



MORPHOLOGICAL DESCRIPTOR

CITRUS SPP.



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

Species

Breeding center/institute

Areas of adaptation

Parentage

Rootstock name

Scion name

Origin of rootstock

Origin of scion

Type of maintenance

Type of vegetative production

Scion/rootstock compatibility

Flowering season/month

Fruiting set

Fruit ripening

TREE CHARACTERISTICS

Tree shape Ellipsoid Spheroid Obloid

Main branching attitude (at full flowering, with no fruit at all) Upright Spreading Drooping

Young shoots anthocyanin Absent Present

Height (m)

ONE YEAR OLD SHOOT CHARACTERISTICS

Attitude Upright Spreading Drooping

Shoot thickness (cm)

Internode length (cm)

LEAF CHARACTERISTICS

Leaf shape Elliptic Ovate Obovate Lanceolate Orbicular Obcordate

Leaf blade in cross section Straight Concave

Leaf lamina margin Crenate Dentate Entire Sinuate

Leaf blade undulation Absent Present

Leaf blade firmness Weak Medium Strong

Petiole development of wing Absent Rudimentary Well developed

Petiole wing shape Obcordate Ob deltate Obovate

Petiole width of wings Small Medium Large

Leaf lamina attachment Sessile Brevipetiolate Longipetiolate

FLOWER CHARACTERISTICS

Terminal flowers buds anthocyanin Absent Present

Flowers number of stamens Few Medium Many

Style development Incomplete Complete

Anther color White Pale yellow Yellow

Inflorescence type Single Clustered

FRUIT CHARACTERISTICS

Fruit size Small Medium Large

Fruit shape Oblate Globose Ovoid Ellipsoid Obovoid Pyriform

Fruit shape of basal end Long necked Short necked Evenly rounded Truncate Moderately depressed Deeply depressed

Fruit shape of distal end Depressed Truncate Rounded Slightly bulged Prominently bulged

Morphological Descriptor**Citrus**

Fruit surface color	<input type="checkbox"/> Green to yellow	<input type="checkbox"/> Yellow	<input type="checkbox"/> Yellow to orange	<input type="checkbox"/> Orange to red	<input type="checkbox"/> Red	
Fruit relief of surface	<input type="checkbox"/> Smooth	<input type="checkbox"/> Ribbed	<input type="checkbox"/> Bumpy	<input type="checkbox"/> Wrinkled		
Conspicuous of rind oil glands	<input type="checkbox"/> Conspicuous	<input type="checkbox"/> V. conspicuous				
Density of rind oil gland	<input type="checkbox"/> Sparse	<input type="checkbox"/> Medium	<input type="checkbox"/> Dense			
Fruit areola	<input type="checkbox"/> Absent	<input type="checkbox"/> Present				
Fruit thickness of rind	<input type="checkbox"/> Thin	<input type="checkbox"/> Medium	<input type="checkbox"/> Thick			
Fruit adherence of rind to flesh	<input type="checkbox"/> V. Weak	<input type="checkbox"/> Weak	<input type="checkbox"/> Medium	<input type="checkbox"/> Strong	<input type="checkbox"/> V. strong	
Color of albedo	<input type="checkbox"/> White	<input type="checkbox"/> Greenish	<input type="checkbox"/> Pinkish	<input type="checkbox"/> Reddish		
Main color of flesh in cross section	<input type="checkbox"/> Pale green	<input type="checkbox"/> Yellow	<input type="checkbox"/> Orange	<input type="checkbox"/> Pink	<input type="checkbox"/> Red	
Distribution of red color	<input type="checkbox"/> Uneven	<input type="checkbox"/> Even				
Structure of columella	<input type="checkbox"/> Hollow	<input type="checkbox"/> Semi hollow	<input type="checkbox"/> Solid			
Diameter of columella	<input type="checkbox"/> Small	<input type="checkbox"/> Medium	<input type="checkbox"/> Large			
Number of segments					
Fruit juiciness	<input type="checkbox"/> Weak	<input type="checkbox"/> Medium	<input type="checkbox"/> Strong			
Color of juice	<input type="checkbox"/> L. green	<input type="checkbox"/> Yellow	<input type="checkbox"/> Yellow to orange	<input type="checkbox"/> Orange	<input type="checkbox"/> Red to orange	<input type="checkbox"/> Red
Juice acidity	<input type="checkbox"/> V. low	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	<input type="checkbox"/> V. high	
Strength of fiber	<input type="checkbox"/> Weak	<input type="checkbox"/> Medium	<input type="checkbox"/> Strong			

SEED CHARACTERISTICS

Seed color (outer)	<input type="checkbox"/> Ivory	<input type="checkbox"/> Greenish	<input type="checkbox"/> Yellowish	<input type="checkbox"/> Brownish		
Seed shape	<input type="checkbox"/> Fusiform	<input type="checkbox"/> Clavate	<input type="checkbox"/> Cuneiform	<input type="checkbox"/> Ovoid	<input type="checkbox"/> Semi deltoid	<input type="checkbox"/> Spheroid
	<input type="checkbox"/> Semi spheroid					
Seed color (internal)	<input type="checkbox"/> White	<input type="checkbox"/> Brown	<input type="checkbox"/> Red			
Color of cotyledon	<input type="checkbox"/> White	<input type="checkbox"/> Green	<input type="checkbox"/> White to green			
Seed polyembryony	<input type="checkbox"/> Absent	<input type="checkbox"/> Present				
Time of fruit maturity	<input type="checkbox"/> V. early	<input type="checkbox"/> Early	<input type="checkbox"/> Medium	<input type="checkbox"/> Late	<input type="checkbox"/> V. late	

