

## Plant Disease Notes

# Bacterial Wilt of Cucurbits

**B**acterial wilt, caused by the bacterium *Erwinia tracheiphila*, is a destructive disease of plants belonging to the cucumber family. Although bacterial wilt is most common on cucumber and cantaloupe, it can also infect squash, pumpkins, and a number of wild cucurbit plants. Watermelons and most gourds are highly resistant to the disease.

**Symptoms.** Bacterial wilt is characterized initially by wilting and drying of individual leaves. Within 1 to 2 days the wilting symptoms spread to leaves up and down a runner. The bacteria spread from infected runners to the main stem and then to other runners with the entire plant eventually collapsing.

Two diagnostic techniques can be used to identify bacterial wilt in the field:

- Cut a wilted stem near the crown and squeeze sap from the newly cut stem. Look for a white exudate from the vascular bundles (the food- and water-conducting vessels just beneath the epidermis). Then touch a clean knife blade to the cut surface and slowly withdraw the blade from the stem. Watch for a white ooze that strings out in a fine thread between the newly cut stem surface and the knife blade.

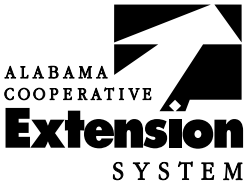
- Take two recently cut stem sections from near the crown of a recently wilted vine. Squeeze sap from the cut stem ends; then press the two ends together. Continue to squeeze and slowly draw the two sections apart. The presence of a thin, sticky white strand or strands between the two sections is a positive test for bacterial wilt.

Positive test results appear to be easier to obtain for cucumber and for some squash than for cantaloupe.

**Persistence and Transmission.** The striped and spotted cucumber beetles are both common carriers of *Erwinia tracheiphila*. The bacterium overwinters in the digestive tract of the insect and can be transmitted to susceptible plants the following spring when the beetles become active. Transmission occurs through wounds on leaves created by the beetles' feeding.

**Control.** Bacterial wilt of cucurbits can be controlled by the following strategies:

- Use insecticides to control cucumber beetles and limit spread of the disease.
- At the first sign of disease in small plantings, spray wilted plants with a suggested insecticide; then remove and destroy them.



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**ANR-873**

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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-873

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