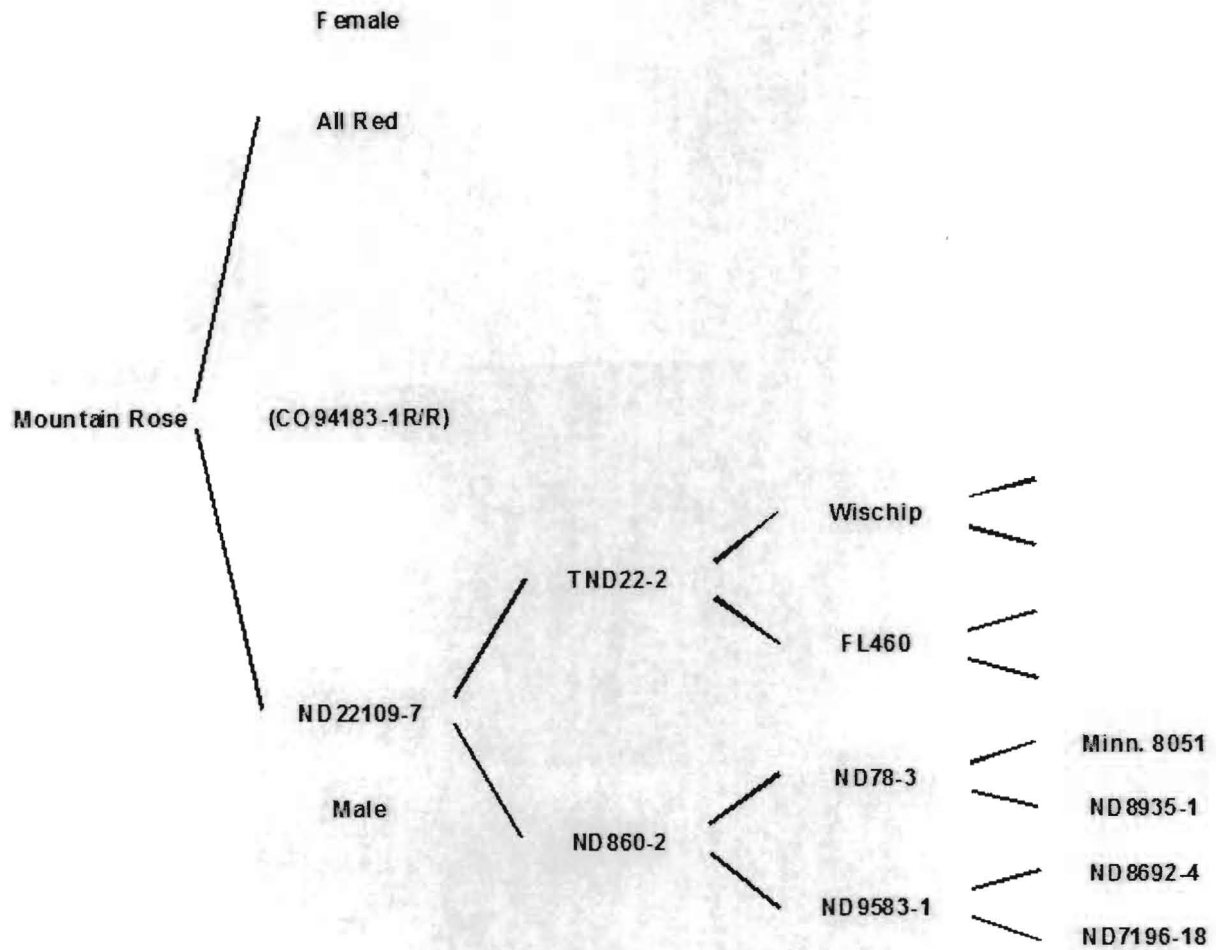


Exhibit A - Attachment 2

Table 1. Potato breeding, selection, and multiplication scheme for **Mountain Rose**.

