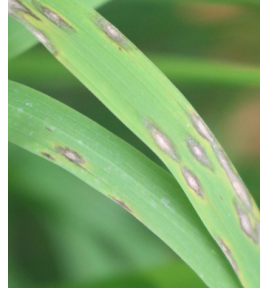


DISEASES



DISEASES



Bacterial leaf blight

DISEASES

Bacterial leaf blight	Bacterial disease of rice caused by <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> ; prevalent in both irrigated and rainfed conditions, particularly during the wet season
Susceptible stages	Seedling until milking to dough stage
Symptoms	• Kresek or wilting at seedling stage • Water-soaked to yellow-orange-striped lesions on the leaf blades and tips • Yellow-orange bacterial ooze from the lesions
Factors that favor disease development	• Highly susceptible variety • Excessive nitrogen application • Deficiency in phosphorus and potassium • Warm, humid, and rainy weather
Disease management	When symptoms are observed: • Drain and saturate the soil to reduce humidity. • Apply minimal nitrogen fertilizer or withhold further application. • Plow dry infected stubbles; dry the field after harvest. Preventive measures • Use clean seeds of resistant variety. • Reduce plant injury during transplanting. • Avoid excessive nitrogen fertilization. • Remove weeds that serve as alternate hosts of the bacteria.



Tungro

DISEASES

Tungro	Caused by two different viruses: <i>rice tungro bacilliform virus</i> (RTBV) and <i>rice tungro spherical virus</i> (RTSV), efficiently carried by the green leafhopper (GLH). RTBV cannot be transmitted by GLH unless RTSV is present.
Susceptible stages	Seedling to tillering stages
Symptoms	• Mottled young leaves • Older leaves are yellow to yellow-orange • Stunted with slight reduction in tiller number
Factors that favor disease development	• Susceptible varieties • Asynchronous planting • Late planting time • Many GLH and diseased plants
Disease management	When symptoms are observed: • Remove infected plants as soon as disease is detected. Preventive measures • Plant resistant variety. • Practice synchronous planting. • Regular monitoring of field for presence of GLH and diseased plants. • Observe a fallow period of at least one month between each cropping to help reduce the GLH's food supply thereby reducing their populations. • Destroy stubbles right after harvest to eradicate GLH and tungro hosts.



Sheath blight

DISEASES

Sheath blight	Caused by a soil-borne fungus, <i>Rhizoctonia solani</i> . It is most damaging in intense production systems.
Susceptible stages	Heading to milking and dough stages
Symptoms	On leaf sheath • Oval gray spots that later enlarge with black-brown margins and gray center • On severe infection, oval white to brown structures (sclerotia) appear on the sheath
	On leaves • Lesions are irregular, banded with green-brown coloration • Severe lesion has grayish white center with irregular purple-brown borders • Panicle exertion impaired when flag leaf is infected
Factors that favor disease development	• Excessive nitrogen fertilization • High seeding rate and close plant spacing • Warm temperature (28°-32°C), high humidity (85-100%) and light rain
Disease management	When symptoms are observed: • Drain the field for a few days at maximum tillering stage. Preventive measures • Plant moderately resistant varieties. • Avoid excessive nitrogen fertilization; practice split application of nitrogen. • Follow recommended seeding rate and planting distance to avoid dense canopy. • Remove weeds that serve as alternate hosts of fungus. • Plow dry infected stubbles.



Photo: Jennifer T. Niones

Rice blast

DISEASES

Rice blast	Fungal disease occurring in both upland and lowland environments; made more severe by water deficiency accompanied by high night humidity and low night temperature; the causal fungus, <i>Pyricularia oryzae</i> , is air and seed-borne.
Susceptible stages	Seedling to maturity stages
Symptoms	• Leaf blast (seedling to tillering stages; spindle-shaped spots with brown border and gray center) • Node blast (tillering to flowering stages; node of the stem turns blackish) • Panicle blast (booting to heading stages; dark necrotic lesions partially or completely covering the panicle base, or the uppermost internode, or lower panicle axis)
Factors that favor disease development	• High nitrogen fertilization • Overcast sky • Light rain • Long dew period • High humidity
Disease management	When symptoms are observed: • Flood the field when possible to reduce severity of blast. Preventive measures • Plant resistant variety. • Early sowing of clean seeds after the onset of the rainy season; water seeding is better than drill seeding. • Destroy infected crop residues; spores can thrive in infected straws and stubbles. • Avoid high nitrogen fertilization. • Avoid farm activities when plants are wet; spores are easily scattered during farm activities and can spread the disease.