



MORPHOLOGICAL DESCRIPTOR

RICE (*Oryza sativa* 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)

Breeding center/institute

Variety maintainer

Comparable variety (s)

Origin Local Exotic

Breeding method Selection Hybridization Introduction Any other

Areas of adaptation

Planting time

Earlier than Cultivar

Later than Cultivar

Maturity duration Short Medium Long

Suitable for sowing Early Medium Late All sowings

Photo sensitivity Neuter Intermediate Sensitive

Suitable for N. transplanting 4 weeks nursery 5 weeks nursery 6 weeks nursery All

Type of variety Fine Medium fine Coarse

SEEDLING CHARACTERISTICS:

Seedling color L. green Green Purple

Seedling height (cm)

Coleoptile color Colorless Green Purple

STEM CHARACTERISTICS:

Mature stem length (cm) [Range.....]

Stem height Dwarf Semi dwarf Tall V. tall

Taller than Cultivar

Shorter than Cultivar

Stem attitude Erect Semi erect Open Spreading

Stem length Very short (<91 cm) Short (91-110 cm) Medium (111-130 cm)

Long (131-150 cm) Very long (>150 cm)

Stem thickness Thin (<0.40 cm) Medium (0.40-0.55 cm) Thick (>0.55 cm)

Stem stiffness Weak Semi stiff Stiff

No. nodes/stem

Internode color L. yellow Green Purple

Tillers/plant

Matured straw color Straw Deep straw Lemon straw Other

LEAF CHARACTERISTICS:

Leaf length (cm) [Range.....] Leaf below flag leaf

Leaf length of blade Short (<30 cm) Medium (30-45 cm) Long (>45 cm)

Leaf width (cm) [Range.....]

Leaf width Narrow (<1 cm) Medium (1-2 cm) Broad (>2 cm)

Leaf color Pale green Green Dark green Other

Leaf anthocyanin Absent Present

Distribution of anthocyanin On tips only On margins only In blotches only Uniform

Leaf pubescence Absent Sparse Medium Profuse

Leaf sheath color Pale green Green Dark green Other

Leaf senescence Early Intermediate Late

Ligule color Papery Purple Other

Ligule length (mm)

Ligule shape Truncate Acute 2-cleft

Leaf auricle Absent Present

Auricle color Pale green Green Purple

Collar color Pale green Green Purple

Flag leaf attitude Erect Semi erect Horizontal Deflexed

Flag leaf length (cm) [Range.....]
 Flag leaf width (cm) [Range.....]

PANICLE CHARACTERISTICS:

Days to 50% heading
 Panicle length of main axis Very short (<16 cm) Short (16-20 m) Medium (21-25 cm) Long (26-30 cm)
 Very long (>30 cm)
 Panicle type Compact Medium compact Lax
 Spikelet density Lax Semi dense Dense
 Panicle curvature of main axis Straight Semi-straight Deflexed Drooping
 Panicle exertion Enclosed Partly exerted Moderately exerted Well exerted
 Branches/panicle Sparse Moderate Profuse
 Secondary branches Absent Present
 Intensity of secondary branches Weak Strong Clustered
 Attitude of branches Erect Erect to semi-erect Semi-erect Semi-erect Semi-erect to spreading
 Spreading
 Awning at flowering Absent Short & partly Short & full Long & Partly
 Awning at Maturity Absent Short & partly Short & full Long & Partly
 Awn color at flowering Straw Gold Brown Other
 Awn color at maturity Straw Gold Brown Other
 Spikelets/panicle/.....
 Sterility V. low Low Moderate High V. high
 Shattering V. low Low Moderate High V. high
 Thresh ability Easy Intermediate Difficult

SEED CHARACTERISTICS:

Seed awning Absent Scures Awning
 Stigma color White Green Yellow Purple
 Apiculus color (anthesis) White Straw Brown Red Purple green
 Apiculus color (maturity) White Straw Brown Red Purple green
 Husk color Straw Light gold Other
 Husk pigmentation Absent Weak Medium Strong
 Husk pubescence Absent Sparse Medium Profuse
 Pubescence length Short Medium Long
 Seed shape Crescent Semi crescent Spear
 Seed length (mm) [Range.....]
 Seed width (mm) [Range.....]
 Seed thickness (mm) [Range.....]
 Seed size Short Medium Long Extra long
 000, seed weight (g)
 Seed dormancy Low Medium High
 Sterile lemma color Straw Gold Other
 Sterile lemma length (cm)
 Yield (kg/acre)

KERNAL CHARACTERISTICS:

Kernal size Short Medium long Long Extra long
 Kernal length/thickness (mm)/.....
 Kernal color White Off white Other
 Kernal appearance Translucent Chalky
 Kernal chalkiness Absent Present
 Chalki position Abdominal Germ pit External
 Kernal quality Coarse Medium fine Fine V. fine
 Kernal aroma Absent Weak Medium Strong
 Head rice %age
 Cooking quality

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) Yes No
Experts Sub Committee Yes No
Provincial Seed Council Yes No

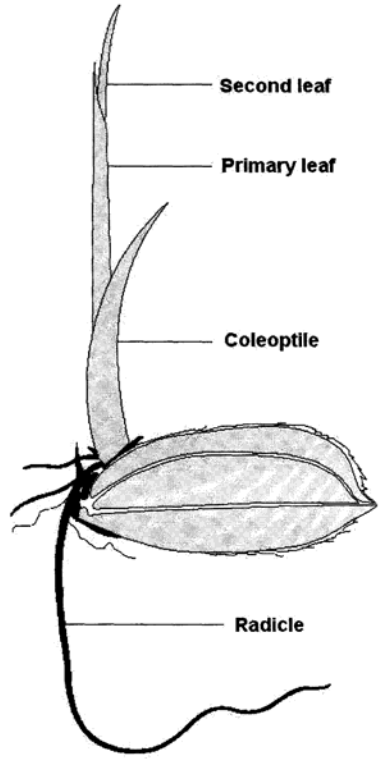
COMMENTS OF SPOT EXAMINATION:

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

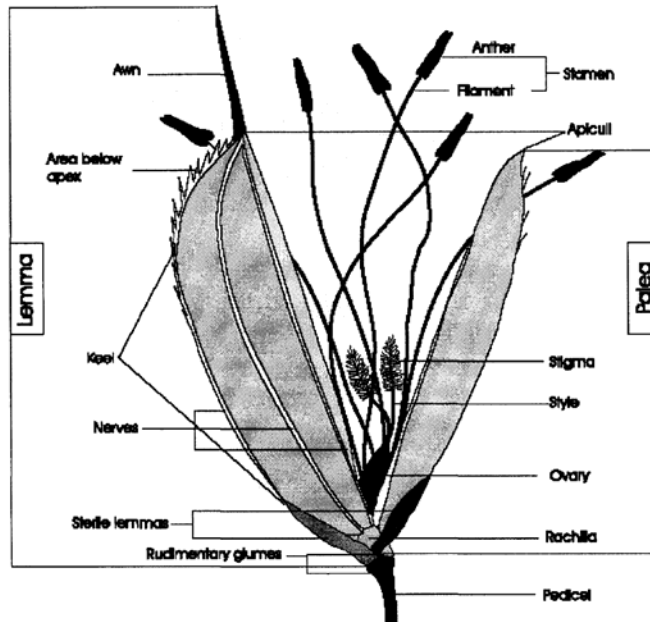
ADDITIONAL INFORMATION:

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

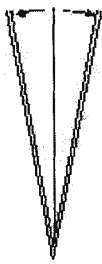
PARTS OF SEEDLING



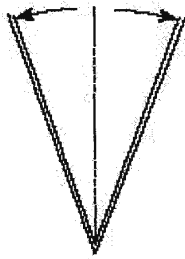
PARTS OF SPIKELETS



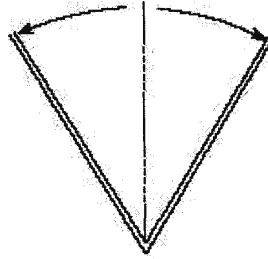
STEM ATTITUDE



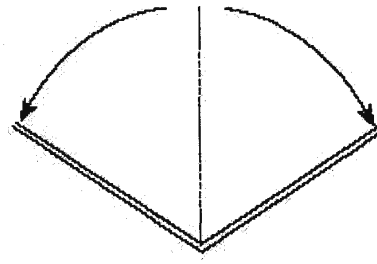
Erect



Semi-erect



Open



Spreading

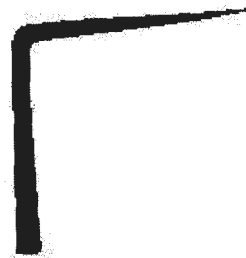
FLAG LEAF ATTITUDE



Erect



Semi-erect

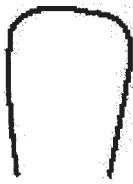


Horizontal

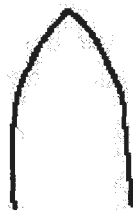


Deflexed

SHAPE OF LIGULE



Truncate

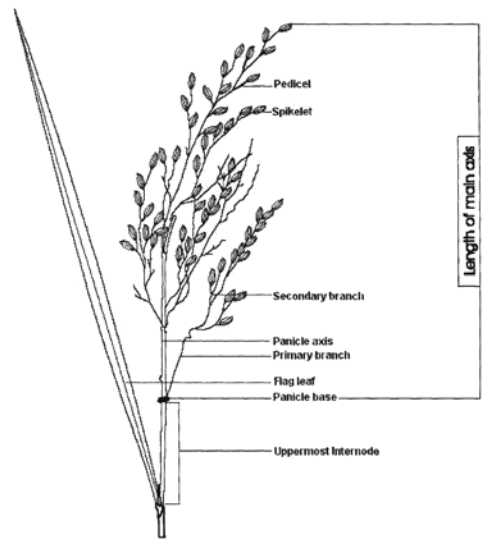


Acute

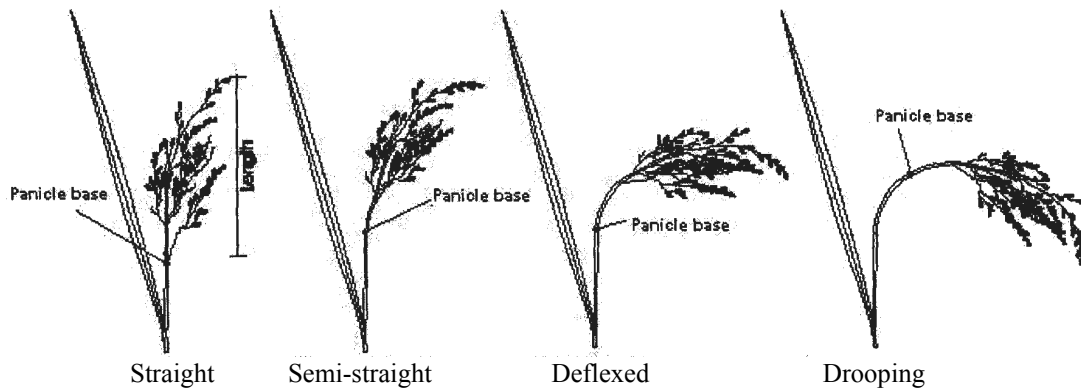


Split

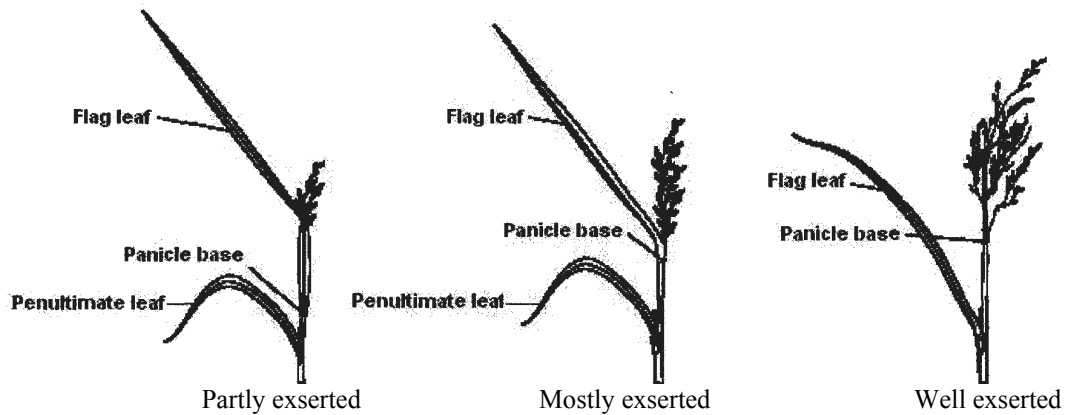
PARTS OF PANICLE



PANICLE CURVATURE OF MAIN AXIS



PANICLE EXsertION



PANICLE: PRESENCE OF SECONDARY BRANCHING



Absent



Present

PANICLE SECONDARY BRANCHING



Weak



Strong



Clustered

PANICLE: ATTITUDE OF BRANCHES



Erect



Erect to semi-erect



Semi-erect

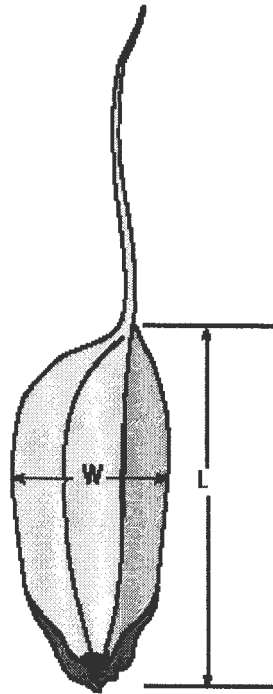


Semi-erect to spreading



Spreading

GRAIN MEASUREMENT



W: Width and L: Length of grain