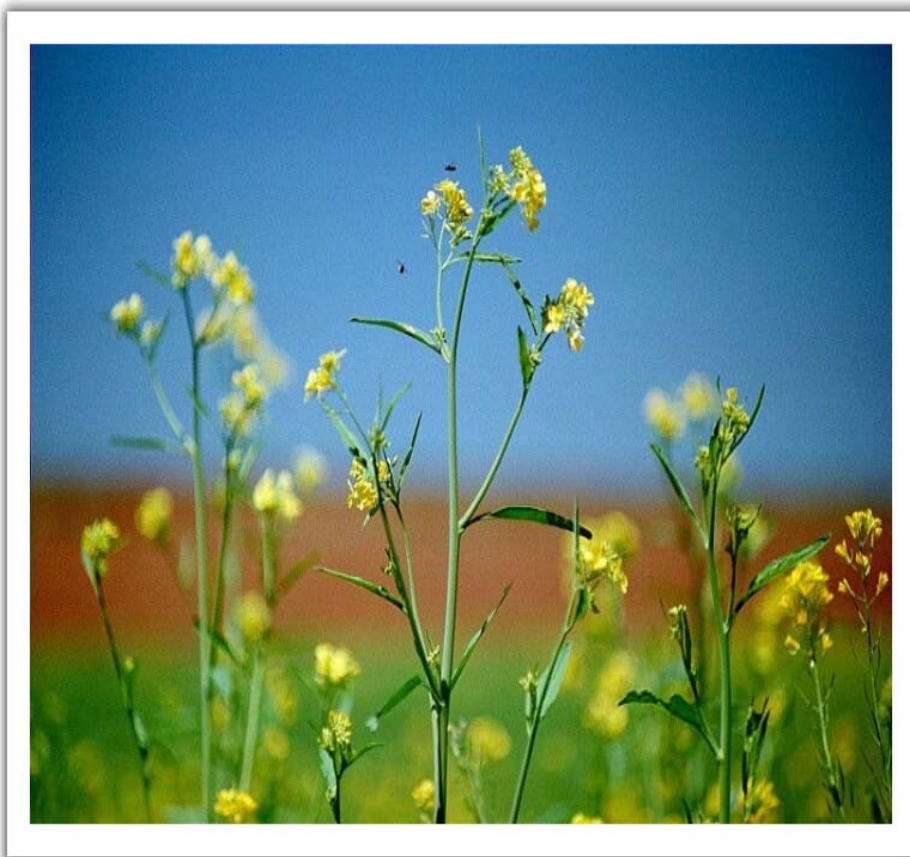




**MORPHOLOGICAL DESCRIPTOR
RAPE & MUSTARD**



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.*

M. Ashraf Tajammal
Ms. Naheed Naz

GENERAL

Variety name

Parentage

Pedigree

Breeder (s)

Variety maintainer (s)

Comparable variety (s)

Breeding center/institute

Origin Local Exotic

Breeding method Selection Hybridization Introduction Any other

Areas of adaptation

Sowing time

Maturity duration Short Medium Long

PLANT CHARACTERISTICS

Growth habit Compact Intermediate Spreading Bushy

Plant type Determinate Indeterminate

Plant height for **Rapeseed**
(including side branches) Short (<51 cm) Medium (51-75cm) Tall (76-100 cm)

Plant height for **Mustard**
(including side branches)

Plant color L. green Green Dark green

STEM CHARACTERISTICS

Main shoot length (cm) Short (<41) Medium (41-60) Long (>60)

Stem shape Round Flat Ridged

Stem thickness (mm)

Stem stiffness Weak Medium Stiff

Stem pith Hollow Thin Moderate Thick

Stem ramification At high level At low level

LEAF CHARACTERISTICS

Leaf color L. green Green Dark green Purple green Purple

Leaf attitude Erect (>85°) Semi erect (66-85°) Open (46-65°) Semi prostrate (31-45°) Prostrate (<31°)

Leaf lobes Absent Present

No. of lobes Few (1-2) Medium (3-5) Many (>5)

Dentations of margin Entire Auriculate Lyrate Pointed

Leaf length (cm) Short (<15) Medium (15-20) Long (>20)

Leaf width (cm) Narrow (<7) Medium (7-8) Broad (>8)

Leaf hairiness Absent Sparse Dense

Leaf margin indentation Absent Weak Medium Strong

Terminal segment Small Medium Large V. large

Leaf attachment Stalked Sessile

Petiole base Narrow Medium Deeply lobed

Petiole length (cm)

