

Bacterial Leaf Streak of Rice: Symptoms, Disease Cycle, Management

Aspect	Description
Bacterial Leaf Streak Of Rice Symptoms	
Symptoms	- Narrow and dark-greenish water-soaked streaks on leaf blades during tillering to booting stage
	- Streaks appear in interveinal regions and vary in length
	- Streaks extend longitudinally along the leaf but are limited by veins
	- Color changes from yellow to orange-brown
	- Amber-colored bacterial exudates on lesions
	- Severe cases lead to coalescing streaks forming large patches on leaves
	- Lesions turn brown to greyish-white and dry up with severe infection
	- Florets and seeds can also be affected, leading to browning and death of reproductive parts
Differentiating Leaf Streak and Leaf Blight	- Bacterial leaf streak: Straight lesion edges
	- Bacterial leaf blight: Wavy lesion edges
Bacterial Entry Facilitated by Insects	- Damage caused by leaf rollers, leaf-folders, and hispa beetles may facilitate bacterial entry
Bacterial Leaf Streak Of Rice Disease Cycle	
Bacterial Characteristics	- Rod-shaped, Gram-negative, and aerobic bacteria
	- Possess a single polar flagellum for movement
	- Do not form spores or capsules
	- Optimal growth at 28°C
	- Colonies on nutrient agar appear pale yellow, circular, smooth, convex, and viscid with entire margins
Factors Favoring Disease Development	- Bacteria present on leaves, in water, or surviving in debris after harvest
	- Warm temperature and high humidity promote disease progression
	- Critical period for disease occurrence is from maximum tillering to panicle initiation stages of rice planting
Inoculum and Transmission	- Bacteria present in infested seeds and straws
	- Spread in rice fields occurs through mechanical contact, rain, and irrigation water
	- Significant seed transmission, but not during winter due to unfavorable conditions
Infection and Disease Development	- Bacterial entry through stomata or wounds
	- Bacteria multiply in parenchymatous tissue
	- Disease development favored by rainy, humid, and warm conditions (28–40°C)
Survival of Bacteria	- Can survive on infested seed and straw
	- Short persistence in irrigation water
Bacterial Leaf Streak Of Rice Management	
Preventing Methods	- Izumonas and Izumil are effective bio fungicides and bactericides designed to enhance plant defense mechanisms
	- They promote healthy growth and protect against fungal pathogens and harmful microorganisms
Modes Of Use	- Seed Treatment: Mix 5-10 ml of Izumonas and Izumil per kilogram of seeds in water for soaking
	- Seedling Treatment: Dip roots in 100 ml of Izumonas and Izumil solution for 30 minutes before transplanting
	- Soil Application: Mix 500 ml of Izumonas and Izumil with 30 kg of farmyard manure or soil per acre before ploughing/irrigation
	- Foliar Application: Dilute 2-3 ml of Izumonas and Izumil each in 1 litre of water for spraying on foliage