

No.

200500210



# 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, 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

'Colorado Rose'

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 twenty-ninth day of December, in the year two thousand and ten.

Attest:

A handwritten signature in black ink, appearing to read "Al M. Z...", written over a dark ribbon that diagonally crosses the page.

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

A handwritten signature in black ink, appearing to read "Reuben J. Vilsack", written over a dark ribbon that diagonally crosses the page.

Secretary of Agriculture

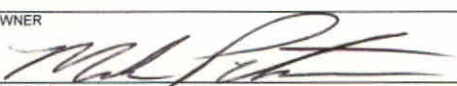


U.S. DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

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 President, Colorado Certified Potato Growers' Association, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME CO89097-2R		3. VARIETY NAME Colorado 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 <b>200500210</b> FILING DATE <b>FEB. 8, 2005</b>	
		6. FAX (include area code) (719) 754-2619			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Association		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) David G. Holm, Ph.D. Professor of Horticulture (Potato Breeding) SLV Research Center - CSU 0249 East Road 9 North Center, CO 81125				F E E S R E C E I V E D FILING AND EXAMINATION FEES: \$ 3650.00 DATE 2/8/05 CERTIFICATION FEE: \$ 768.00 DATE 7/22/10	
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) 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"/> 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)		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		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) Mark Peterson			NAME (Please print or type)		
CAPACITY OR TITLE President		DATE 01/24/2005		CAPACITY OR TITLE DATE	

(See reverse for instructions and information collection burden statement)

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## INSTRUCTIONS

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

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

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**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.

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**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).*)

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**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.*)

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

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To file a complaint of discrimination, write 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.

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### DRAFT Exhibit A Form

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

Colorado Rose, tested under pedigree number CO89097-2R, was selected in 1991 at the San Luis Valley Research Center, Center Colorado. It resulted from a cross of NDTX9-1068-11R and DT6063-1R made by Colorado State University Potato Breeding and Selection Program in 1989. Refer to Exhibit A - Attachment 1 for a detailed pedigree.

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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.	

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3a. Is the variety uniform?  Yes  No

How did you test for uniformity?

Colorado Rose has been observed since original selection in 1991 during the course of seed tuber production and is stable and uniform. No variants have been observed.

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3b. Is the variety stable?  Yes  No

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

Refer to 3a. *19 generations*

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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.

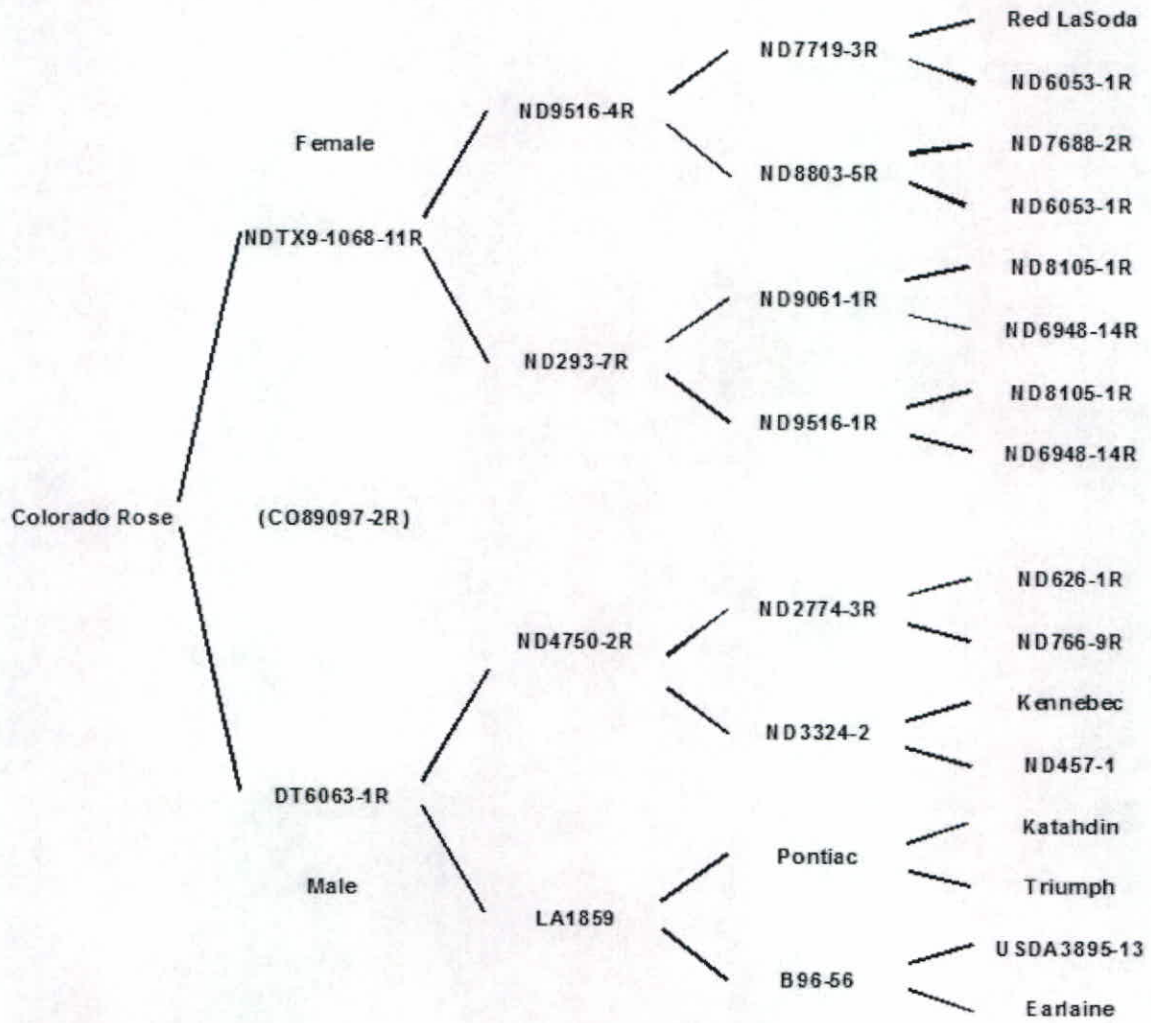
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Exhibit A - Attachment 1



