

Management of bacterial leaf blight of rice

Recognize the problem

Bacterial blight is one of the most serious diseases of rice in the Terai region of Nepal. However, it may also affect rice crops in the valley and mid hills. Wilting of seedlings in early stage (kresek) and foliar blight can cause yield losses of 80-85% and 30% respectively.

Yellowish water-soaked stripe shaped lesions appear on leaf blades or at the leaf tips. Later, these lesions increase in length and width with a wavy margin. The lesions coalesce and become yellowish-white with wavy edges. The whole leaf may eventually be affected, becoming white or greyish and then dying. To confirm bacterial infection, place cut diseased leaves in a test tube with water for a few minutes. The cut portion can be observed against the light to see the bacterial ooze streaming out from the cut ends into the water.

Other symptoms of this disease, collectively known as kresek, include wilting and desiccation of leaves. It can also lead to the death of the plant, particularly in young transplanted plants i.e. 1-3 weeks after planting. If the lower end of the infected seedling is squeezed between the fingers the yellowish bacterial ooze may be seen coming out of the cut ends.

Background

This disease is favoured by warm temperatures, high humidity, rain and prevailing of deep water, presence of weeds, rice stubbles and ratoons, handling of seedlings at transplanting and a high use of nitrogen fertilizer.

Management

Preventive measures:

- Use resistant varieties like Bindeswori, Sabitri, Chaite-2, Chaite-4, Radha-4, Radha-7, Radha-11, Radha-12 or Hardinatth-1
- Avoid wet seed beds; use a dry seed bed instead
- Avoid damage in plants. Do not practice leaf tip cutting of seedling during planting.
- Destroy rice stubble and straw following the harvest
- Proper application of fertilizer, especially nitrogen, and proper plant spacing are recommended
- If irrigation facilities are available, drain standing water from time to time to avoid the spread of the disease
- Seed treatment with 0.01% of bleaching powder (i.e. 1g/10 litre) and zinc sulfate 2%

Bacterial leaf blight on leaf (Photo by T.W. Mew, International Rice Research Institute, Bugwood (CC BY-NC))



Bacterial leaf blight symptoms (Photo by T.W. Mew, International Rice Research Institute, Bugwood (CC BY-NC))



When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > **Xanthomonas oryzae pv. oryzae**

The recommendations in this factsheet are relevant to: Nepal



Authors: Rajiv Das Rajbhandari
SPPO, PRMD
tel: 00977-9841243568 email: rojit99@yahoo.com

Edited by Plantwise.