Leaf anthocyanin Absent Weak Medium Strong

FLOWER CHARACTERISTICS

Time of flowering (50% of plant with at least one open flower) V. Early (<31 days) Early (31-40 days) Medium (41-50 days) Late (51-60 days) V. Late (>60 days)

Color of petal White Cream L. yellow Yellow Orange

Petal length (cm) Short (<1.2) Medium (1.2-1.5) Long (>1.5)

Petal width (cm) Narrow (<0.7) Medium (0.7-0.8) Broad (>0.8)

Anther dotting Absent Present

POD CHARACTERISTICS

Pod attitude	<input type="checkbox"/> Clasp	<input type="checkbox"/> Erect	<input type="checkbox"/> Divaricated	<input type="checkbox"/> Pendent
Pod shape	<input type="checkbox"/> Cylindricate	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Flat	
Pod length/width (mm)/.....			
Pod surface texture	<input type="checkbox"/> Smooth	<input type="checkbox"/> Intermediate	<input type="checkbox"/> Constricted	
Pedicel length (cm)			
Beak shape	<input type="checkbox"/> Conical	<input type="checkbox"/> Slender		
Beak length (mm)			
Pod shattering	<input type="checkbox"/> Resistant	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High

SEED CHARACTERISTICS

Seed color	<input type="checkbox"/> Black	<input type="checkbox"/> Dark brown	<input type="checkbox"/> Brown	<input type="checkbox"/> Yellowish brown	<input type="checkbox"/> Yellow
Reticulation	<input type="checkbox"/> Absent	<input type="checkbox"/> Weak	<input type="checkbox"/> Medium	<input type="checkbox"/> Strong	
Seed size	<input type="checkbox"/> Small	<input type="checkbox"/> Medium	<input type="checkbox"/> Bold		
000, seed weight (g)				
Seed Erucic Acid	<input type="checkbox"/> Low (<2%)	<input type="checkbox"/> Medium (2-25%)	<input type="checkbox"/> High (26-50%)	<input type="checkbox"/> V. high (50%)	
Seed Glucosinolate	<input type="checkbox"/> Low (<31 µm/g)	<input type="checkbox"/> Medium (31-60 µm/g)	<input type="checkbox"/> High (61-90 µm/g)	<input type="checkbox"/> Very high (>90 µm/g)	
Seed Oil content	<input type="checkbox"/> Low (<38%)	<input type="checkbox"/> Medium (38-42%)	<input type="checkbox"/> High (43-46%)	<input type="checkbox"/> Very high (>46%)	

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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.....
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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

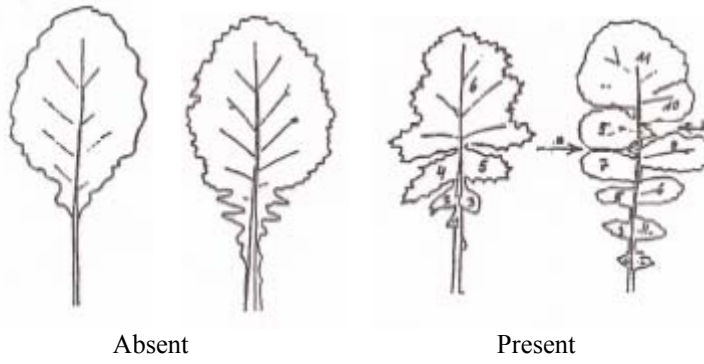
COMMENTS OF SPOT EXAMINATION

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.....

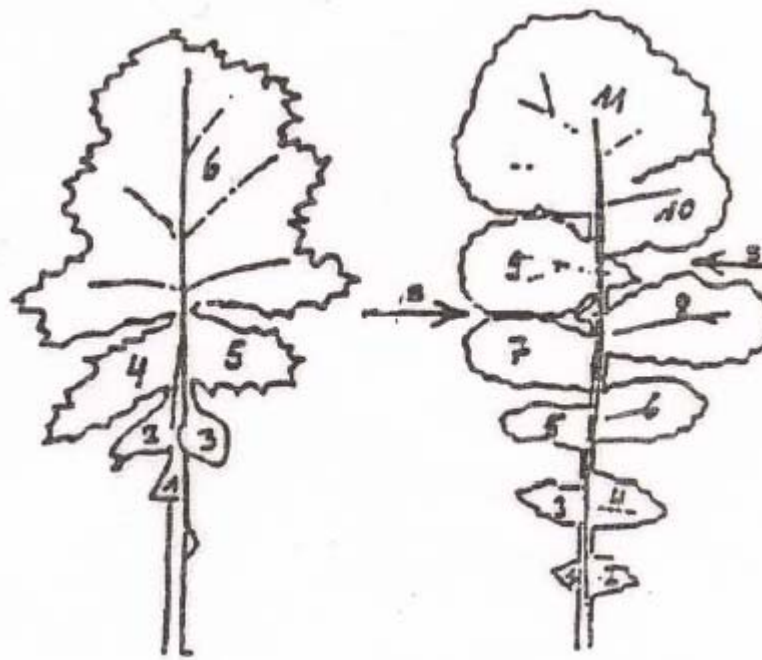
ADDITIONAL INFORMATION

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.....