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## Exhibit A - Attachment 2

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

Year	Comments
1989	Select parents for crossing and true seed production in the greenhouse at Center, Colorado.
1990	Produce seedling tubers from true seed in the greenhouse at Center, Colorado.
1991	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.
1992	Twelve-hills of each single-hill selection are planted. Second cycle of field selection.
1993	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.
1994	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.
1995	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).
1996- 1997, 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.
1998- 2000	All 9 <sup>th</sup> 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.
2001- 2003	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.
2004	Release as a named cultivar.

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Exhibit B

Statement of Distinctness (Updated May, 04, 2010)

Colorado Rose is compared with Red LaSoda, the most similar red table stock reference cultivar grown in our trials. Colorado Rose most clearly differs from Red LaSoda in the following traits:

Characteristic	Colorado Rose	Red LaSoda	Evidence
Light Sprout Base: Pubescence of Base	Medium	Strong	Figure 1
Light Sprout Base: Intensity of Anthocyanin Coloration	Very strong	Medium	Figure 1
Light Sprout Tip: Habit	Intermediate	Closed	Figure 1
Leaf Silhouette	Medium	Open	Figure 2
Terminal Leaflet Shape	Broadly Ovate	Medium Ovate	Figure 3
Leaflet Tip Shape	Acuminate	Cuspidate	Figure 3
Predominant Skin Color	Purplish-red	Pink	Figure 4
Tuber Eye Depth	Intermediate	Deep	Figure 4
Distribution of Tuber Eyes	Evenly Distributed	Predominantly Apical	Figure 4
Corolla Inner Surface Color	82B	84A	RHS Color Chart
Stigma Color	143C	146A	RHS Color Chart
Predominant Skin Color	185B	182B	RHS Color Chart

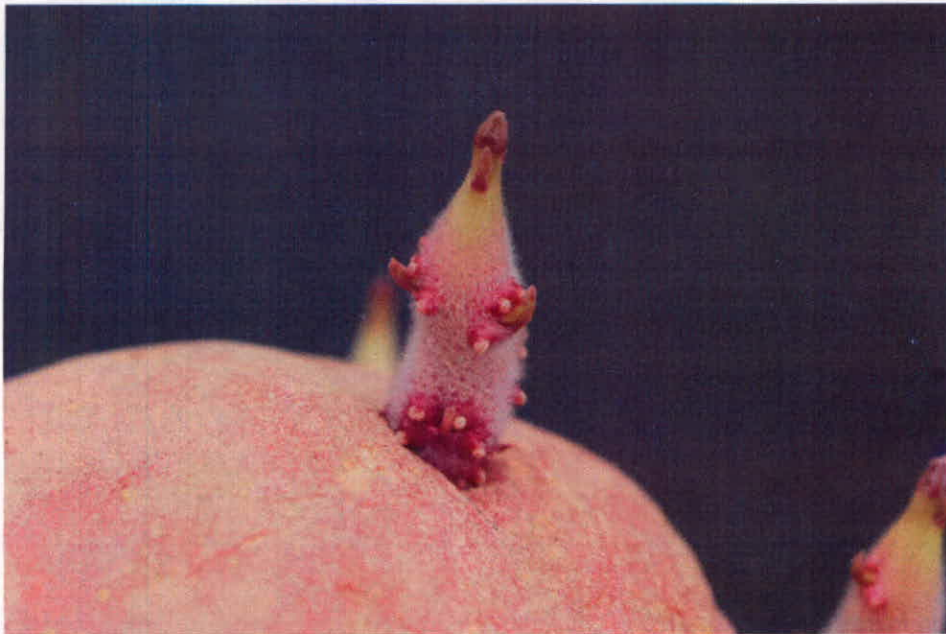
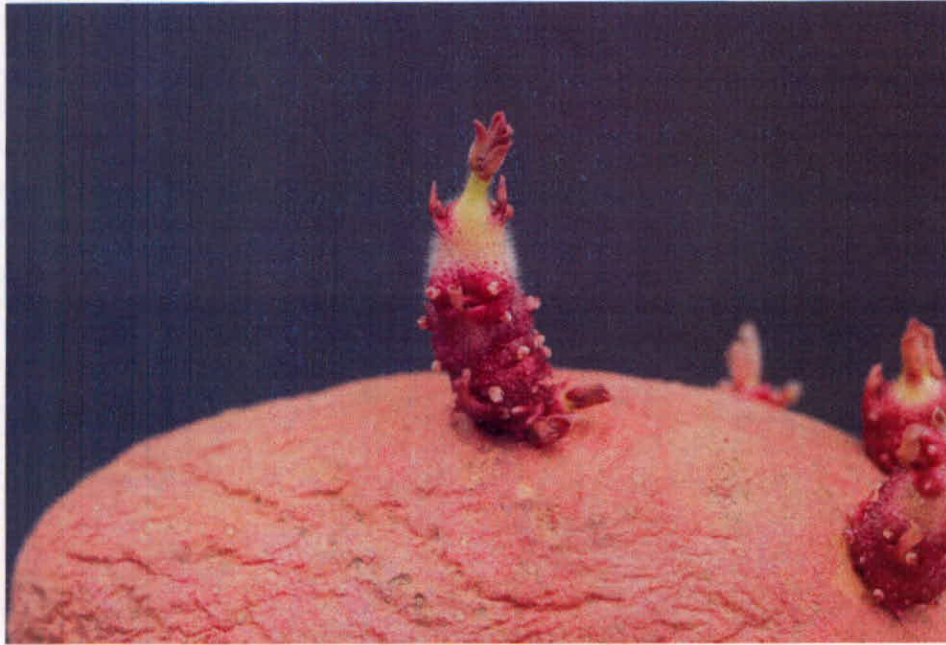
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**Exhibit B (continued)**

