

TIMELY INFORMATION

Agriculture & Natural Resources

Grape Black Rot Disease

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Black rot (*Guignardia bidwellii*) disease symptoms are observed on hybrid bunch and muscadine grape vineyards in Alabama. Black rot is an important fungal disease of grapes that can cause complete crop loss in warm, humid climates, such as the Southeastern U.S. Fungus invades all parts of the grape vine, causing symptoms on stems, tendrils, leaves and fruit. Leaf infections appear as tiny, reddish-brown spots on the upper surface in early June (Fig. 1), and within a few days tiny black spherical fruiting bodies are formed (Fig. 2). Spots increase in size and eventually blight the entire leaf (Figure 3), or in more severe cases may girdle and kill the young shoots.



Figure 1. Reddish-brown spot on the upper leaf surface



Figure 2. Black spherical fruiting fungal bodies

Infection of the fruit is by far the most serious phase of the disease and may result in substantial economic loss. Infections begin to appear on the fruit when the grapes are about one-half grown. At first, a small white spot forms on the surface of a grape berry. This spot enlarges rapidly until the entire grape is rotten (Figure 4). Affected grapes soon turn black, shrivel, and dry up. Within a few days most of the grapes within a cluster are infected and soon rot.

The black rot fungus overwinters primarily in mummies within the vine and on the ground. The fungus can also overwinter within lesions of infected shoots that are retained as canes or spurs. Spring rains trigger release of spores that form within mummies, which are usually dispersed by wind. Infection occurs when a spore lands on susceptible green tissue and it remains wet for a sufficient length of time. At a temperature of 80^oF, it takes about 6 hours for the infection to occur.



Figure 3. Spots increase in size and eventually blight the entire leaf.



Figure 4. The spot enlarges rapidly until the entire grape is rotten.

How to handle black rot in your vineyard? Black rot should be managed through a combination of cultural and chemical methods. Make sure you are spraying vines with a recommended fungicide every ten to fourteen days. Please, refer to the 2010 Southeast Regional Bunch Grape Integrated Management Guide http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2010/BunchGrapeSprayGuide2_19_10.pdf , and the 2010 Southeast Regional Muscadine Grape Integrated Management Guide [http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2010/2010%20muscadine%20IMG%20Draft%20Feb%202010%20Cline%202%20\(2\).pdf](http://www.smallfruits.org/SmallFruitsRegGuide/Guides/2010/2010%20muscadine%20IMG%20Draft%20Feb%202010%20Cline%202%20(2).pdf)

Regardless of the fungicide selected, it is important to apply using the recommended rate and at the timing interval recommended on the fungicide label. It is critical to remove all mummies from the canopy during the dormant pruning process. Cultivating beneath the vines near bud break in order to bury mummies will also greatly reduce the number of spores that are released from them, which could otherwise cause infection. As with all fungal diseases, canopy management practices that promote air circulation, speed drying of the leaves and fruit, and improve spray penetration could provide an improved disease control.

Another important factor which influences control of black rot deals with the appropriate fungicide coverage. Remember, obtaining coverage of the foliage and grape clusters with spray material is the most important part of the entire spray program. To control black rot, every grape cluster must be completely covered with fungicide each time the vines are sprayed.