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

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Potato (*Solanum tuberosum* L.)

INSTRUCTIONS

The Objective Description Form:

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

Test Guidelines:

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

Reference Varieties:

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

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

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

Characteristics:

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

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

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

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

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

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

Quality characteristics should be described according to the market use.

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

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

Legend:

V = Application Variety

R1-R4 = Reference Varieties

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

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

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

Application Variety (V)	Most Similar Variety (R1)	Reference Variety (R2)	Reference Variety (R3)	Reference Variety (R4)

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

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

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

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

***LIGHT SPROUT BASE: ANTHOCYANIN COLORATION**

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

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

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

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

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

*** LIGHT SPROUT TIP: HABIT**

1 = Closed 2 = Intermediate 3 = Open

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

2. LIGHT SPROUT CHARACTERISTICS: (continued)**LIGHT SPROUT TIP: PUBESCENCE**

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

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

LIGHT SPROUT TIP ANTHOCYANIN COLORATION

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

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

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

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

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

LIGHT SPROUT ROOT INITIALS: FREQUENCY

1 = Absent 2 = Some 3 = Abundant

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

TYPE:

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

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

MATURITY: Days after planting (DAP) at vine senescence

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

PLANTING DATE:

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

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

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

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

STEM WINGS: (See Figure 3)

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

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

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

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

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

LEAF PUBESCENCE DENSITY:

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

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

LEAF PUBESCENCE LENGTH:

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

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

PETIOLES ANTHOCYANIN COLORATION:

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

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

LEAF STIPULES SIZE: (See Figure 5)

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

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

5. LEAF CHARACTERISTICS: (continued)**TERMINAL LEAFLET TIP SHAPE:** (See Figures 6 and 8)

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

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

TERMINAL LEAFLET MARGIN WAVINESS:

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

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

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

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

RANGE:

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

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

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

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

PRIMARY LEAFLET SIZE:

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

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

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

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

RANGE:

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

5. LEAF CHARACTERISTICS: (continued)**NUMBER OF INFLORESCENCE/PLANT:****AVERAGE:**

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

RANGE:

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

NUMBER OF FLORETS/INFLORESCENCE:**AVERAGE:**

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

RANGE:

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

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

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

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

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

COROLLA SHAPE: (See Figure 10)

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

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

6. INFLORESCENCE CHARACTERISTICS:**CALYX ANTHOCYANIN COLORATION:**

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

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

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

ANTHER SHAPE: (See Figure 11)

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

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

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

1 = None 3 = Some 5 = Abundant

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

STIGMA SHAPE: (See Figure 12)

1 = Capitate 2 = Clavate 3 = Bi-lobed

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

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

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

BERRY PRODUCTION: (Under field conditions)

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

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

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

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

SECONDARY SKIN COLOR:

1 = Absent 2 = Present (please describe)

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

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

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

SECONDARY SKIN COLOR DISTRIBUTION: (See Figure 13)

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

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

SKIN TEXTURE:

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

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

7. TUBER CHARACTERISTICS: (continued)*** TUBER SHAPE:** (See Figure 14)

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

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

TUBER THICKNESS:

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

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

TUBER LENGTH (mm):**AVERAGE:**

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

RANGE:

V	to
---	----

R1	to
----	----

R2	to
----	----

R3	to
----	----

R4	to
----	----

STANDARD DEVIATION:

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

TUBER WIDTH (mm)**AVERAGE:**

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

RANGE:

V	to
---	----

R1	to
----	----

R2	to
----	----

R3	to
----	----

R4	to
----	----

STANDARD DEVIATION:

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

V	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

7. TUBER CHARACTERISTICS: (continued)**TUBER THICKNESS (mm):****AVERAGE:**

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

RANGE:

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

STANDARD DEVIATION:

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

AVERAGE WEIGHT OF SAMPLE TAKEN (g):

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

TUBER EYE DEPTH:

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

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

TUBER LATERAL EYES:

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

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

NUMBER EYE/TUBER:**AVERAGE:**

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

RANGE:

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

DISTRIBUTION OF TUBER EYES:

1 = Predominantly apical 2 = Evenly distributed

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

PROMINENCE OF TUBER EYEBROWS:

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

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

7. TUBER CHARACTERISTICS: (continued)

PREDOMINANT TUBER FLESH COLOR

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

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

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

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

SECONDARY TUBER FLESH COLOR:

1 = Absent 2 = Present, please describe: _____

V		R1		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	
---	--	----	--	----	--	----	--	----	--

8. DISEASES CHARACTERISTICS:

DISEASES REACTION: 0 = Not Tested 1 = Highly Resistant 2 = Resistant Few Symptoms 3 = Resistance Few Lessions 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		R1		R2		R3		R4	
---	--	----	--	----	--	----	--	----	--

DRY ROT (Fusarium)

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

POTATO LEAF ROLL VIRUS (PLRV)

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

8. DISEASES CHARACTERISTICS: (continued)**POTATO VIRUS X (PVX)**

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

POTATO VIRUS Y (PVY)

V		R1		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 _____

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

PHYSIOLOGICAL DISORDER

1 = Malformed shape
6 = Blackheart

2 = Tuber cracking
7 = Internal sprouting

3 = 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:

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	
---	--

R1	
----	--

R2	
----	--

R3	
----	--

R4	
----	--

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

V	
---	--

R1	
----	--

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., protein or DSN electrophoresis). Please attach data and the corresponding protocol.

13. FINGER PRINTING MARKERS:

ISOZYMES 1 = YES 2 = NO ☐

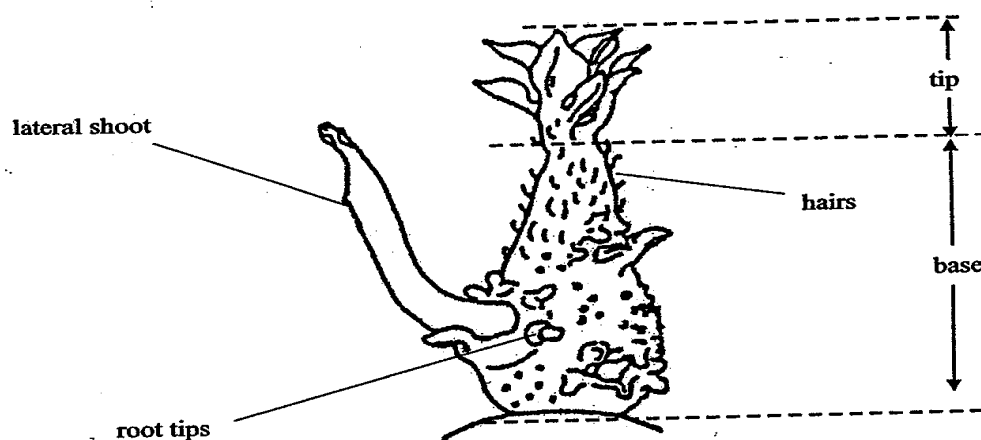
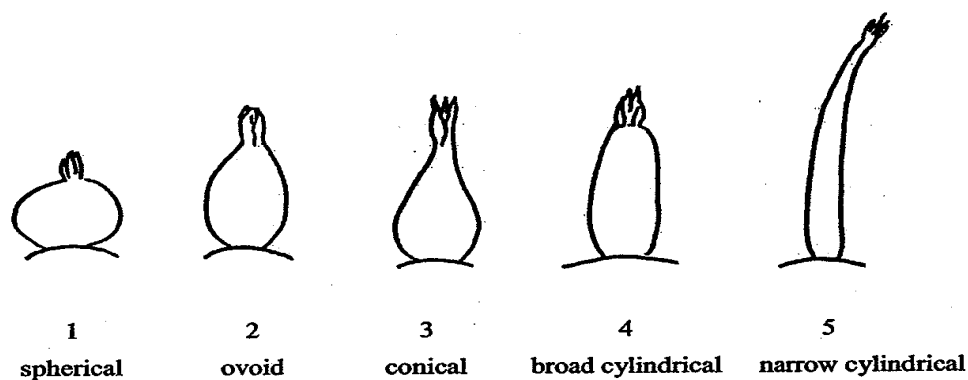
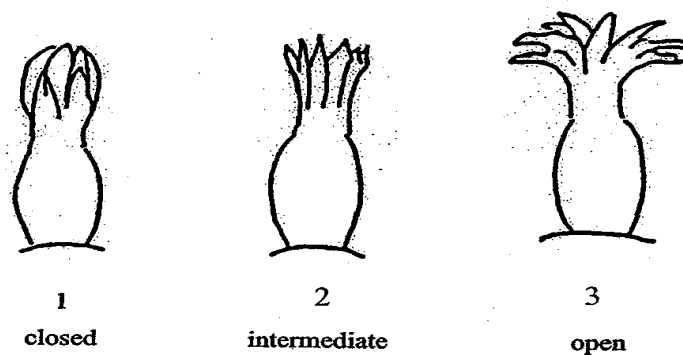
IF YES, attach information

