



MORPHOLOGICAL DESCRIPTOR

POTATO (*Solanum tuberosum*L.)



Federal Seed Certification & Registration Department
Ministry of Food, Agriculture & Livestock
Government of Pakistan, Islamabad

*Testing Genetic Suitability and Adaptability: and Registration of
Crop Varieties is Legal Obligation under Section 8 of Seed Act,
1976.*

Dr. M. Ashraf Tajammal
Ms. Naheed Naz

GENERAL:

Variety name

Parentage

Pedigree

Breeder (s)

Comparable variety (s)

Breeding center/institute

Variety maintainer

Origin Local Exotic

Breeding method Selection Hybridization Introduction Any other

Areas of adaptation

Planting time

Maturity duration Short Medium Long

SPROUT CHARACTERISTICS:

Sprout size Small Medium Large

Sprout shape Spherical Conical Broad cylindrical Narrow cylindrical

Predominant sprout color White Pink Red Violet Purple Other
green

Secondary sprout color Absent White green Pink Red Violet Purple

Distribution of Secondary Absent At the base At the Lightly Heavily Other
sprout color apex scattered scattered

No. of Sprouts/tuber/.....

Sprout pubescence Absent Weak Medium Strong V. strong

Sprout size of tip V. small Small Medium Large V. large

Sprout habit of tip Closed Medium Open

Sprout intensity V. weak Weak Medium Strong V. strong

ROOT CHARACTERISTICS:

Root number Few Medium Many

Root protrusion Weak Medium Strong

PLANT CHARACTERISTICS:

Growth habit Erect Semi erect Decumbent Prostrate Semi
rosette Rosette

Plant height at flowering (cm)

Shoot length Short Medium Long

Shoot height (cm)

No. of shoot Single Few (1-3) Medium Many

STEM CHARACTERISTICS:

Stem type Stem type Intermediate Leaf type

Stem habit Erect Semi erect Spreading

Stem thickness Thin Medium Thick

Stem extension Absent V. weak Weak Medium Strong V. strong

Stem cross section Round Conical

LEAF CHARACTERISTICS:

Leaf size V. small Small Medium Large V. large

Leaflet shape Ovate Oblong

Silhouette Closed Medium Open

Leaf intensity Light Medium Dark

Leaf extension Absent V. weak Weak Medium Strong V. strong

Leaf dissection Undissected Pinnatilobed

Degree of dissection Scarcely Weakly Medium Strong V. strong

Abaxial leaf pubescence Glabrous Glabrescent Pubescence Strongly pubescent

- Adaxial leaf pubescence Glabrous Glabrescent Pubescence Strongly pubescent
 Type of hairs Absent Simple trichomes Simple trichomes & glandular
 Simple trichomes & sticky glandular Simple trichomes with both glandular & sticky type

LEAFLET CHARACTERISTICS:

- Leaflet size V. small Small Medium Large V. large
 Leaflet width Narrow Medium Broad
 Leaflet frequency Low Medium High
 Leaflet waviness None V. weak Weak Medium Strong V. strong
 Leaflet anthocyanin Absent Present
 Leaflet glossiness Dull Medium Glossy
 Midrib frequency Nil V. low Low Medium High V. high
 Leaflet terminal Nil V. low Low Medium High V. high
 Lateral Nil V. low Low Medium High V. high

INFLORESCENCE CHARACTERISTICS:

- Size Small Medium Large
 Anthocyanin Absent V. weak Weak Medium Strong V. strong

FLOWER CHARACTERISTICS:

- Flower anthocyanin Absent V. weak Weak Medium Strong V. strong
 Flower size V. small Small Medium Large V. large
 Flower color White Red violet Blue violet
 Calyx color Green Red Purple Green with some red Green with some purple
 Red with some green Purple with some green
 Calyx symmetry Irregular Regular
 Corolla shape Stellate Semi-stellate Pentagonal Rotate V. rotate
 Stamen formaion Normal Shrivelled Partly fused Free & Divergent
 Style length Shorter than anther and Straight Shorter than anther and S shaped
 Equal to anther Longer than anther Much longer than anther
 Stigma shape Capitata Clavate Bilobed
 Frequency of fruits Absent V. few Few Medium Many

TUBER CHARACTERISTICS:

- Tuber shape Oblate Round Ovate Obovate Elliptic Oblong Long oblong
 Depth of tuber eyes V. shallow Shallow Medium Deep V. deep
 Tuber skin texture Smooth Medium Rough
 Color of tuber skin Yellow Brownish Red Purplish red Purple Parti-colored
 Dark purple black
 Predominant tuber flesh Color Cream Light yellow Yellow Dark yellow
 Secondary tuber flesh color Absent White Cream Yellow cream Yellow Dark yellow
 Distribution of secondary tuber flesh color Absent Scattered spots Scattered areas Narrow vascular ring
 Broad vascular ring Vascular ring & medulla (pith) All flesh except medulla (pith) Other

ENVIRONMENTAL ADAPTABILITY: (Evaluation done under define conditions)

Flowering Response to seasons Stable Variable Highly variable

Drought tolerance Least tolerant Medium Most tolerant
(Measured as reduction in yield).

Tolerance to salinity Least tolerant Medium Most tolerant
(Measured by reduction in plant height 30 days after sowing).

Tolerance to acid soils Least tolerant Medium Most tolerant
(Measured as reduction in plant height 30 days after sowing).

Cold tolerance Least tolerant Medium Most tolerant
(Measured as reduction in general vigour and productivity after being continuously exposed to an average temperature of 15 °C for at least 15 days).