Year	Comments
1994	Select parents for crossing and true seed production in the greenhouse at Center, Colorado.
1995	Produce seedling tubers from true seed in the greenhouse at Center, Colorado.
1996	70,000-80,000 seedling tubers planted in the field as single hills. Several thousand tubers are obtained from other breeding programs. Initial selection of this material takes place at harvest. First cycle of field selection at the San Luis Valley Research Center.
1997	Twelve-hills of each single-hill selection are planted. Second cycle of field selection.
1998	Preliminary Selections 1 (P1). Third cycle of field selection (48 plant tuber-unit seed increase). Initial evaluations for chipping qualities (chip color after various storage regimes and specific gravity) are conducted this year and subsequently.
1999	Preliminary Selections 2 (P2). Fourth cycle of field selection (96 plant tuber-unit seed increase). Initial evaluations to characterize selections for blackspot bruise potential, storage weight loss, dormancy, and enzymatic browning. Initial evaluations for french fry potential (french fry color and specific gravity) are conducted this year and subsequently. Evaluations for chipping qualities are continued.
2000	Intermediate Selections. Fifth cycle of field selection. Initial data collected on yield, grade, and growth characteristics. Plant a 144 plant tuber-unit seed increase and a 2 rep x 25 plants intermediate yield trial (IYT).
2001- 2002	Advanced Selections: Includes selections that have advanced from the IYT. Additionally selections are included that have graduated from the Southwest Regional and Western Regional Trials. The advanced yield trials for reds, specialty types, and chippers are planted with entries in the Western Regional Red, Specialty and Chip Trials. Selections are in the 6th-7th and 12+ cycles of field selection. All advanced yield trials (AYT) have 4 reps x 25 plants. Sixth- and seventh- year field selections respectively have a 400/1,600 plant tuber-unit seed increase. Selections in the sixth cycle of selection are indexed for viruses and cleanup/micropropagation is initiated. Testing for ring rot and PLRV reaction is also initiated at this stage and continues as needed. Selections in the 7th cycle of field selection are entered into cultural management trials and postharvest disease reaction (dry rot and soft rot) evaluations.
2003- 2004	All 9 th year or older selections generally have a 1 acre or greater seed increase. These selections are entered in the Western Regional Trials (4 trials): main (russets and long whites), red, specialty, and chip. The Western Regional Committee (WERA027) directs these trials at 10+ locations in the Western United States each year. Cultural management trials and postharvest disease reaction evaluations continue as needed.
2002- 2004	Grower/industry evaluations. The Colorado Potato Breeding and Selection Project relies on the cooperation of several growers, shippers, and processors to evaluate advanced selections for adaptability and marketability.
2005	Release as a named cultivar.

Exhibit B

Statement of Distinctness (Updated June 9, 2010)

Mountain Rose is most similar to All Blue and All Red. **Mountain Rose** most clearly differs from All Blue or All Red in the following traits:

Characteristic	Mountain Rose	All Red	All Blue	Evidence
Light Sprout: General Shape	Ovoid	Broad Cylindrical		Figure 1 (Photo)
Plant Type	Leaf		Stem	Figure 2 (Photo)
Stem Anthocyanin Coloration	Weak		Strong	Figure 3 (Photo)
Leaf Color Chart Value	137A		147A	RHS Color Chart
Leaf Silhouette	Closed		Open	Figure 4 (Photo)
Petiole Anthocyanin Coloration	Weak		Strong	Figure 4 (Photo)
Primary Leaflet Tip Shape	Cuspidate		Acuminate	Figure 5 (Photo)
Primary Leaflet Shape	Broadly Ovate		Narrowly Ovate	Figure 5 (Photo)
Number of Inflorescence/Plant	1.9 +/- 0.9 (n=73)		4.7 +/- 1.8 (n=80)	Table 1
Number of Florets/Inflorescence	3.4 +/- 2.0 (n=80)		11.6 +/- 3.1 (n=80)	Table 2
Corolla Inner Surface Color Chart Value	75C		93B	RHS Color Chart
Corolla Inner Surface Color	Red-Violet		Blue-Violet	Figure 6 (Photo)
Corolla Outer Surface Color Chart Value	75C		93D	RHS Color Chart
Calyx Anthocyanin Coloration	Strong		Medium	Figure 7 (Photo)
Anther Color Chart Value	17B Primary/42B Secondary - Secondary color is on the terminal end of the anther.		23A	RHS Color Chart and Figure 6 (Photo)

Exhibit B (continued)

Statement of Distinctness Continued (Updated June 9, 2010)

Characteristic	Mountain Rose	All Red	All Blue	Evidence
Prominent Skin Color Chart Value	59B	60C		RHS Color Chart
Tuber Lateral Eyes	Shallow	Deep		Figure 8 (Photo)
Prominence of Tuber Eyebrows	Slight Prominence	Very Prominent		Figure 8 (Photo)
Primary Tuber Flesh Color and Chart Value	67C	68B		RHS Color Chart and Figure 9 (Photo)
Secondary Tuber Flesh Color and Chart Value	67A - Present Vascular ring slightly darkened, pith and area external to vascular ring is lighter.	67D - Present Vascular ring slightly darkened, pith and area external to vascular ring is lighter.		RHS Color Chart and Figure 9 (Photo)

Exhibit B (continued)

Statement of Distinctness

Figure 1. Light Sprout: General Shape for Mountain Rose (top) and All Red (bottom).