**Statement of Distinctness**

**Figure 1. Light Sprout Base: Pubescence of Base, Light Sprout Base: Intensity of Anthocyanin Coloration, Light Sprout Tip: Habit for Colorado Rose (top) and Red LaSoda (bottom).**



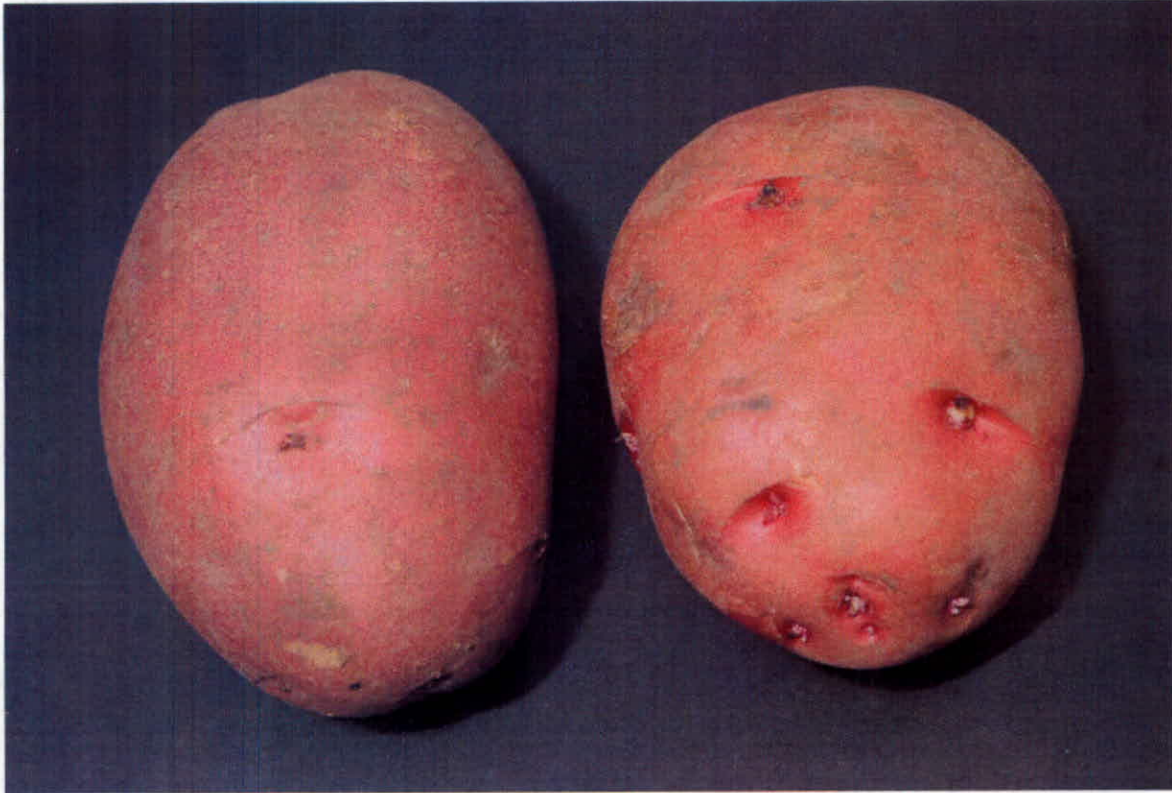
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Exhibit B (continued)

Statement of Distinctness

Figure 2. Predominant Skin Color, Tuber Eye Depth, and Distribution of Tuber Eyes for Colorado Rose (left) and Red LaSoda (right).



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

Form Approved OMB NO 0581-0055

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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.

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).

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**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.

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NAME OF APPLICANT (S) President, Colorado Certified Potato Growers' Association, Inc.	TEMPORARY OR EXPERIMENTAL DESIGNATION CO89097-2R	VARIETY NAME Colorado Rose
David G. Holm, Ph.D. Professor of Horticulture (Potato Breeding) SLV Research Center - CSU 0249 East Road 9 North Center, CO 81125		FOR OFFICIAL USE ONLY
		PVPO NUMBER <div style="font-size: 2em; font-weight: bold; text-align: center;">#200500210</div>

RAP  
slavia

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)
Colorado Rose	Red La Soda			

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 6	R1 6	R2	R3	R4
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**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 3	R1 3	R2	R3	R4
-----	------	----	----	----

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

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

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

**\* LIGHT SPROUT TIP: HABIT**

1 = Closed 2 = Intermediate 3 = Open

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

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2. LIGHT SPROUT CHARACTERISTICS: (continued)

LIGHT SPROUT TIP: PUBESCENCE

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

V	2	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	2	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	5	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

TYPE:

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

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

MATURITY: Days after planting (DAP) at vine senescence

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

PLANTING DATE:

V	5/15	R1	5/15	R2		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	1	R2		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	3	R1	3	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

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4. STEM CHARACTERISTICS: Measure at early first bloom

\* STEM ANTHOCYANIN COLORATION:

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

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

STEM WINGS: (See Figure 3)

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

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

LEAF COLOR CHART VALUE: <sup>XXX</sup> 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	137B	R1	137A	R2		R3		R4	
---	------	----	------	----	--	----	--	----	--

LEAF PUBESCENCE DENSITY:

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

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

LEAF PUBESCENCE LENGTH:

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

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

PETIOLES ANTHOCYANIN COLORATION:

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

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

LEAF STIPULES SIZE: (See Figure 5)

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

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

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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	2	R2		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	4	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

TERMINAL LEAFLET MARGIN WAVINESS:

