

## *Plant Disease Notes*

# Anthracnose on Garden Beans

Bean anthracnose, caused by the fungus *Colletotrichum lindemuthianum*, occurs most commonly when locally-grown seed is used in home gardens. The disease can cause 100 percent yield reductions when cool, wet weather conditions persist during the growing season.

**Symptoms.** Anthracnose symptoms may show up on leaves, stems, pods, and seeds of bean plants. Lesions on stems are sunken oval cankers, extending up and down the stem. Cankers range in color from brown to black with purple to brick-red borders, giving the lesion an eyespot appearance. Bean stems weakened by cankers are often more susceptible to damage from cultivation and strong winds.

Lesions are more common on leaf petioles and on the lower surface of leaves and leaf veins. Lesions are elongate, angular, and brick red to purple, becoming dark brown to black with time. Lesions often follow the veins on the lower leaf surface. When severe, angular dead zones may form on the upper leaf surface giving the plants a ragged appearance.

The most easily recognized symptom of anthracnose on beans occurs on the pods. Small, reddish-brown elongated spots form initially. These spots

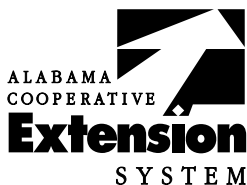
gradually become somewhat circular, sunken at the center, and vary in color from tan to brown to reddish brown to black. A rusty-brown, slightly raised border forms around each lesion. Older lesions may be over  $\frac{1}{4}$  inch in diameter. During wet weather, a mass of pinkish colored spores can be seen on the lesions. Young pods may shrivel and dry if severely infected. The fungus can invade the pod and infect the developing seeds. Seed infected with the disease have dark, sunken lesions of various sizes that may extend through the seed coat. When infected seed are planted, the fungus will multiply, form lesions on the cotyledons, and eventually spread to other plant parts during the season.

### **Persistence and Transmission.**

Anthracnose overwinters inside bean seed and in infected bean debris left in the field after harvest. The fungus can survive in seed as long as the seed remains viable, and for more than 2 years in old bean debris under field conditions. The fungus is spread by wind, rain, animals, workers, and farm implements. Cool, wet weather promotes disease development while the fungus ceases to be active during hot, dry conditions.

**Control.** Bean anthracnose is best controlled by using the following strategies:

- Use disease-free seed. Seed produced under wet, humid conditions are most susceptible to infection. For this reason, it is best not to save seed from year to year in Alabama.
- Crop rotation. Do not plant beans in the same field for at least three years.
- Sanitation. Fields should not be worked when plants are wet because fungal spores are easily spread from diseased to healthy plants under these conditions.
- Scout fields weekly for symptoms of the disease.
- A fungicide with the active ingredient chlorothalonil or maneb should be applied when the disease is first observed and reapplied weekly during the season.



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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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