Exhibit B (continued)

Statement of Distinctness

Figure 2. Plant Characteristics: Plant Type for Mountain Rose (right) and All Blue (right).



Exhibit B (continued)

Statement of Distinctness

Figure 3. Stem Characteristics: Stem Anthocyanin Coloration for Mountain Rose (right) and All Blue (right).



Exhibit B (continued)

Statement of Distinctness

Figure 8. Tuber Eye Depth and Prominence of Tuber Eyebrows for Mountain Rose (top) and All Red (bottom).



NAME OF APPLICANT (S) President, Colorado Certified Potato Growers' Association, Inc.	TEMPORARY OR EXPERIMENTAL DESIGNATION CO94183-1R/R	VARIETY NAME Mountain Rose
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) President Colorado Certified Potato Growers's Association, Inc. 0249 East 9 North Center, CO 81125		FOR OFFICIAL USE ONLY PVPO NUMBER 200500232

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)
Mountain Rose	All Red	All Blue		

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 SPECIALTY

V 6	R1 6	R2 6	R3	R4
-----	------	------	----	----

2. LIGHT SPROUT CHARACTERISTICS: (See Figure 1)

***LIGHT SPROUT: GENERAL SHAPE**

1 = Spherical 2 = Ovoid 3 = Conica 4 = Broad cylindrica 5 = Narrow cylindrical 6 = Other _____

V 2	R1 4	R2	R3	R4
-----	------	----	----	----

***LIGHT SPROUT BASE: PUBESCENCE OF BASE**

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

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

*** LIGHT SPROUT TIP: HABIT**

1 = Closed 2 = Intermediate 3 = Open

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

2. LIGHT SPROUT CHARACTERISTICS: (continued)

200500232

LIGHT SPROUT TIP: PUBESCENCE

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

V	1	R1	1	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 ANTHOCANIN COLORATION (IF PRESENT)

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

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

LIGHT SPROUT ROOT INITIALS: FREQUENCY

1 = Absent 2 = Some 3 = Abundant

V	2	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	3	R1		R2	5	R3		R4	
---	---	----	--	----	---	----	--	----	--

TYPE:

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

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

MATURITY: Days after planting (DAP) at vine senescence

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

PLANTING DATE:

V	5/6/2004	R1		R2	5/6/2004	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	1	R1		R2	1	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	2	R1		R2	3	R3		R4	
---	---	----	--	----	---	----	--	----	--

200500232

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		R2	7	R3		R4	
---	---	----	--	----	---	----	--	----	--

STEM WINGS: (See Figure 3)

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

V	5	R1		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	3	R1		R2	2	R3		R4	
---	---	----	--	----	---	----	--	----	--

XX

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		R2	147A	R3		R4	
---	------	----	--	----	------	----	--	----	--

LEAF PUBESCENCE DENSITY:

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

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

LEAF PUBESCENCE LENGTH:

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

V	2	R1		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	1	R1		R2	5	R3		R4	
---	---	----	--	----	---	----	--	----	--

PETIOLES ANTHOCYANIN COLORATION:

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

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

LEAF STIPULES SIZE: (See Figure 5)

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

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

5. LEAF CHARACTERISTICS: (continued)

200500232

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

1 = Acute 2 = Cuspidate 3 = Acuminate 4 = Obtuse 5 = Other _____

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

TERMINAL LEAFLET MARGIN WAVINESS:

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

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

NUMBER OF PRIMARY LEAFLET PAIRS: (See Figure 6)

AVERAGE:

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

RANGE:

V	1 to 4	R1		R2	2 to 5	R3		R4	
---	--------	----	--	----	--------	----	--	----	--

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

1 = Acute 2 = Cuspidate 3 = Acuminate 4 = Obtuse 5 = Other _____

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

PRIMARY LEAFLET SIZE:

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

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

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

AVERAGE:

V	4.2	R1		R2	7.2	R3		R4	
---	-----	----	--	----	-----	----	--	----	--

RANGE:

V	2 to 7	R1		R2	2 to 14	R3	to	R4	to
---	--------	----	--	----	---------	----	----	----	----

200500232

5. LEAF CHARACTERISTICS: (continued)

NUMBER OF INFLORESCENCE/PLANT:

AVERAGE:

V	1.9	R1		R2	4.7	R3		R4	
---	-----	----	--	----	-----	----	--	----	--

RANGE:

v	1 to 5	R1		R2	2 to 10	R3	to	R4	to
---	--------	----	--	----	---------	----	----	----	----

NUMBER OF FLORETS/INFLORESCENCE:

AVERAGE:

