

Scientific name

Bacterial leaf streak is caused by *Xanthomonas oryzae* pv. *oryzicola*.

What it does

Infected plants show browning and drying of leaves. Under severe conditions, this could lead to reduced grain weight due to loss of photosynthetic area.

Why and where it occurs

Bacterial leaf streak occurs in areas with high temperature and high humidity. It is transmitted through seeds and infected stubbles to the next planting season. It can occur in fields where *X. oryzae* pv. *oryzicola* bacteria is present on leaves, in the water, or in the debris left after harvest. It can affect the plant during early stages, from maximum tillering to panicle initiation. Mature rice plants can easily recover from leaf streak and have minimal grain yield losses.

How to identify

Check for lesions:

- Symptoms initially appear as small, water-soaked, linear lesions between leaf veins. These streaks are initially dark green and later become light brown to yellowish gray.
- The lesions are translucent when held against the light.
- Entire leaves may become brown and die when the disease is very severe.
- Under humid conditions, yellow droplets of bacterial ooze, which contain masses of bacterial cells, may be observed on the surface of leaves.

Bacterial leaf streak may be confused with narrow brown spot.

To confirm:

- Leaf streak lesions are usually thinner than those of narrow brown spot
- Narrow brown spot lesions are not translucent, nor do they produce bacterial ooze

When the advancing part of the streaks are cut and placed in a glass with water, a mass of bacterial cells can usually be seen oozing out of the leaf, which makes the water turbid after 5 minutes.

Bacterial leaf streak may also be confused with bacterial blight.

Blight and streak symptoms look the same at the early stage of infection, particularly if lesions of both diseases occur on the same leaf. Tests (i.e., biochemical, pathogenicity, or serological) can be done to identify the disease.

How to manage

To prevent and effectively manage bacterial leaf streak:

- Plant resistant varieties. Contact your local agriculture office for an up-to-date list of available varieties.
- Treat seeds with hot water.
- Keep fields clean—remove weed hosts and plough under rice stubble, straw, rice ratoons, and volunteer seedlings, which may be infected by the bacteria.
- Use balanced amounts of plant nutrients, especially nitrogen.
- Ensure good drainage of fields (in conventionally flooded crops) and nurseries.
- Drain the field during severe flood.
- Dry the field during the fallow period to kill the bacteria in the soil and in plant residues.
- In cases of severe infection, when yield may be affected, a copper-based fungicide applied at heading can be effective in controlling the disease.
- Spray streptomycin sulphate 90% + tetracyclin hydrochloride 10% SP @ 4g/10L of water.
- Spray copper hydroxide 53.8% DF@3g/L of water.

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Small streaks on infected leaf



Linear lesions on leaf