

## *Plant Disease Notes*

# Bot Rot (White Rot) of Apples

ANR-1181

**B**ot rot, caused by the fungus *Botryosphaeria dothidea*, is also known as white rot or *Botryosphaeria* rot. Bot rot can cause fruit losses of up to 100 percent in orchards in the Southeast. The fungus also causes a severe canker disease on apple trees during hot, dry summers.

**Symptoms.** Lesions on fruit begin as small, circular brown to tan spots, sometimes with a red halo on green or yellow fruit. The halo may be purple to black on red fruit. As the spots enlarge, the rot progresses to the core of the fruit in the shape of a cylinder. This symptom can be used to distinguish Bot rot from bitter rot, which forms a V-shaped rot extending to the core. Under warm conditions the rot progresses rapidly. Rotted areas are soft and watery and tan to brown in color; fruit completely rot in a few days. Under cooler conditions, the rot is firmer and darker brown in color. It is difficult to separate Bot rot from black rot based on fruit symptoms.

Most cankers start at pruning wounds, particularly stub cuts. Cankers can also start in frost cracks and areas scalded by the sun. Infected bark becomes depressed, and blisters form. Cankers develop rapidly on drought-stressed trees. The fungus moves up and down limbs and trunks more

rapidly than around them, leading to elongated cankers. The bark on the cankers peels in very thin layers similar to an onion skin. Cankers can girdle limbs and trunks. The canker phase of the disease is most severe on Golden Delicious and Rome Beauty but can affect all cultivars.

### **Persistence and Transmission.**

The fungus overwinters on dead wood in the tree and on the ground. Spores are released during the summer under rainy conditions. This fungus, like the black rot fungus, can invade fire blighted tissue and produce spores by the end of June. Spores are dispersed primarily by rain, and moisture is required for infection to take place.

**Control.** Bot rot control is dependent on good orchard and tree sanitation. Dead wood, including the current season's "fire blight" strikes, needs to be removed from the tree and ground and either burned or buried. Chopping the wood with a flail-type mower removes the bark from the wood, eliminating potential overwintering sites. Fungicides are effective if the dead wood has been eliminated. Fungicide sprays should be initiated approximately 6 weeks before harvest. Application should be made every 2 weeks until harvest. Control of the canker phase of the disease also starts with

a good sanitation program. Equally important are good pruning practices. Avoid stub cuts; proper pruning saves the branch collar, which is essential for rapid wound closure. Remove cankers on limbs by making cuts 12 inches below the canker. During hot, dry weather, trees should be irrigated to lessen stress and reduce the likelihood of infection. See Extension publication ANR-500-A, *Alabama Pest Management Handbook—Volume 1*, for a list of recommended fungicides and spray schedule.



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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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