V	3.4	R1		R2	11.6	R3		R4	
---	-----	----	--	----	------	----	--	----	--

RANGE:

v	1 to 9	R1		R2	4 to 17	R3	to	R4	to
---	--------	----	--	----	---------	----	----	----	----

XX

* 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	75C	R1		R2	93B	R3		R4	
---	-----	----	--	----	-----	----	--	----	--

XX

* 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	75C	R1		R2	93D	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 = RedViolet-White 1:1 22 = RedViolet-White 1:3 23 = RedViolet-White 3:1
 24 = RedViolet-White Halo 25 = BlueViolet-White 1:1 26 = BlueViolet-White 1:3 27 = BlueViolet-White 3:1 28 = BlueViolet-White Halo
 12 = Other _____

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

COROLLA SHAPE: (See Figure 10)

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

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

6. INFLORESCENCE CHARACTERISTICS:

CALYX ANTHOCYANIN COLORATION:

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

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

XX

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	17B/42	R1		R2	23A	R3		R4	
---	--------	----	--	----	-----	----	--	----	--

The anthers of Mountain Rose are dual colored - primary color 17B, secondary color 42B. The secondary color is on the terminal end of the anther.

ANTHER SHAPE: (See Figure 11)

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

200500232

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

6. INFLORESCENCE CHARACTERISTICS: (continued)

POLLEN PRODUCTION:

1 = None 3 = Some 5 = Abundant

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

STIGMA SHAPE: (See Figure 12)

1 = Capitate 2 = Clavate 3 = Bi-lobed

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

XX

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

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

BERRY PRODUCTION: (Under field conditions)

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

V	3	R1		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	9	R1	9	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

XX

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

V	59B	R1	60C	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

SECONDARY SKIN COLOR:

1 = Absent 2 = Present (please describe)

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

XX

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

7. TUBER CHARACTERISTICS: (continued)

200500232

* TUBER SHAPE: (See Figure 14)

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

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

TUBER THICKNESS:

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

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

TUBER LENGTH (mm):

AVERAGE:

V	80	R1		R2	93	R3		R4	
---	----	----	--	----	----	----	--	----	--

RANGE:

V	62 to 100	R1		R2	58 to 133	R3	to	R4	to
---	-----------	----	--	----	-----------	----	----	----	----

STANDARD DEVIATION:

V	8	R1		R2	16	R3		R4	
---	---	----	--	----	----	----	--	----	--

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	153	R1		R2	154	R3		R4	
---	-----	----	--	----	-----	----	--	----	--

TUBER WIDTH (mm)

AVERAGE:

V	66	R1		R2	60	R3		R4	
---	----	----	--	----	----	----	--	----	--

RANGE:

V	56 to 80	R1		R2	47 to 70	R3		R4	
---	----------	----	--	----	----------	----	--	----	--

STANDARD DEVIATION:

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

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	153	R1		R2	154	R3		R4	
---	-----	----	--	----	-----	----	--	----	--

7. TUBER CHARACTERISTICS: (continued)

200500232

TUBER THICKNESS (mm):

AVERAGE:

V	54	R1		R2	53	R3		R4	
---	----	----	--	----	----	----	--	----	--

RANGE:

V	43 to 65	R1		R2	40 to 62	R3		R4	
---	----------	----	--	----	----------	----	--	----	--

STANDARD DEVIATION:

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

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	153	R1		R2	154	R3		R4	
---	-----	----	--	----	-----	----	--	----	--

TUBER EYE DEPTH:

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

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

TUBER LATERAL EYES:

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

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

NUMBER EYE/TUBER:

AVERAGE:

V	13.6	R1		R2	14.9	R3		R4	
---	------	----	--	----	------	----	--	----	--

RANGE:

V	10 to 20	R1		R2	9 to 20	R3		R4	
---	----------	----	--	----	---------	----	--	----	--

DISTRIBUTION OF TUBER EYES:

1 = Predominantly apical 2 = Evenly distributed

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

PROMINENCE OF TUBER EYEBROWS:

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

V	2	R1	4	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

200500232

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	9	R1	9	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

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

V	67C	R1	68B	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

SECONDARY TUBER FLESH COLOR:

1 = Absent 2 = Present, please describe: Vascular ring slightly darkened, pith and area external to vas

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

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

V	67A	R1	67D	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

NUMBER OF TUBERS/PLANT:

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

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

200500232

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

EARLY BLIGHT: (Alternaria)

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

SOFT ROT (Erwinia)

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

COMMON SCAB (Streptomyces)

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

POWDERY SCAB (Spongospora)

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

DRY ROT (Fusarium)

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

POTATO LEAF ROLL VIRUS (PLRV)

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

200500232

8. DISEASES CHARACTERISTICS: (continued)

POTATO VIRUS X (PVX)

