

Plant Disease Notes

Bacterial Wilt of Tomatoes

ANR-862

Bacterial wilt is caused by the soilborne bacterium *Pseudomonas solanacearum*. Bacterial wilt attacks plants in the Solanaceae family, which includes peppers, potatoes, and eggplant.

Symptoms. A characteristic of this disease, which sets it apart from other wilt diseases, is that plants wilt and die rapidly without yellowing or spotting of the foliage. Bacteria cause wilt by invading and gradually blocking the vascular tissue (the food- and water-conducting vessels just beneath the epidermis).

To identify bacterial wilt, cut and peel back a section of the epidermis and cortical tissue (bark) just above the soil line. In the early stages of bacterial wilt, the pith (center of the stem) will appear water soaked; later, the pith will turn brown and sometimes become hollow. The discoloration of the pith distinguishes this disease from *Fusarium* and *Verticillium* wilt.

Another relatively easy diagnostic technique is to cut a portion of the affected stem and place it in a clear-sided glass container filled with water. Watch for a white, milky ooze streaming out of the cut end of the discolored vascular tis-

sue. The white, milky ooze is diagnostic for this disease.

Persistence And Transmission.

The bacteria responsible for bacterial wilt can overwinter in soil. The pathogen can occur in newly cleared land as well as in areas where susceptible crops have not been grown. The bacteria often enter a field on infested transplants or equipment or through drainage water. Bacteria infect plants through the roots or stems, most often where tissue has been injured by cultivating or by some other physical means such as nematodes. The disease is most commonly found in low, wet areas of fields and is most active at temperatures above 75°F.

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

- Grow susceptible crops (peppers, potatoes, and eggplant) in the same area no more than once every 4 years to reduce inoculum in the soil.
- Use soil fumigation in heavily infested fields.

- In the home garden, rogue (weed out) wilted plants and remove the soil surrounding their roots to reduce spread of the disease.

- Disinfect infested soil with soil solarization. Contact your county Extension agent for more information on soil fumigation and soil solarization.



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Edward J. Sikora, *Extension Plant Pathologist*, Professor,
Entomology and Plant Pathology, Auburn University

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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