

## *Plant Disease Notes*

# Bacterial Blights of Snap and Lima Beans

Two bacterial diseases that commonly occur on snap and lima beans in Alabama are common bacterial blight, caused by *Xanthomonas phaseoli*, and halo blight, caused by *Pseudomonas syringae* pv. *phaseolicola*. Though caused by different species of bacteria, each produces similar symptoms on bean plants.

**Symptoms.** The initial symptom of bacterial blight infection appears as water-soaked spots on the lower leaf surface. Lesions usually turn brown with time and often are surrounded by a narrow yellow halo. As the lesions enlarge they often run together resulting in extensive brown, dead areas. When severe, leaves often appear burned. In time, leaves become ragged and may drop prematurely.

Symptoms on pods appear as circular, sunken, reddish-brown lesions that vary in size. Pod lesions are usually surrounded by a dark reddish-brown margin. Infected seed are usually shriveled, discolored, and exhibit poor germination and vigor.

The initial symptom of halo blight also appears as water-soaked spots on the lower leaf surface. A distinctive greenish-yellow halo forms around the initial infection site that remains relatively small. When severe, the leaves

take on a generalized yellow or chlorotic appearance that may be misidentified as a nutritional or pH disorder.

Pod symptoms generally consist of a reddish-brown discoloration that may also appear water-soaked. As pods mature and turn yellow, pod lesions remain green and may exhibit a crusty bacterial ooze on their surface. Infected seed are often shriveled and discolored.

**Persistence and Transmission.** Spores of bacterial blight and halo blight can survive inside bean seed and in plant debris in the soil. Seed contamination is an effective means of both local and widespread dissemination of the pathogens. Seedlings arising from infected seed harbor large numbers of bacteria. Both pathogens can survive on alternate weed hosts and volunteer bean plants in the area.

The bacteria survives for about 1 year in plant debris. Survival is generally longer in residue left at or near the soil surface. High humidity, rain, or both favor rapid development of the disease in the field. Bacterial spores are spread by windblown rain and splashing irrigation water or through contact between adjacent leaves wet from rain or dew.

Development of bacterial blight is favored by temperatures in the 85° to 95°F range. Halo blight is considered a

cool-season disease and is favored by temperatures in the 65° to 75°F range.

**Control.** Bacterial blights of snap and lima beans is best controlled by using the following strategies:

- Use certified disease-free seed. Do not save seed from the previous season if bacterial blight or halo blight was present.
- Use crop rotation. Do not plant beans in the same field for at least 2 years. Control volunteer beans during this rotation period.
- Eliminate weeds that may act as reservoir hosts for the bacteria.
- A copper-type fungicide/bactericide may be needed if the disease is present and weather conditions favor its development.



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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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