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

POTATO VIRUS Y (PVY)

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

POTATO VIRUS M (PVM)

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

POTATO VIRUS A (PVA)

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

GOLDEN NEMATODE (Globodera)

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

ROOT - KNOT NEMATODE (Meloidogyne)

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

OTHER DISEASE Powdery Scab - Root Gall

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

PHYSIOLOGICAL DISORDER

1 = Malformed shape
6 = Blackheart2 = Tuber cracking
7 = Internal sprouting3 = Feathering
8 = Other

4 = Hollow heart

5 = Internal necrosis

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

GREEN PEACH APHID (*Myzus*)

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

OTHER:

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

OTHER:

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

10. GENE TRAITS:

200500232

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 = <1.060 2 = 1.060-1.069 3 = 1.070-1.079 4 = 1.080-1.089 5 = >1.090

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

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

V	3.7	R1		R2	4.4	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.

12. CHEMICAL IDENTIFICATION:

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

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.

Figure 4. Leaf Characteristics: Leaf Silhouette and Petiole Anthocyanin Coloration for Mountain Rose (top) and All Blue (bottom).

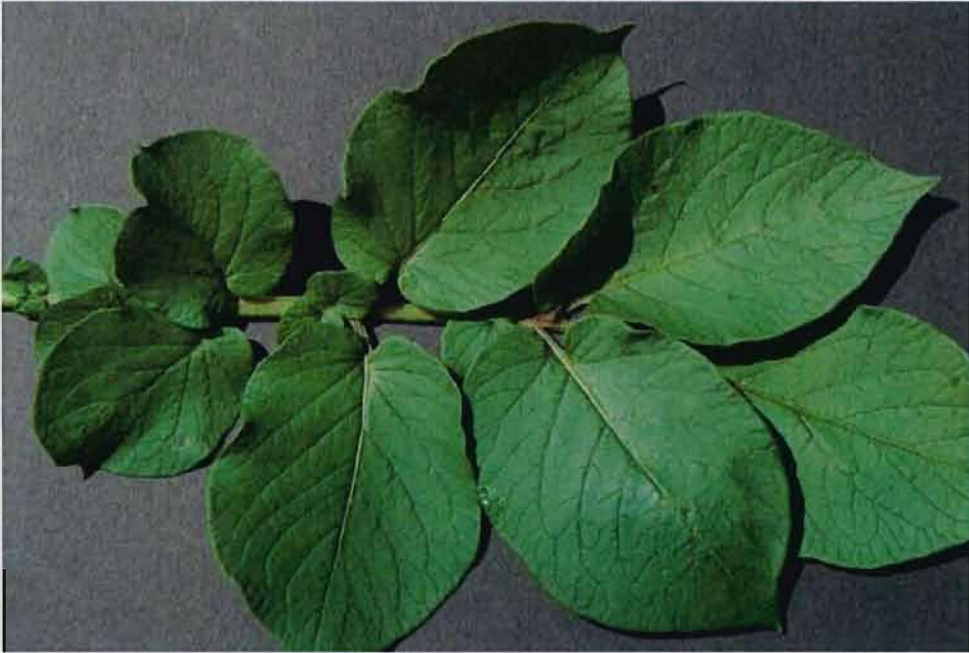


Figure 5. Leaf Characteristics: Primary Leaflet Tip Shape and Primary Leaflet Shape for Mountain Rose (top) and All Blue (bottom).

