

Plant Disease Notes

Java Black Rot

ANR-931

Java black rot, caused by the fungus *Diplodia gossypina*, is one of the most destructive diseases of sweet potatoes in the southern United States. The disease is frequently observed on sweet potatoes in storage.

Symptoms. The disease usually progresses from one or both ends of the root. Affected tissue is first yellowish to reddish brown, then turns black as the decay progresses. The decayed area is firm and moist. Infected roots often completely decay within 2 weeks and subsequently dry out, becoming mummified and extremely hard. During early stages of development, Java black rot can be confused with black rot, charcoal rot, and the Fusarium rots. In later stages, the skin is pimples with small, black spore-producing structures (stromata). These black fungal masses break through the surface of the root and take the shape of domes or cushions. Decay during storage is frequently restricted to the tip ($\frac{1}{2}$ to 1 inch) of the root. The tissue at the center of the lesion is usually solid black.

Persistence and Transmission. The fungus survives free in the soil for several years or in crop debris. The fungus requires a wound for

entry into the roots. Infested soil sticks to the broken ends of sweet potatoes at harvest, and the fungus enters through these wounds or any others created on the root. Spores of the fungus can also survive on crates from one season to the next and may infect newly wounded roots placed in these crates. The fungus does not spread on properly cured roots in storage; however, any subsequent handling can cause new wounds and secondary infections. If contaminated sweet potatoes are used as seed, the sprouts, as well as the daughter roots, may become infected.

Java black rot is a warm temperature disease, favoring temperatures between 68 to 86 degrees F. The disease develops over a wide range of relative humidities. Roots become more susceptible to Java black rot with increased storage time or if chilled roots are returned to higher temperatures.

Control. Java black rot can be controlled by the following strategies:

- Wash and disinfect any previously used storage containers before harvest.
- Do not expose sweet potatoes to flooding or cold in the field.

- Minimize wounding during harvest.
- Wash harvested roots, and dip them in a fungicide. Then immediately cure them to ensure rapid wound healing.
- Store sweet potatoes at 55 to 60 degrees F and 90 percent relative humidity.

- Although optimal temperatures for Java black rot growth are similar to those recommended for curing sweet potatoes (68 to 86 degrees F), cure sweet potatoes immediately after harvest to reduce incidence of the disease. High temperatures also promote rapid wound healing.



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

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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Web Only, **Revised Nov 2004**, ANR-931

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