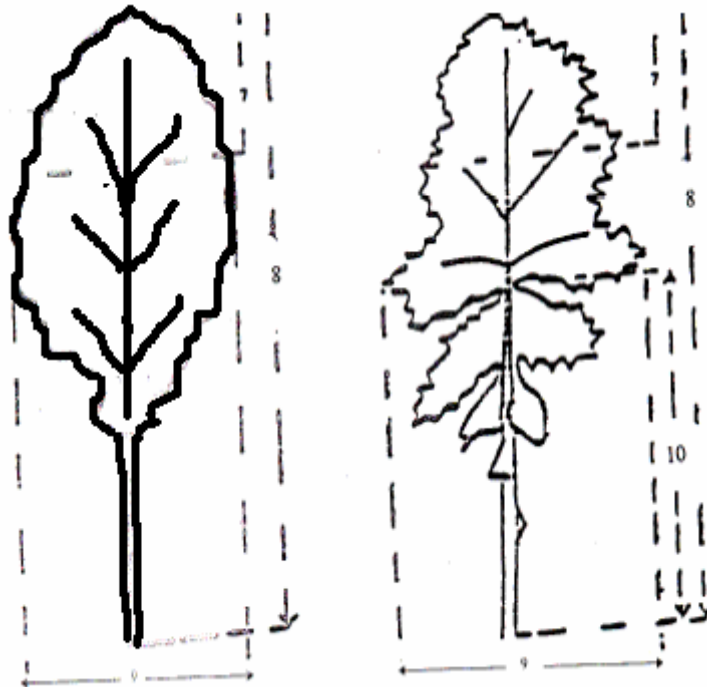
LEAF LOBES



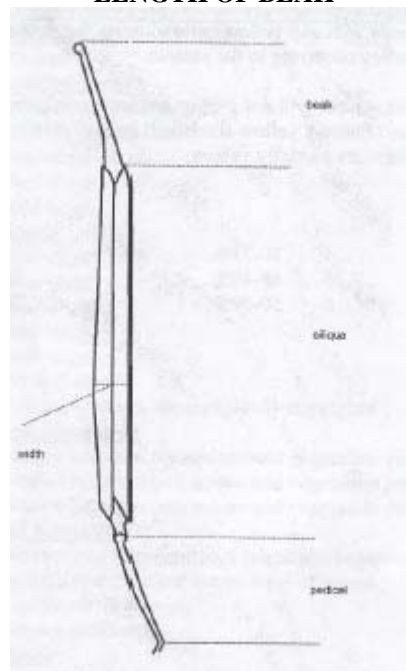
NUMBER OF LEAF LOBES



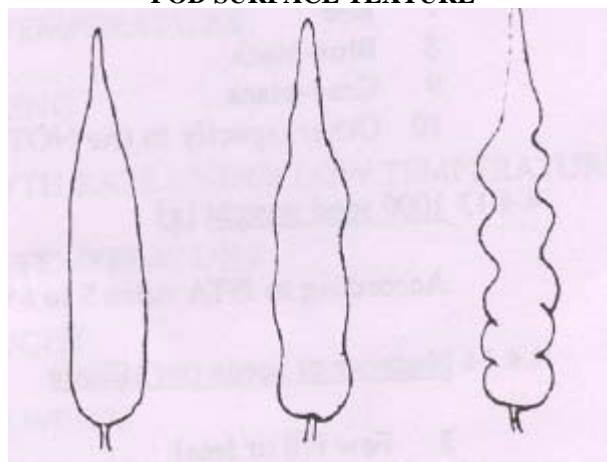
Characteristic 8-10. Leaf: Dentation (8), length (9), width(10)
Leaf length, width, dentation and of petiole are measured as shown below:
7= Part on which the dentation should be recorded



**LENGTH BETWEEN PEDICEL AND BEAK
LENGTH OF BEAK**



POD SURFACE TEXTURE



Smooth

Intermediate

Constricted