

Cabbage (Crucifer) - Black rot

Recognize the problem

Plants can be infected during any growth stage. Two types of symptoms occur depending on whether infection is systemic or local. Seedlings that are infected systemically become yellow, drop their lower leaves, and may die. These symptoms can resemble nutritional problems. Leaves may be affected on only one side of a seedling. Dark spots and blackened veins sometimes develop on cotyledons. Plants infected systemically because of contaminated seed may not develop symptoms for many weeks.

Background

The primary sources of bacteria for development of black rot in production fields are infested seed, infected transplants, and infected cruciferous weeds. Bacteria are spread within a crop primarily by wind-blown and splashing water and by workers, machinery, tools, and occasionally insects. Warm, wet conditions favor black rot development and expression of symptoms. Rain and heavy fogs or dews and day temperatures of 24-35°C are most favorable. Under cool, wet conditions infection can occur without development of symptoms. Consequently, transplants grown at low temperatures may be infected but symptomless. The bacteria do not spread below 10°C or during dry weather.

Management

- Use resistant varieties, if available. (Consult local agri officers).
- If seedlings are grown in a greenhouse, use new or sterilized flats and soilless mix.
- Locate seedbeds away from production fields in an area where crucifers have not been grown for at least 2 years and air movement is good so that foliage dries quickly.
- In the field, plant at wider spacing to reduce plants touching each other, reducing the spread of disease by plant contact.
- Avoid planting in fields where crucifers have been grown the previous 2 years or where cruciferous weeds are numerous.
- Inspect seedlings routinely. If symptoms are found early, destroy seedlings in that area. Spray copper based fungicides.
- Avoid sprinkler irrigation as the droplets can spread the bacterium.
- Do not irrigate early in the day when dew is present or so late in the day that foliage remains wet overnight.
- Thoroughly clean equipment used in fields with black rot before entering other fields
- Destroy all crop residue after harvest.

The symptoms of black rot. (Photo by Teresia Kodwaran, Kenya)



Black rot symptoms. (Photo by Mary Mendi Kinuthia, Kenya.)



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 campestris* pv. *campestris*

The recommendations in this factsheet are relevant to: Cambodia



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