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 1: Light sprout**Light sprout dissection****Light sprout shape****Light sprout tip habit**

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

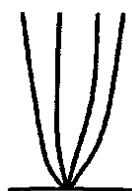
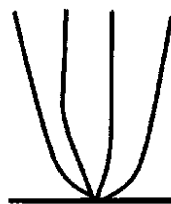
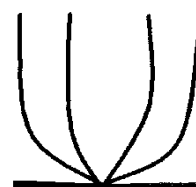
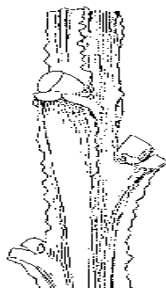
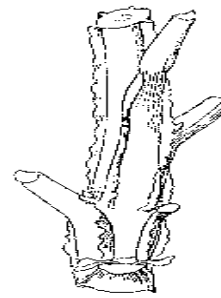
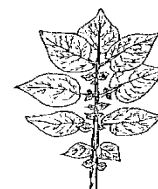
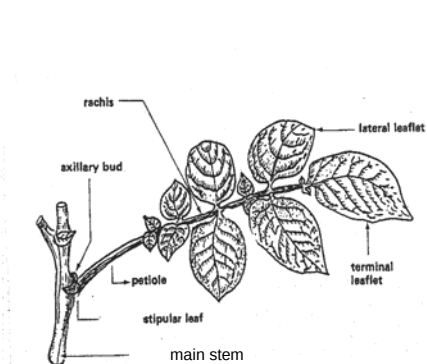
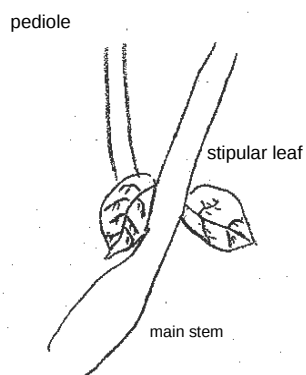
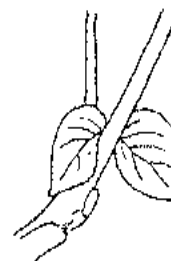
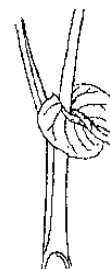
Figure 2: Growth Habit**Erect****Semi Erect****Spreading****Figure 3: Stem Wings****Weak****Medium****Strong****Figure 4: Leaf Silhouette****Closed****Medium****Open****Figure 5: Leaf Stipules****General structures****Small stipular leaf****Medium stipular leaf****Large stipular leaf**