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

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

NUMBER OF PRIMARY LEAFLET PAIRS: (See Figure 6)

AVERAGE:

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

RANGE:

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

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

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

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

PRIMARY LEAFLET SIZE:

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

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

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

AVERAGE:

V	4.4	R1	6.4	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

RANGE:

V	2 to 9	R1	2 to 11	R2	to	R3	to	R4	to
---	--------	----	---------	----	----	----	----	----	----

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5. LEAF CHARACTERISTICS: (continued)

NUMBER OF INFLORESCENCE/PLANT:

AVERAGE:

V	2.8	R1	3.5	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

RANGE:

V	1 to 8	R1	1 to 8	R2	to	R3	to	R4	to
---	--------	----	--------	----	----	----	----	----	----

NUMBER OF FLORETS/INFLORESCENCE:

AVERAGE:

V	10.8	R1	11.2	R2		R3		R4	
---	------	----	------	----	--	----	--	----	--

RANGE:

V	2 to 21	R1	5 to 18	R2	to	R3	to	R4	to
---	---------	----	---------	----	----	----	----	----	----

XXX

\* 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	82B	R1	84A	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

XXX

\* 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	82C	R1	81C	R2		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	2	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

COROLLA SHAPE: (See Figure 10)

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

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

6. INFLORESCENCE CHARACTERISTICS:

CALYX ANTHOCYANIN COLORATION:

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

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

XXX

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

V	14A	R1	14A	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

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**ANTHER SHAPE:** (See Figure 11)

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

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

**6. INFLORESCENCE CHARACTERISTICS:** (continued)

**POLLEN PRODUCTION:**

1 = None    3 = Some    5 = Abundant

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

**STIGMA SHAPE:** (See Figure 12)

1 = Capitata    2 = Clavate    3 = Bi-lobed

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

XXX

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

V	143C	R1	146A	R2		R3		R4	
---	------	----	------	----	--	----	--	----	--

**BERRY PRODUCTION:** (Under field conditions)

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

V	3	R1	1	R2		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	7	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

XXX

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

V	185B	R1	182B	R2		R3		R4	
---	------	----	------	----	--	----	--	----	--

**SECONDARY SKIN COLOR:**

1 = Absent    2 = Present (please describe)

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

XXX

**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	
---	---	----	---	----	--	----	--	----	--

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7. TUBER CHARACTERISTICS: (continued)

\* 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	3	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

TUBER LENGTH (mm):

AVERAGE:

V	90	R1	80	R2		R3		R4	
---	----	----	----	----	--	----	--	----	--

RANGE:

V	72 to 113	R1	57 to 106	R2	to	R3	to	R4	to
---	-----------	----	-----------	----	----	----	----	----	----

STANDARD DEVIATION:

V	9	R1	11	R2		R3		R4	
---	---	----	----	----	--	----	--	----	--

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	220	R1	187	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

TUBER WIDTH (mm)

AVERAGE:

V	75	R1	73	R2		R3		R4	
---	----	----	----	----	--	----	--	----	--

RANGE:

V	60 to 87	R1	55 to 97	R2		R3		R4	
---	----------	----	----------	----	--	----	--	----	--

STANDARD DEVIATION:

V	5	R1	8	R2		R3		R4	
---	---	----	---	----	--	----	--	----	--

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	220	R1	187	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

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7. TUBER CHARACTERISTICS: (continued)

TUBER THICKNESS (mm):

AVERAGE:

V	60	R1	57	R2		R3		R4	
---	----	----	----	----	--	----	--	----	--

RANGE:

V	49 to 70	R1	43 to 74	R2		R3		R4	
---	----------	----	----------	----	--	----	--	----	--

STANDARD DEVIATION:

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

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	220	R1	187	R2		R3		R4	
---	-----	----	-----	----	--	----	--	----	--

TUBER EYE DEPTH:

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

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

TUBER LATERAL EYES:

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

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

NUMBER EYE/TUBER:

AVERAGE:

V	10	R1	12	R2		R3		R4	
---	----	----	----	----	--	----	--	----	--

RANGE:

V	4 to 18	R1	2 to 21	R2		R3		R4	
---	---------	----	---------	----	--	----	--	----	--

DISTRIBUTION OF TUBER EYES:

1 = Predominantly apical    2 = Evenly distributed

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

PROMINENCE OF TUBER EYEBROWS:

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

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

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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		R3		R4	
---	---	----	---	----	--	----	--	----	--

XXX

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

V	160D	R1	160D	R2		R3		R4	
---	------	----	------	----	--	----	--	----	--

SECONDARY TUBER FLESH COLOR:

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

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

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

COMMON SCAB (Streptomyces)

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

POWDERY SCAB (Spongospora)

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

DRY ROT (Fusarium)

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

POTATO LEAF ROLL VIRUS (PLRV)

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

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8. DISEASES CHARACTERISTICS: (continued)

POTATO VIRUS X (PVX)

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

POTATO VIRUS Y (PVY)

V	7	R1	7	R2		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 Galls

V	7	R1	7	R2		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		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	
---	--	----	--	----	--	----	--	----	--

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

V 4

R1 3

R2

R3

R4

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

V 2.5

R1 3.5

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.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

