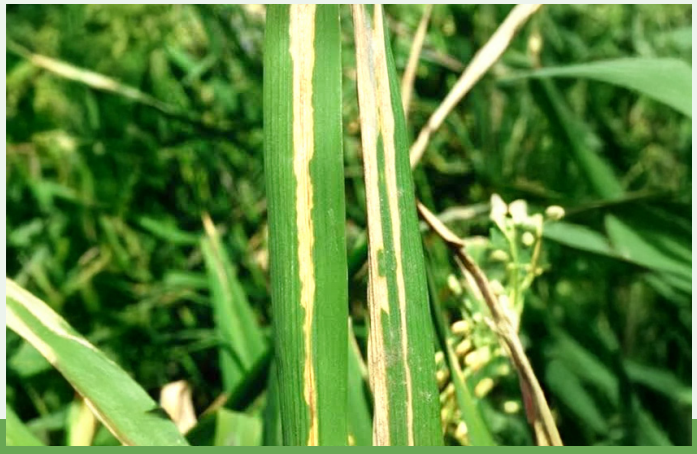
Bacterial Leaf Blight of Rice



http://www.knowledgebank.irri.org/decision-tools/rice-doctor/rice-doctor-fact-sheets/item/bacterial-blight

INTRODUCTION

Bacterial leaf blight is a major diseases affecting rice crop across the paddy growing regions in the world. It is caused by bacterium *Xanthomonas oryzae* and can cause yield loss upto 30 to 50 %. In addition to the yield loss it can reduce the grain quality and also market value.

UNDERSTANDING THE BACKGROUND OF THE DISEASES

It can be found in warm and humid conditions, especially in lowland areas that receive rain and irrigation. The disease generally prefers temperatures between 26 °C and 30 °C and high humidity shading, heavy dose of nitrogenous fertilizer, rain, flooding and severe winds. It occurs in the tropics from the seedlings to the early tillering stage.

SYMPTOMS AND DIAGNOSIS PROCEDURE

Initially it affects young rice plants during the stage of seedling to early tillering phase the symptoms of wilting and yellowing is known as Kresek, Leaves of infected plants wilt and roll up, turning greyish green. The leaves then turn yellow to straw-colored and wither, and entire plant generally dies. Drops of bacterial exudates may be observed on young lesions

MODE OF SPREAD

This bacteria spreads by rain water, splashing or windblown rain or by plant to plant contact.

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MANAGEMENT MEASURES

PREVENTIVE MEASURES

- Use resistant paddy varieties, like Patkai in Assam climate. IR64, T(N)1, Jaya, and IR36
- Avoid excessive nitrogenous application
- Practice crop rotation with non-host crops like legumes
- Ensure well-drained fields and avoid water stagnation
- Apply seed treatment with hot water (54°C for 10 minutes)
- Ensure proper field sanitation by removing crop residues and debris.

CONTROL MEASURES

- Spray cow urine and cow dung solution at 10% effectively control this disease.
- Spray Neem Seed Kernel powder @ 50g/ litre or Neem Oil @ 30 ml/litre twice at the time of flowering and fruit formation stage
- Apply *Bacillus subtilis* (2 kg per acre) as a soil drench or foliar spray to control bacterial diseases by competing with pathogenic bacteria.
- Use a garlic-onion extract (500g each ground and mixed in 10 liters of water) as a natural bactericide.
- Apply a mixture of cow urine and neem leaves as a 10 % foliar spray
- Spraying of sour buttermilk @ 10 lit per acre
- Spraying of dry ginger and milk solution (1:5 ratio).

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