

## *Plant Disease Notes*

# **Bacterial Canker**

**B**acterial canker, caused by *Clavibacter michiganensis* sp. *michiganensis*, is a recurrent and serious problem on tomatoes.

**Symptoms.** Vascular infections cause wilting, chlorosis, and eventual death of the plant. If the stem is cut open longitudinally, a yellow to reddish brown discoloration may be observed in the vascular tissue (the food- and water-conducting vessels just beneath the epidermis). In later stages, canker lesions may develop on the stem, the petioles (leafstalks), and the underside of the foliage. Superficial foliar infections cause necrosis of the foliage, usually from the leaf margins inward. The necrosis can advance until the entire leaf and petiole dies. Early infection of the fruit can cause bird's-eye spots. Bird's-eye spots are characteristically white, necrotic lesions about  $\frac{1}{8}$  inch in diameter that soon develop dark centers surrounded by a white halo.

**Persistence and Transmission.** Bacteria survive from season to season in infested crop debris, on wooden stakes and other equipment, and in other solanaceous hosts such as black and perennial nightshade and ground cherry. The fungus is commonly introduced into a field on infected transplants or seed. Spread within the field oc-

curs through wounds during irrigation or by splashing rain. Weeks may pass between the time of infection and the development of symptoms.

**Control.** Bacterial canker can be controlled by the following strategies:

- Plant certified disease-free material in fields that have been out of tomatoes for at least 2 years (preferably longer) or that have been fumigated.
- Immediately after detecting bacterial canker, rogue (weed out) infected plants to reduce the amount of disease inoculum in the field.
- Spray a combination of copper and mancozeb at the first sign of disease to reduce disease spread. Continue spraying at 7- to 10-day intervals.
- Avoid field work when plants are wet.
- Work areas of known infestation last to cut down on spread of the pathogen.
- Disinfect equipment (stakes, posts, wire) in a 10 percent bleach solution prior to storage, especially if canker has been a problem.
- Bury plant debris and control solanaceous weeds to reduce the overwintering potential of the disease.



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## **ANR-865**

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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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Web Only, **Revised Sept 2004**, ANR-865

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