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

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RESISTANCE TO DISEASES

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DISTINGUISHING CHARACTERISTICS

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RECOMMENDED/APPROVED BY

Variety Evaluation Committee (VEC)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Experts Sub Committee	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Provincial Seed Council	<input type="checkbox"/> Yes	<input type="checkbox"/> No

COMMENTS OF SPOT EXAMINATION

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ADDITIONAL INFORMATION

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TREE SHAPE



Ellipsoid



Spheroid



Obloid

**MAIN BRANCHES ATTITUDE
(AT FULL FLOWERING, WITH NO FRUIT ON TREE)**



Upright

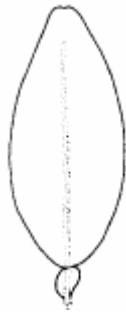


Spreading



Drooping

LAMINA SHAPE



Elliptic



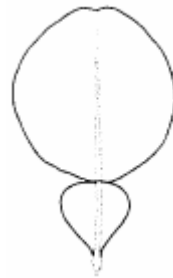
Ovate



Obovate



Lanceolate

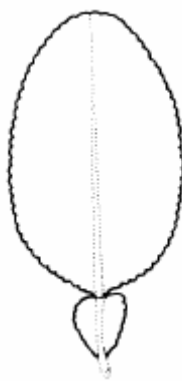


Orbicular



Obcordate

LEAF LAMINA MARGIN



Crenate



Dentate



Entire



Sinuate

LEAF BLADE UNDULATION



Absent



Present

PETIOLE DEVELOPMENT OF WING



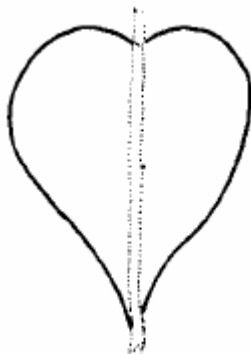
Absent

Rudimentary



Well developed

PETIOLE WING SHAPE



Obcordate

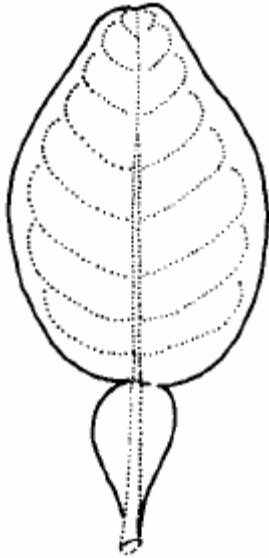


Obdeltate

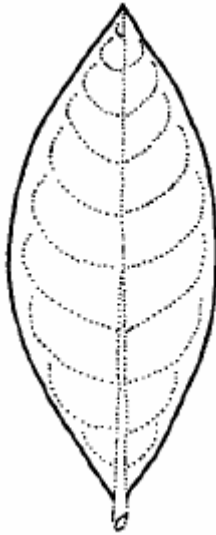


Obovate

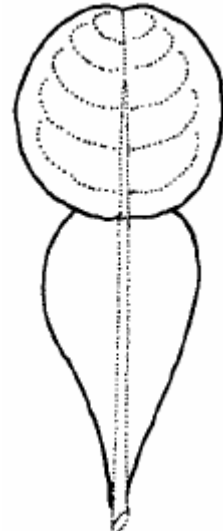
LEAF LAMINA ATTACHMENT



Sessile



Brevipetiolate



Longipetiolate

STYLE DEVELOPMENT



Incomplete



Complete

FRUIT SHAPE



Oblate



Globose



Ovoid



Ellipsoid



Obovoid



Pyriform

FRUIT SHAPE OF BASAL END



Long necked



Short necked



Evenly rounded



Truncate



Moderately depressed



Deeply depressed

FRUIT SHAPE OF DISTAL END



Depressed



Truncate



Rounded



Slightly bulged



Prominently bulged

RELIEF OF FRUIT SURFACE



Smooth



Ribbed



Bumpy

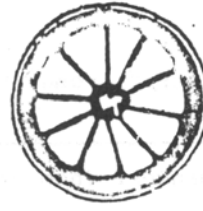


Wrinkled

STRUCTURE OF COLUMELLA



Hollow



Semi hollow



Solid

SEED SHAPE



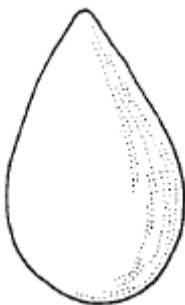
Fusiform



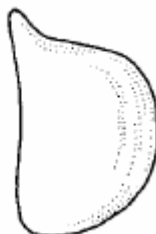
Clavate



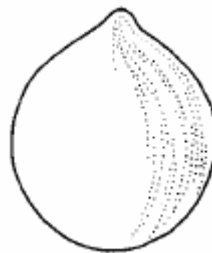
Cuneiform



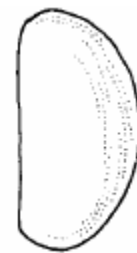
Ovoid



Semi deltoid



Spheroid



Semi spheroid