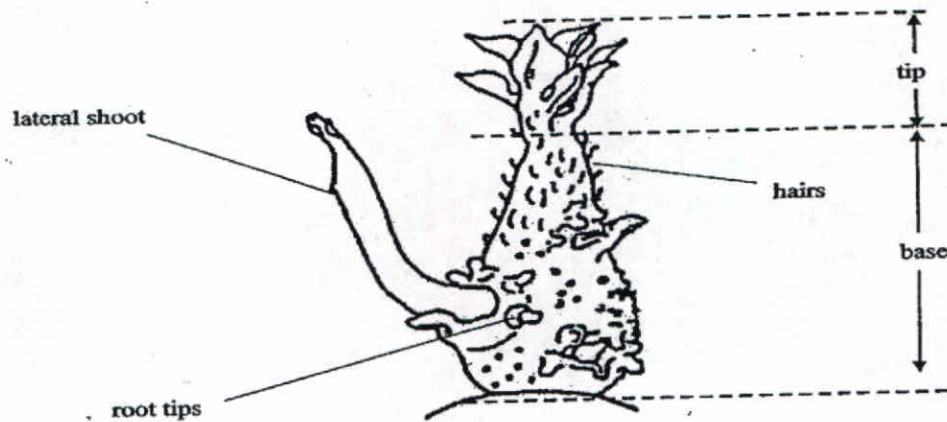
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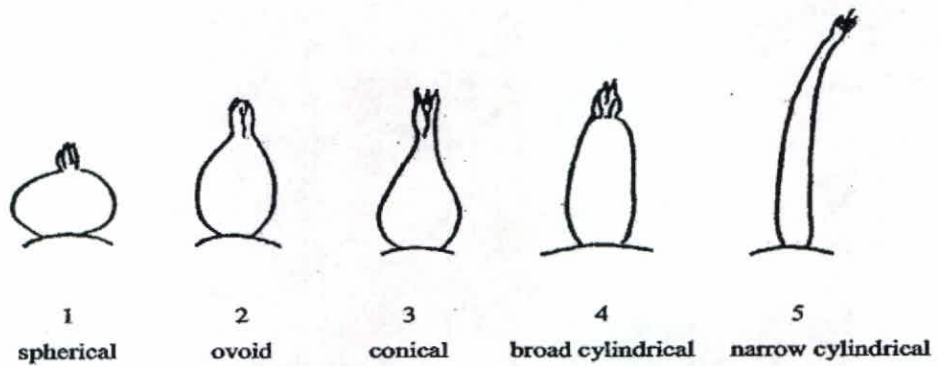
Received Tue 6/1/2010 7:08 PM via E-mail by RAD

Figure 1: Light sprout

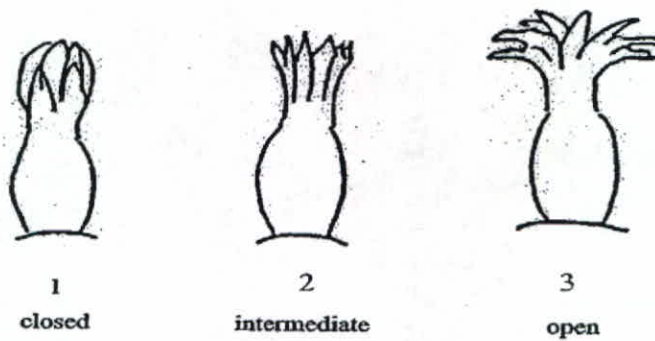
Light sprout dissection



Light sprout shape



Light sprout tip habit



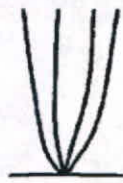
The characteristic should be observed after about 10 weeks to obtain a good differentiation in the collection.

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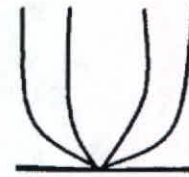
Figure 2: Growth Habit