Heat tolerance Least tolerant Medium Most tolerant
(Measured as yield reduction when continuously exposed to average of 40 °C during the flowering period).

RESISTANCE TO INSECTS/PESTS:

.....
.....
.....
.....
.....

RESISTANCE TO DISEASES:

.....
.....
.....
.....

DISTINGUISHING CHARACTERISTICS:

.....
.....
.....
.....

RECOMMENDED/APPROVED BY:

Variety Evaluation Committee (VEC)
Experts Sub Committee
Provincial Seed Council

<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Yes	<input type="checkbox"/> No

COMMENTS OF SPOT EXAMINATION:

.....
.....
.....
.....
.....

ADDITIONAL INFORMATION:

.....
.....
.....
.....

POTATO LEAF



Oval leaflets

LEAF DISSECTION



Un-dissected



Pinnatilobed

DEGREE OF DISSECTION



Scarcely



Weakly



Medium



Strong



V. strong

CALYX SYMMETRY



Irregular



Regular

COROLLA SHAPE



Stellate



Semi stellate



Pentagonal



Rotate



V. rotate

STAMEN FORMATION



Normal



Shivelled



Partly fused



Free & Divergent

STIGMA SHAPE



Capitata



Clavate

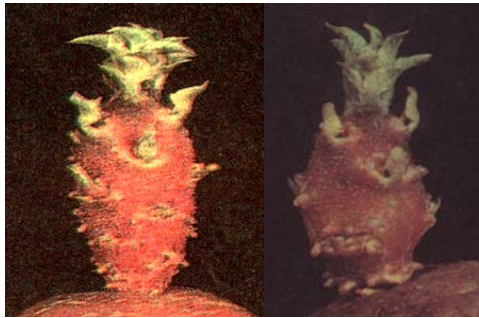


Bilobed

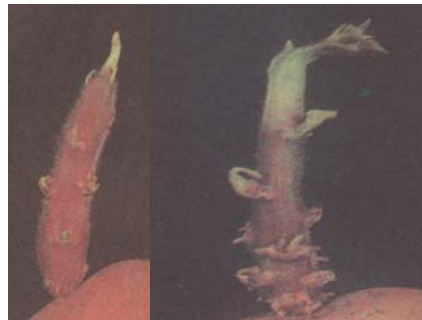
SPROUT SHAPE



Conical

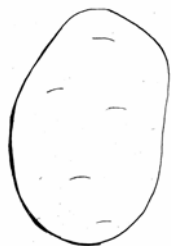


Broad cylindrical

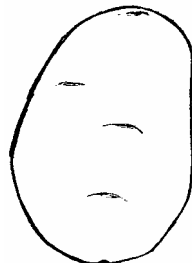


Narrow cylindrical

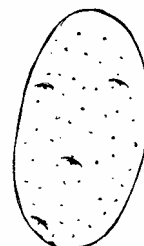
DEPTH OF TUBER EYES



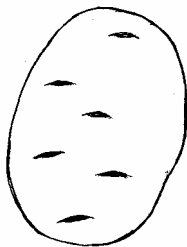
V. shallow



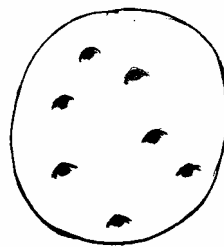
Shallow



Medium



Deep



V. deep

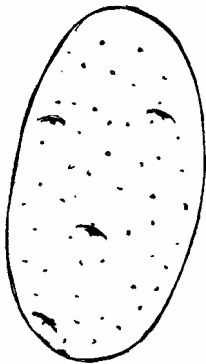
TUBER SHAPE



Oblate



Round



Short oval



Long oval



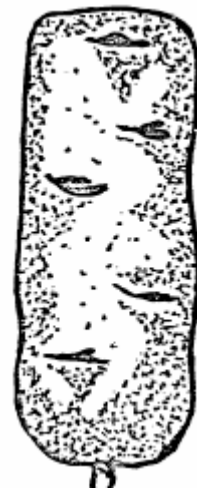
Obovate



Elliptic

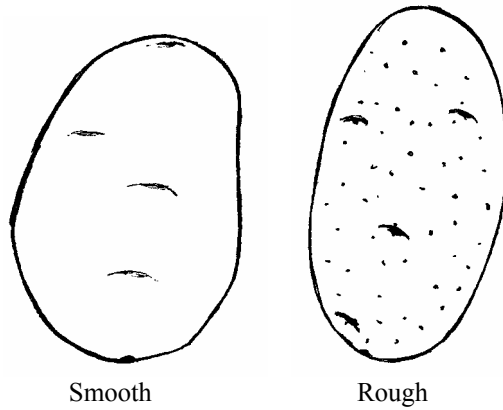


Oblong



Long oblong

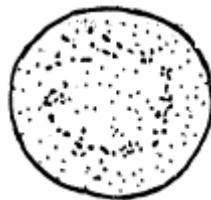
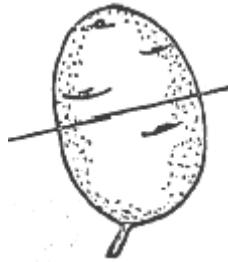
TUBER SKIN TEXTURE



Smooth

Rough

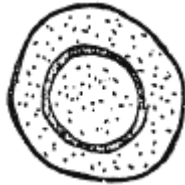
DISTRIBUTION OF SECONDARY TUBER FLESH COLOR



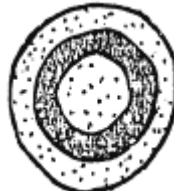
Scattered spots



Scattered areas



Narrow vascular ring



Broad vascular ring