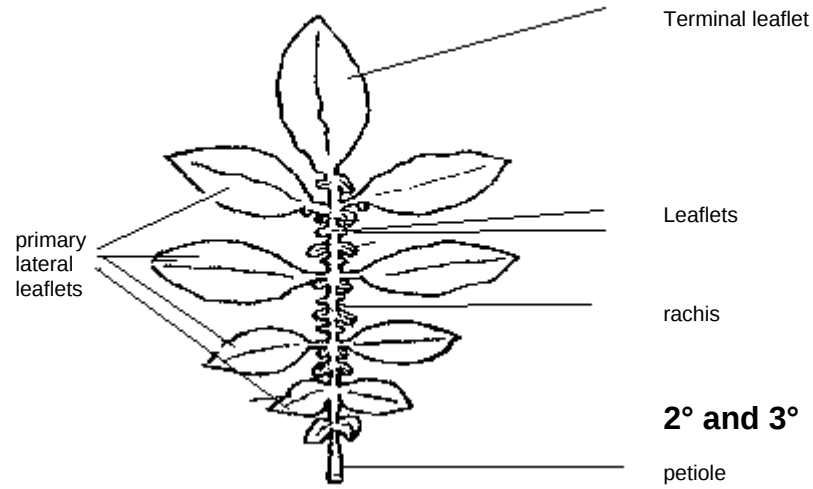
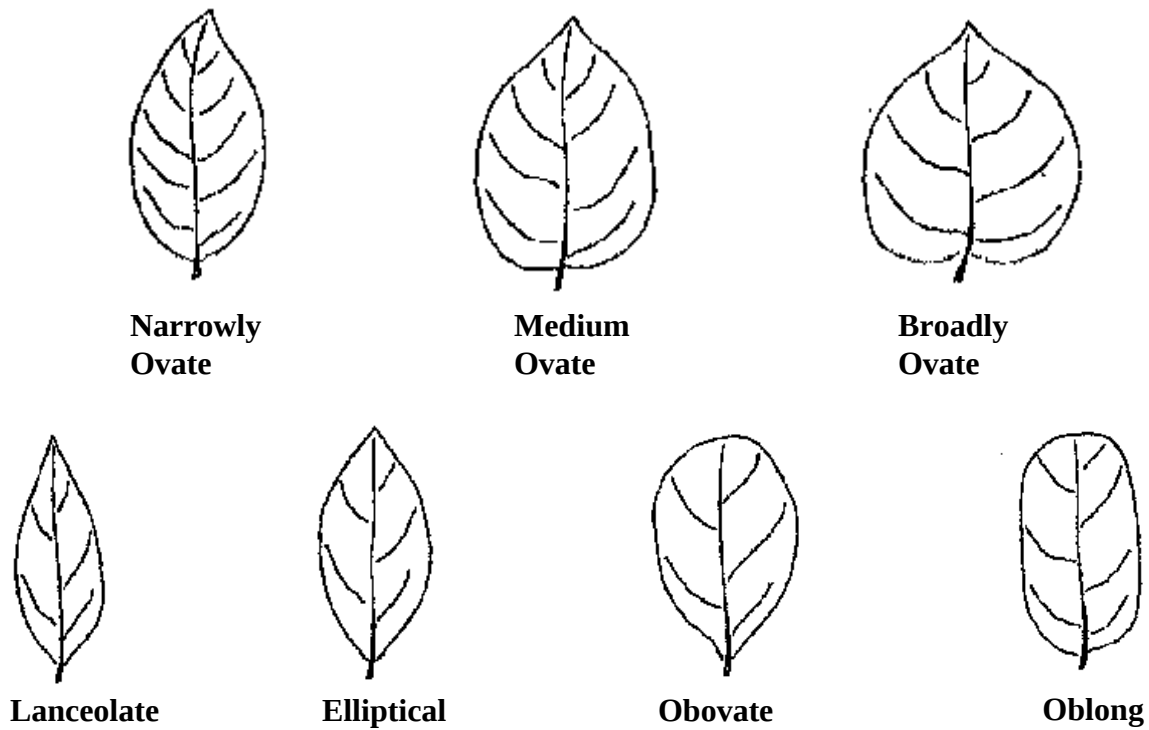
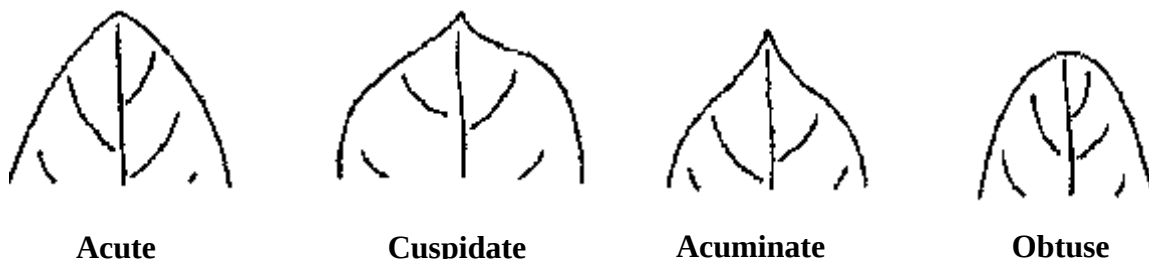
Figure 6: Leaf Dissection**Figure 7: Terminal Leaflet Shape/Primary Leaflet Shape****Figure 8: Terminal Leaflet Shape of Tip/Primary Leaflet Shape of Tip**