Erect



Semi Erect



Spreading

Figure 3: Stem Wings



Weak



Medium



Strong

Figure 4: Leaf Silhouette



Closed

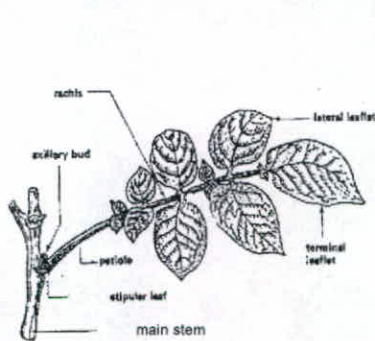


Medium

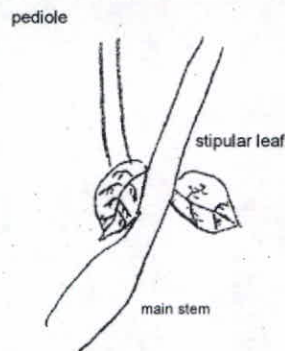


Open

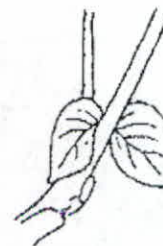
Figure 5: Leaf Stipules



General structures



Small stipular leaf



Medium stipular leaf



Large stipular leaf

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Figure 6: Leaf Dissection

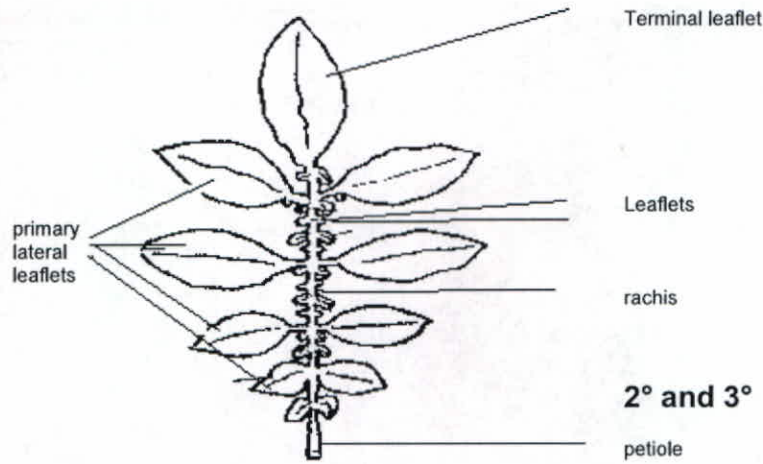


Figure 7: Terminal Leaflet Shape/Primary Leaflet Shape

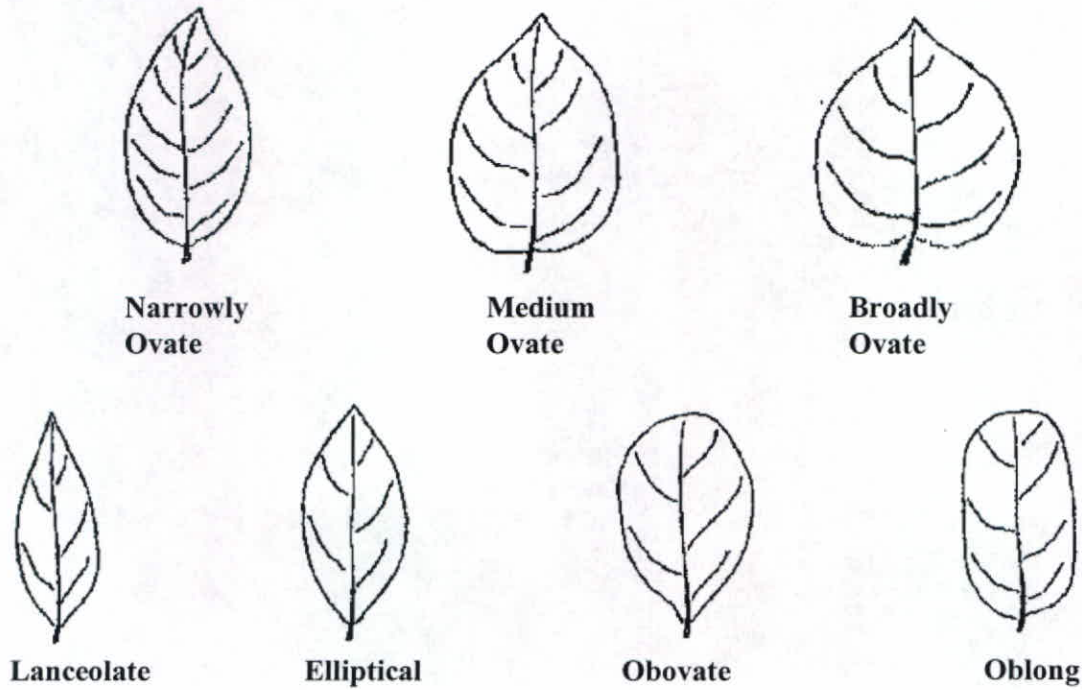
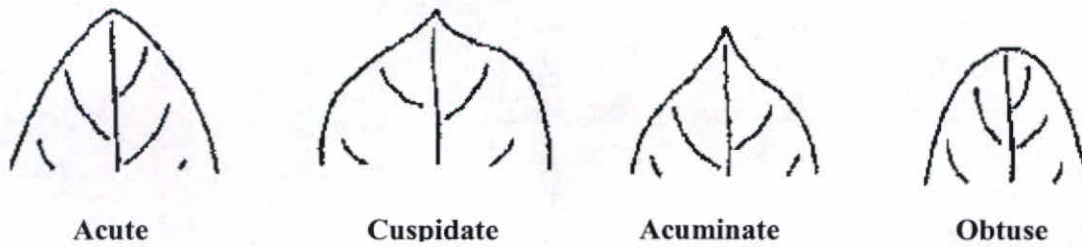