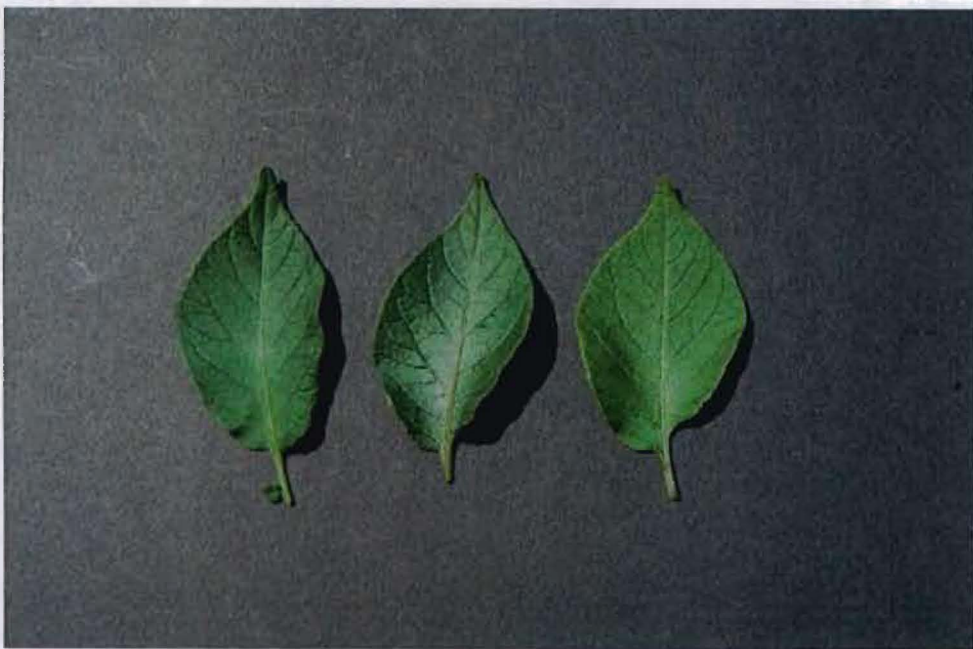
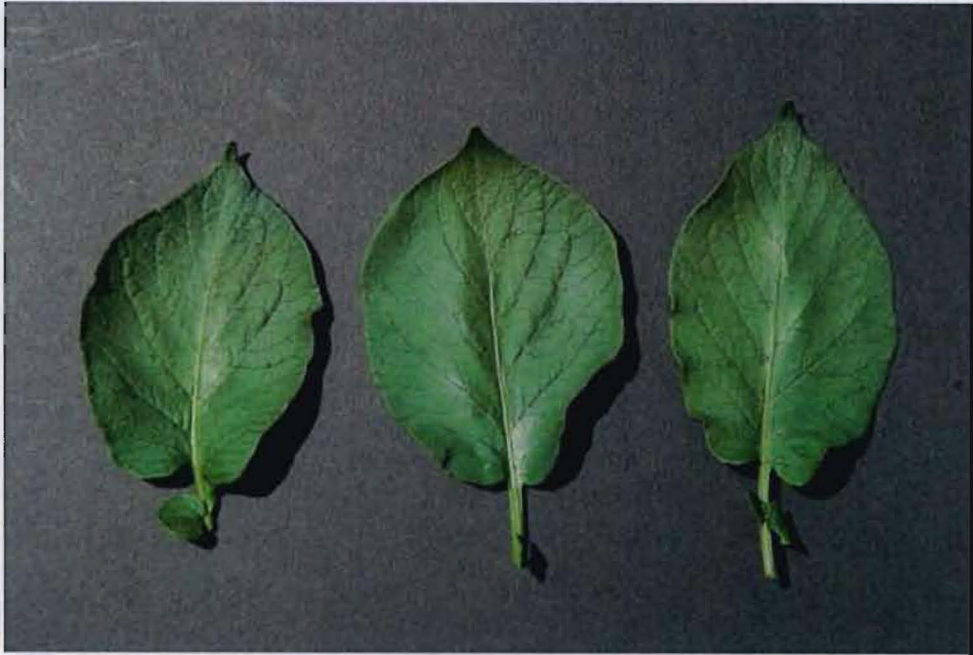


Figure 6. Corolla Inner Surface Color and Anther Color for Mountain Rose (top) and All Blue (bottom).



Table 1.

# Inflorescence Plant Analysis												
Mountain Rose	1	1	2	2	2	1	1	2	3	2	Number	73
	3	2	2	1	1	1	3	2	2	1	Mean	1.9
	1	2	3	1	2	4	3	1	3	1	SD	0.9
	1	3	2	1	1	2	4	5	1	2	Max	5
	3	3	2	2	4	1	2	2	2	1	Min	1
	1	1	1	2	3	2	1	2	2	1		
	1	2	2	1	3	1	1	1	2	1		
	3	3	1									
All Blue	3	4	4	3	6	7	4	6	7	5	Number	80
	8	9	6	6	5	3	10	5	2	2	Mean	4.7
	6	4	6	8	4	7	6	5	4	7	SD	1.8
	5	7	8	6	7	6	3	6	4	3	Max	10
	2	4	4	4	2	3	5	7	8	4	Min	2
	5	5	6	2	3	4	5	2	3	2		
	3	5	4	3	3	3	6	5	5	4		
	6	6	5	2	5	3	4	3	3	2		