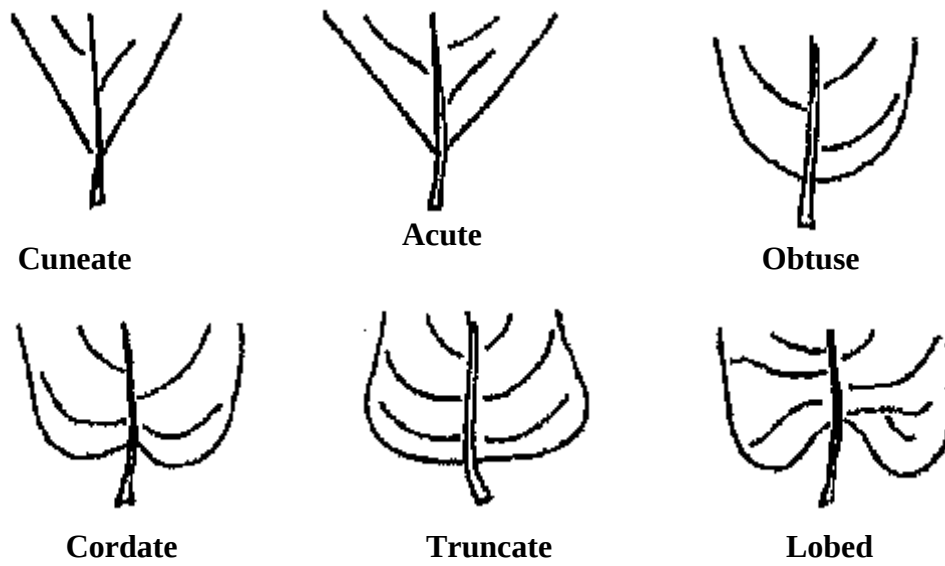
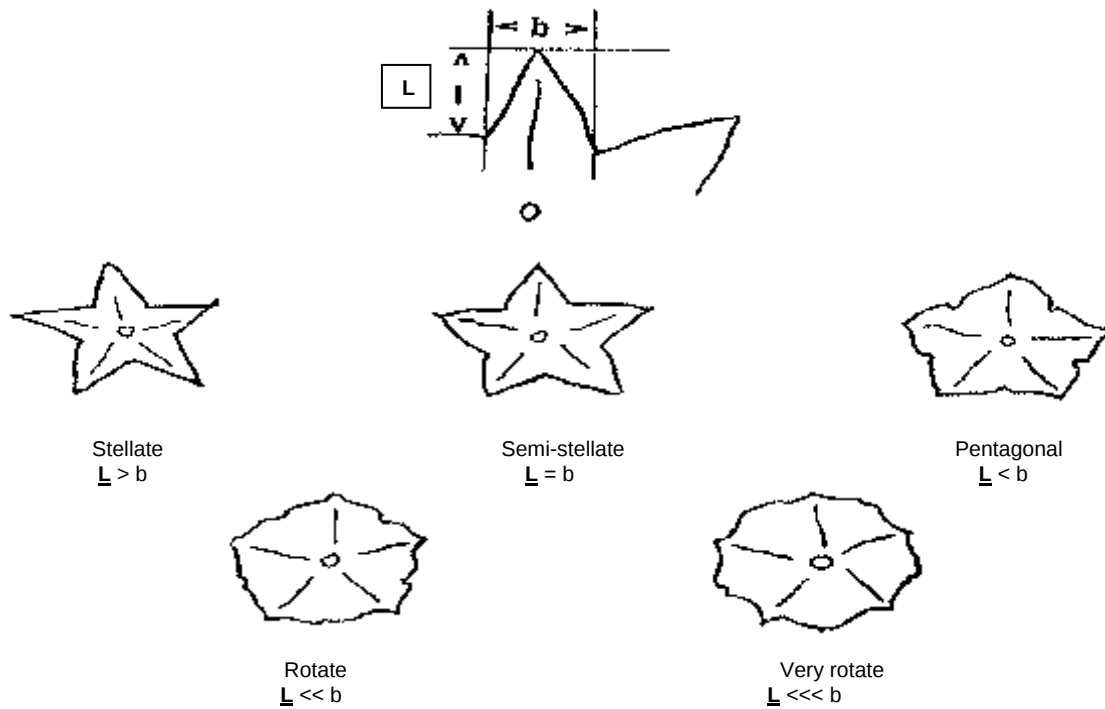
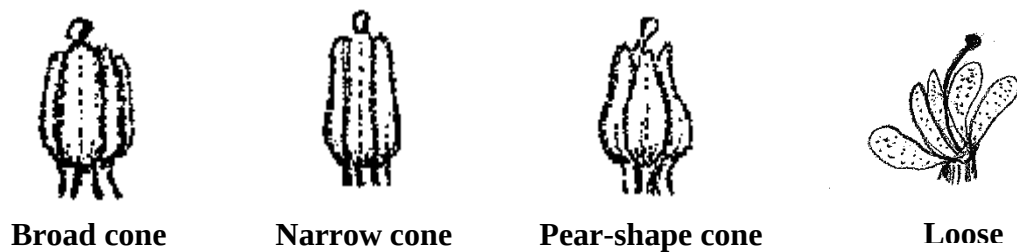
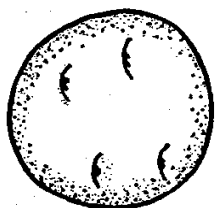
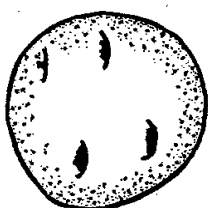
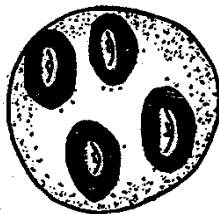
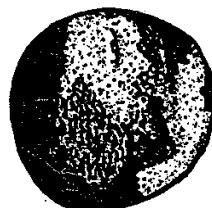
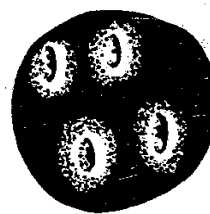
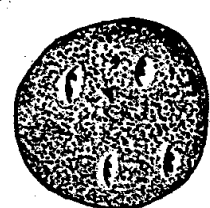
Figure 9: Terminal Leaflet Shape of Base/Primary Leaflet Shape of Base**Figure 10: Corolla Shape****Figure 11: Anther Shape**

Figure 12: Stigma Shape**Capitate****Clavate****Bi-lobed****Figure 13: Distribution of Secondary Skin Tuber Color****Eyes****Eyebrows****Splashed****Scattered****Spectacled****Stippled****Figure 14: Tuber Shape****Compressed****Round****Oval****Oblong****Long****References:**

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

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

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