

# Measuring Physical Quality of Paddy

## What are the properties of paddy that require measuring?

1. Moisture (see measuring moisture content of rice)
2. Crack grains,
3. Grain Dimensions,
4. Immature Grains,
5. Dockage,
6. 1000seed weight

## Measurements

### 2. Crack Detection

Using the Paddy Crack Detector, count the number of cracked grains in a 100 grain sample then compute the % cracked grains using the equation:

$$\% \text{ Cracked grains} = \frac{\text{No. of cracked grains}}{100 \text{ grains}} \times 100$$

### 3. Grain Dimensions

Using the Vernier caliper or photographic enlarger, collect 20 paddy samples at random from each replicate and measure the dimensions to obtain the average length and width of the paddy grains. To obtain the paddy shape, the following equation will be used.

$$\text{Length to width ratio (L/W)} = \frac{\text{Average paddy length, mm}}{\text{Average paddy width, mm}}$$

Paddy will be classified based on International Organization for Standardization (ISO) for paddy.

### 4. Immature Grains

1. Select a 25 gm grain sample
2. Select, segregate and weigh the immature grains in sample.
3. Calculate the percentage immature grains in the sample using the formula:

$$\% \text{ Immature grains} = \frac{\text{Wt of immature grains}}{\text{Total weight of samples}} \times 100$$

### 5. Dockage

- Remove light foreign matter, stones, weed and seeds from a 100gm sample.
- Obtain the total weight then compute the dockage percentage as follows:

$$\% \text{ Dockage} = \frac{\text{Wt of dockage}}{\text{Total wt of sample}} \times 100$$

### 6. 1000 seed weight

- Count and weigh 1,000 grains (paddy).

#### For more information contact

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