Figure 8: Terminal Leaflet Shape of Tip/Primary Leaflet Shape of Tip



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

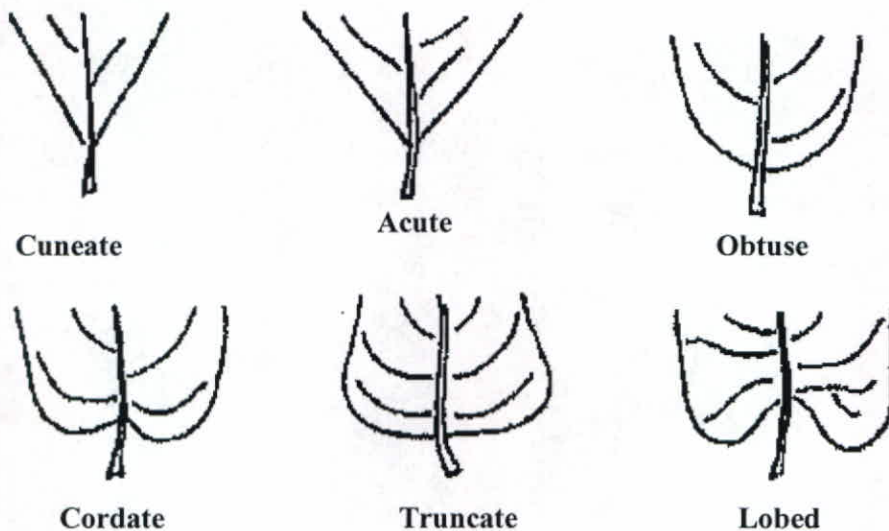


Figure 10: Corolla Shape

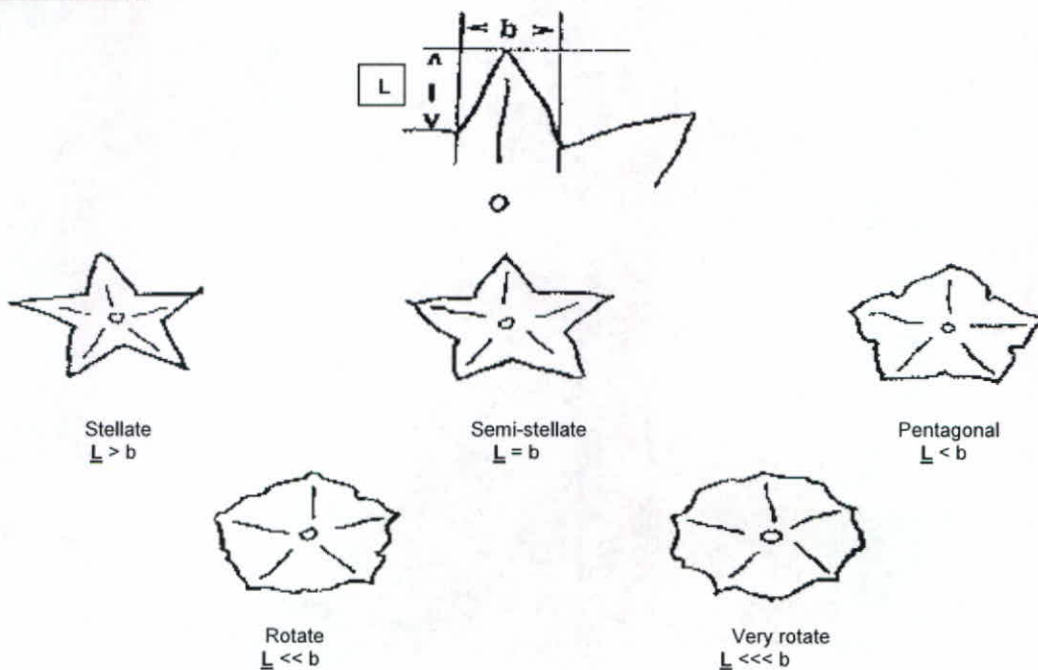
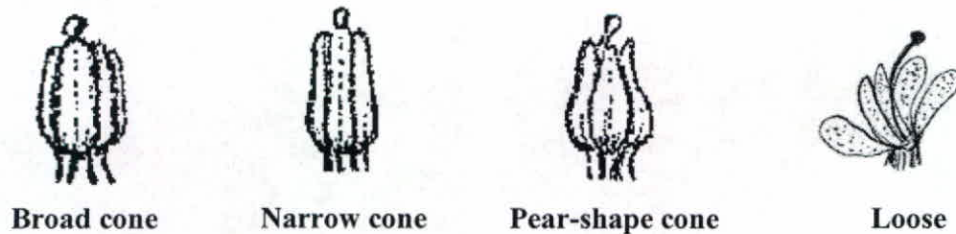


Figure 11: Anther Shape



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Figure 12: Stigma Shape



Capitate



Clavate



Bi-lobed

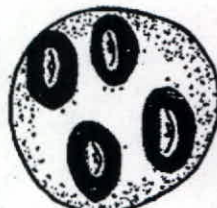
Figure 13: Distribution of Secondary Skin Tuber Color



Eyes



Eyebrows



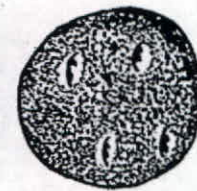
Splashed



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.

27

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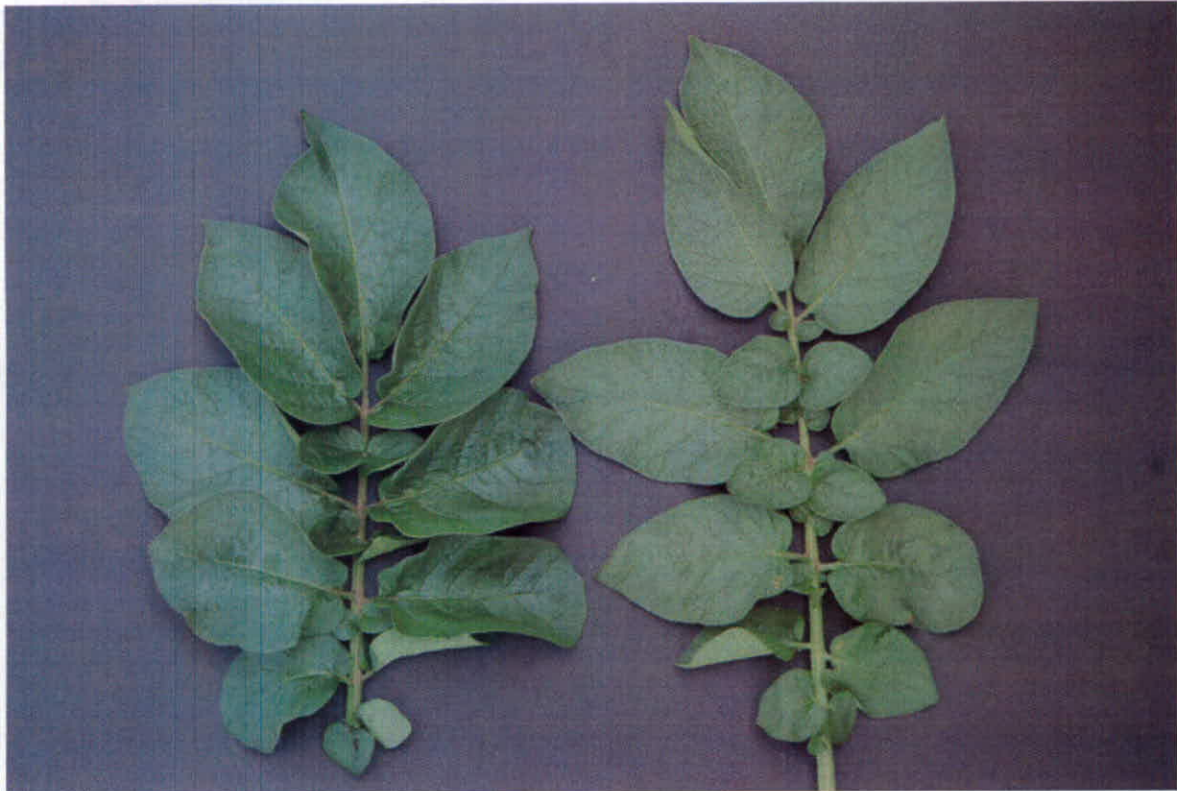
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### Colorado Rose Tuber and Sprout Photos