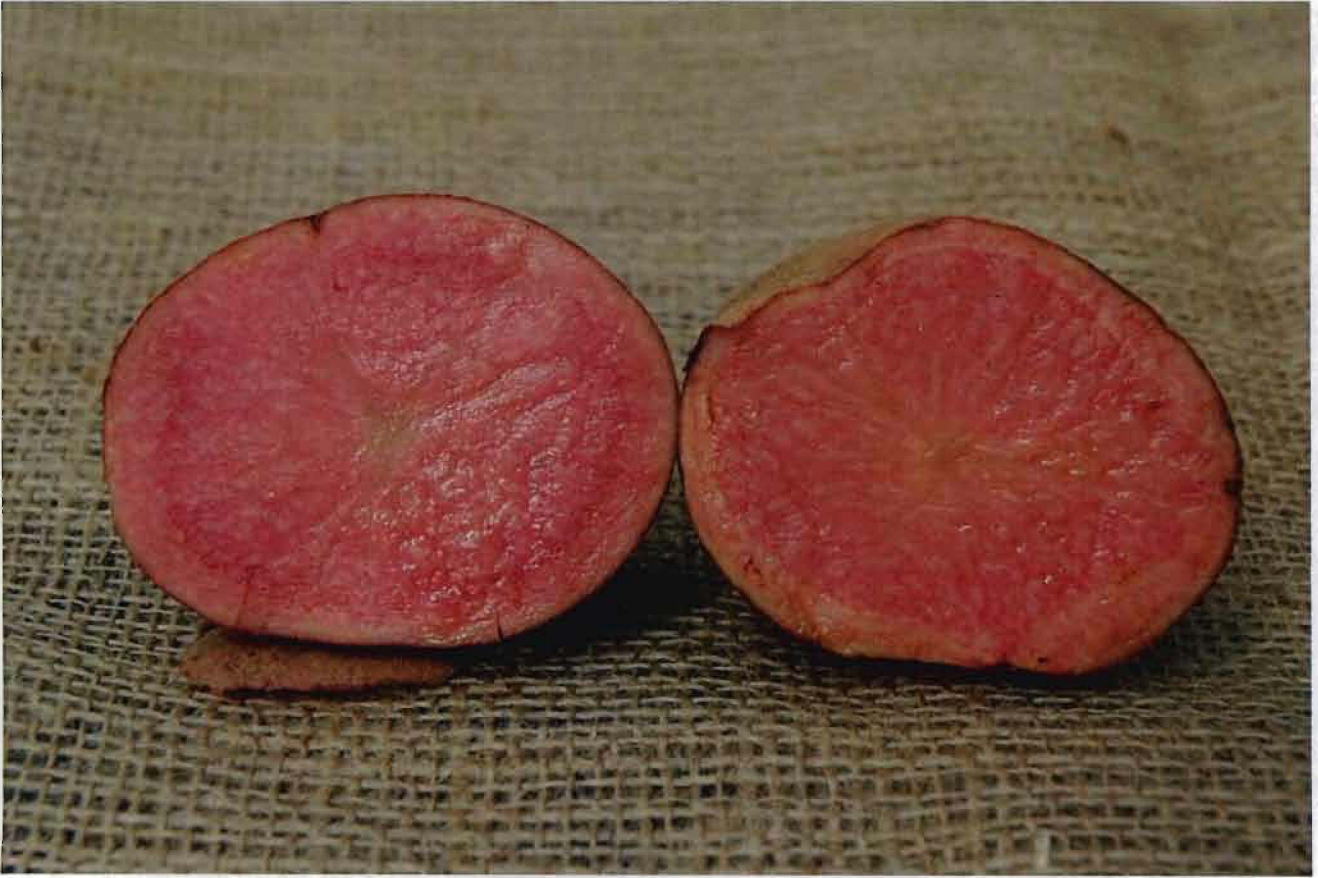
Table 2.

# Florets/Inflorescence Analysis												
Mountain Rose	4	3	1	2	4	3	1	4	3	8	Number	80
	2	2	1	3	3	1	6	3	1	3	Mean	3.4
	6	5	1	4	3	4	6	6	4	1	SD	2.0
	2	5	2	3	3	5	2	6	5	3	Max	9
	9	8	6	5	7	4	2	6	3	3	Min	1
	5	3	2	7	1	3	4	1	8	1		
	2	4	1	2	2	1	4	2	1	2		
	1	5	1	2	6	2	3	2	1	2		
All Blue	10	16	5	10	12	6	15	10	14	16	Number	80
	13	14	4	15	9	15	12	13	13	16	Mean	11.6
	12	15	11	15	10	11	13	14	14	11	SD	3.1
	13	10	13	7	11	10	13	10	12	10	Max	17
	7	8	9	6	14	9	14	9	10	17	Min	4
	8	13	9	16	9	12	14	8	9	14		
	12	6	13	10	14	14	13	15	16	15		
	13	13	6	15	14	7	14	5	12	10		

Figure 7. Corolla Outer Surface Color and Calyx Anthocyanin Coloration for Mountain Rose (top) and All Blue (bottom).



Figure 9. Secondary Tuber Flesh Color for Mountain Rose (left) and All Red (right).



