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Rice Blast

Blast is a fungal disease of rice that is found in both upland and lowland environments. Water scarcity with high night humidity and low night temperature favors the development of this disease. The fungus is both airborne and seed-borne. It can infect and produce lesions on most of the shoot including the leaves, leaf collar, stem, nodes, panicle and grains, but not the leaf sheath.

Local names:

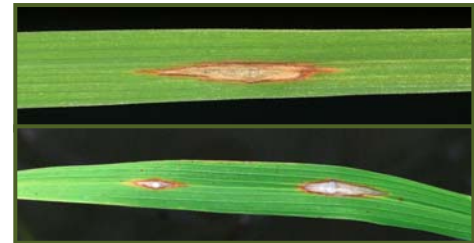
mata-mata (Tagalog),
agupaw (Waray)
taya-taya (Cebuano in Mindanao)

Causal organism:

Pyricularia oryzae
(teleomorph *Magnaporthe oryzae*)

Symptoms:

- **Leaf Blast (seedling to tillering stage)**
 - ✓ small to spindle-shaped spots with brown border and gray center; spots join resulting in drying and death of leaves
- **Collar blast (tillering stage)**
 - ✓ entire leaf blade dries up when the base of the flag leaf is infected
- **Panicle blast (booting to heading)**
 - ✓ dark necrotic lesions that partially or completely cover the panicle base, or the uppermost internode, or lower panicle axis



Leaf blast



Collar blast



Panicle blast

▪ Node blast (tillering stage)

- ✓ node of the stem turns blackish and breaks easily

Disease development and severity are favored by the following:

1. Presence of the blast spores in the air throughout the year
2. Upland rice environment
3. Cloudy skies, frequent rain and drizzles
4. High nitrogen levels
5. High relative humidity
6. Aerobic rice environment where drought stress is prevalent
7. Low soil moisture
8. High leaf wetness or dew period



Node blast

Disease management

1. Plant resistant varieties
2. Early sowing of disease-free seeds after the onset of the rainy season. Water seeding is better than drill seeding.
3. Avoid high Nitrogen fertilizer application
4. Water management practices in rainfed areas lessen likelihood of stress. Flooding the field, when possible, can reduce the severity of blast.
5. Destroy diseased crop residues by burning.
6. Avoid farm activities when plants are wet.

Source:

Tiongco, ER, UG Duque, HX Troung, ML Aragon, RC Joshi, and JJ Tagubase. 2002. Field guide on major disorders of the rice plant in the Philippines. Philippine Rice Research Institute, Maligaya, Science City of Muñoz, Nueva Ecija.

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