

## *Plant Disease Notes*

# **Black Rot of Sweet Potatoes**

**B**lack rot is caused by the fungus *Ceratocystis fimbriata*. The disease can cause significant losses during storage, in the transplant bed, and in the field. The pathogen not only reduces yield and quality but also gives the sweet potatoes a bitter taste.

**Symptoms.** Small, circular, slightly sunken, dark brown spots are the initial symptoms of black rot. Spots enlarge and appear greenish black to black when wet and grayish black when dry. Inside the spots are small, black fungal structures (perithecia) with long necks, which appear to the naked eye as dark bristles. The rot usually remains firm and shallow. However, if secondary fungi or bacteria invade the tissue, the flesh beneath the spot turns black and may extend to the center of the root. Tissue near the discolored area may have a bitter taste. Eventually, the entire root may rot. Roots that appear healthy at harvest can rot in storage, during transit, or at the market.

**Persistence and Transmission.** The fungus survives in the soil in crop debris. Infected storage roots escape detection at harvest or bedding. The fungus either colonizes the young shoots or infects the stem. Transplants are thereby infected and, subsequently, so are the

main stem and daughter roots. When slips are pulled for transplanting, the stem carries the pathogen along with the plant.

The black rot fungus can produce tremendous numbers of spores during storage. These spores can contaminate washing machines, crates, and structures as well as the hands of workers. Contaminated items or dip tanks can serve as sources of fungal inoculum for new infections. Washing and packing roots infected with black rot before curing or using contaminated equipment may spread the disease. Black rot may develop on sweet potatoes during transit or in the marketplace. Entire lots may become infected as the fungus spreads quickly to roots surrounding a rotting sweet potato. As a result, entire crates of roots may be quickly destroyed in storage. Insects, such as the sweet potato weevil, also transmit the disease in storage. Development and spread of the disease are rapid at temperatures greater than storage temperatures (55° to 60°F).

**Control.** Black rot of sweet potatoes can be controlled by the following strategies:

- Rotate sweet potatoes with other crops since most other

crops are unaffected by the disease.

- Disinfect seed beds if a clean site is unavailable.
  - Propagate plants from healthy stem cuttings.
  - Begin curing roots immediately after harvest. Cure at 85° to 95°F and 85 to 90 percent relative humidity for 5 to 10 days.
  - Apply a postharvest fungicide dip.
- Do not wash and package roots showing symptoms of black rot.
  - Decontaminate equipment, including washing machines, storage crates, and structures, that comes into contact with an infected crop. Spray empty washing machines and crates with a fungicide. Fumigate storage structures.



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Use chemicals only according to the directions on the label. Follow all directions, precautions, and restrictions that are listed.

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**For more information**, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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