200500232

Mountain Rose Tuber and Sprout Photos



200500232



Appendix 1.

Potato Certification Service
San Luis Valley Research Center
0249 East Road 9 North
Center, Colorado 81125
(719) 754-3496
FAX: (719) 754-2619

No 0557

NOTICE TO RECEIVERS OF EXPERIMENTAL POTATO SELECTIONS

I understand that the potato selections that I am receiving are experimental selections from the Colorado State University Agricultural Experiment Station (CSU-AES) potato breeding and selection program and may be used for research or evaluation purposes only. I further understand that experimental selections are in the process of being evaluated prior to official release and accept such additional risks that may be associated with such potatoes. I agree not to hold the University or its representatives liable for any losses incurred as a result of production and/or disposition of these potatoes.

I also understand that I may not provide these potatoes to anyone else without approval of CSU-AES or its designated representative. I further understand that any of these selections may be released as a cultivar, and may be legally protected under the federal Plant Variety Protection Act or other mechanisms which may require royalty payments before being grown commercially. No right or license to control seed stocks of these potatoes is granted to me by this agreement. Information I develop about these materials and disposition of production will be freely shared with the CSU-AES when requested.

I hereby acknowledge that I am receiving the following experimental potatoes:

Grower:	Buyer:
---------	--------

Lot Number	Selection	Amount (cwt)

Buyer
Signature: _____ Date: _____

Address: _____

Telephone: _____

Fax: _____

Please return to Potato Certification Service, Attn: Dr. Robert D. Davidson at the letterhead address. Approval for sale of stocks will be authorized upon receipt of this completed form. Please call if you have questions.

Appendix 2.Table 1. Yield and grade of **Mountain Rose** compared with All Blue, 2003-2004.

Cultivar	Yield (Cwt/A)				
	Total	US #1			
		Total	%	>10 oz	<4 oz
2003					
Mountain Rose	407	305	74.9	29	97
All Blue	567	418	72.8	81	149
LSD (0.05) ¹	52	60	NS	40	25
2004 - Trial 1					
Mountain Rose	386	247	63.8	23	134
All Blue	566	397	70.5	73	159
LSD (0.05) ¹	60	58	5.3	38	25
2004 - Trial 2					
Mountain Rose	371	250	67.2	20	117
All Blue	503	335	66.5	81	164
LSD (0.05) ¹	66	57	NS	41	26

¹LSD=least significant difference.

Table 2. Plant and processing characteristics for **Mountain Rose** compared with All Blue, 2003-2004.

Clone	% Stand	Vine Size ¹	Vine Maturity ²	Specific Gravity
2003				
Mountain Rose	100	3.0	3.0	1.080
All Blue	100	4.0	3.0	1.081
LSD (0.05) ³	NS	0.5	NS	----
2004 - Trial 1				
Mountain Rose	94	2.5	1.8	1.083
All Blue	98	4.0	3.3	1.090
LSD (0.05) ³	NS	0.4	0.6	----
2004 - Trial 2				
Mountain Rose	97	3.0	1.5	1.086
All Blue	97	4.0	3.0	1.090
LSD (0.05) ³	NS	0.4	0.6	----

¹Vine size is rated on a 1 to 5 scale, with 5 indicating very large vines.

²Vine maturity is rated on a 1 to 5 scale, with 5 indicating very late maturing vines.

³LSD=least significant difference; NS=not significant.

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) President, Colorado Certified Potato Growers' Assoc., Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER CO94183-1R/R	3. VARIETY NAME Mountain Rose
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 0249 East Road 9 North Center, CO 81125	5. TELEPHONE (Include area code) (719) 754-3496	6. FAX (Include area code) (719) 754-2619
7. PVPO NUMBER 200500232		

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 Colorado Certified Potato Growers' Association, Inc., and the Board of Governors of Colorado State University System entered into an agreement on February 1, 1998 (renewed on July 1, 2002). This agreement allows the transfer of ownership of potato cultivars developed at Colorado State University by the Agricultural Experiment Station to the Colorado Certified Potato Growers' Association.

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

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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**

NAME OF OWNER (S) President, Colorado Certified Potato Growers' Association, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 0249 East Road 9 North Center, CO 81125	TEMPORARY OR EXPERIMENTAL DESIGNATION CO94183-1R/R
NAME OF OWNER REPRESENTATIVE (S) Philip Smartt	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 0249 East Road 9 North Center, CO 81125	VARIETY NAME Mountain Rose FOR OFFICIAL USE ONLY PVPO NUMBER 200500232

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.

Philip Smartt
 Signature

4-8-05
 Date

'05 APR 15 AM 9:25