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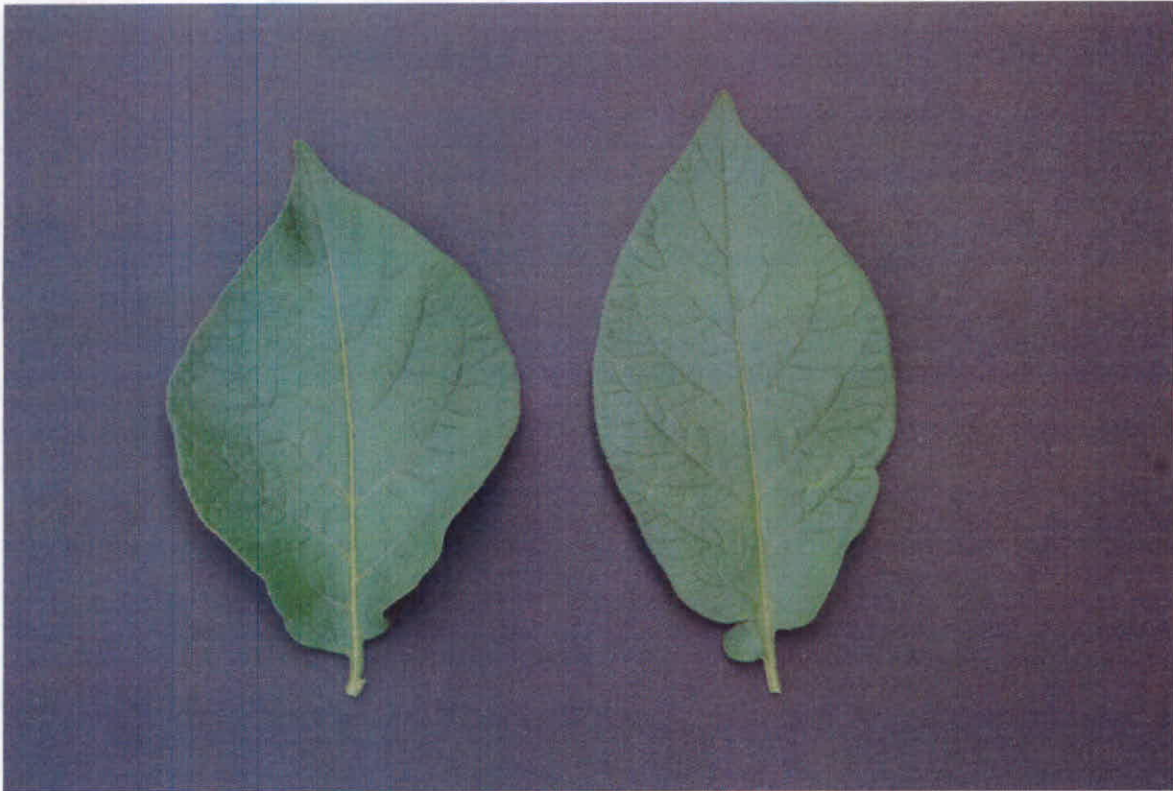
Figure 2. Leaf Silhouette for Colorado Rose (left) and Red LaSoda (right).



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**Figure 3. Terminal Leaflet Shape and Terminal Leaflet Tip Shape for Colorado Rose (left) and Red LaSoda (right).**



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**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.*

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**Appendix 2.**Table 1. Yield and grade of **Colorado Rose** compared with Red LaSoda 2001-2003.

Cultivar	Yield (Cwt/A)				
	Total	US #1			
		Total	%	>10 oz	<4 oz
2001					
<b>Colorado Rose</b>	525	441	83.6	172	60
Red LaSoda	543	459	84.2	165	70
LSD (0.05) <sup>1</sup>	NS	NS	NS	NS	NS
2002					
<b>Colorado Rose</b>	641	530	82.5	146	81
Red LaSoda	625	487	78.0	213	65
LSD (0.05) <sup>1</sup>	NS	NS	NS	51	NS
2003					
<b>Colorado Rose</b>	544	484	89.0	194	54
Red LaSoda	622	555	89.2	333	32
LSD (0.05) <sup>1</sup>	57	61	NS	54	17

<sup>1</sup>LSD=least significant difference.

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Table 2. Plant characteristics for **Colorado Rose** compared with Red LaSoda, 2001-2003.

Clone	% Stand	Vine Size <sup>1</sup>	Vine Maturity <sup>2</sup>	Specific Gravity
2001				
<b>Colorado Rose</b>	98	3.3	2.8	1.084
Red LaSoda	97	3.8	2.5	1.091
LSD (0.05) <sup>3</sup>	NS	NS	0.5	---
2002				
<b>Colorado Rose</b>	100	3.3	2.3	1.086
Red LaSoda	100	3.3	2.5	1.082
LSD (0.05) <sup>3</sup>	4	0.7	0.5	---
2003				
<b>Colorado Rose</b>	93	3.0	3.0	1.083
Red LaSoda	95	3.5	3.0	1.080
LSD (0.05) <sup>3</sup>	NS	0.5	NS	---

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

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

<sup>3</sup>LSD=least significant difference; NS=not significant.

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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' Association Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  CO89097-2R	3. VARIETY NAME  Colorado Rose
David G. Holm, Ph.D. Professor of Horticulture (Potato Breeding) SLV Research Center - CSU 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  <b>200500210</b>		

RAD  
5/21/10

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.

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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 CO89097-2R
NAME OF OWNER REPRESENTATIVE (S)  David G. Holm, Ph.D. Professor of Horticulture (Potato Breeding) SLV Research Center - CSU 0249 East Road 9 North Center, CO 81125	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)  ADD 5/21/10	VARIETY NAME Colorado Rose  FOR OFFICIAL USE ONLY  PVPO NUMBER #200500210

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

1-31-05  
\_\_\_\_\_  
Date

#500200810

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