Grape Black Rot

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Black rot is one of the most common and serious diseases of wild and cultivated grapes. The fungus attacks canes, tendrils, leaves, and fruit. The disease is most destructive in warm, humid areas. Before good control measures were developed, most vineyards were hit, and it was not uncommon for entire crops to be lost. Now, however, sanitation, sound cultural practices, fungicides, and resistant varieties help to control black rot of grape.

Symptoms

Symptoms of black rot first appear as small yellowish spots on leaves. As the spots enlarge, a black border forms around the margins. The centers of the lesions become reddish-brown. By the time the lesions reach 1/8 to 1/4 inch in diameter, minute black dots appear. These are fungal fruiting bodies and contain thousands of spores. The fruiting bodies are often arranged in a ring pattern, just inside the margin of the lesion. Lesions may also appear on young shoots, cluster stems, and tendrils. These lesions are purple to black, oval in outline, and sunken. Fruiting structures form on the lesions but not in a clear pattern as in the leaves. Fruit symptoms often do not appear until the grapes are half grown. Small, round, light brownish spots form on the fruit. The rotted tissue in the spot softens and becomes sunken. The spot enlarges quickly, rotting the entire berry in a few days. The diseased fruit shrivels, becoming small, hard, black, and wrinkled. Tiny, black fruiting bodies are formed on the fruit mummies. The mummies usually remain attached to the cluster.
Cause
Black rot is caused by the fungus, Guignardia bidwellii. During winter the fungus persists in cane and tendril lesions and fruit mummies. In spring, spores of the fungus are carried to young tissue by splashing or wind-blown rain. Infection of grape tissue occurs in less than 12 hours if temperatures range between 60 and 90 degrees F. Black rot infection will continue as long as rains and warm weather continue. Usually, infection is first seen on the lower leaves of vines.

Control
Sanitation is of utmost importance in the control of black rot. Destroy mummies, remove diseased tendrils from the wires, and when pruning, leave only fruiting canes without lesions. If only a few leaf lesions appear in the spring, remove these infected leaves because the disease spreads rapidly after a few infections become established. Plant grapes in sunny open areas that allow good air movement. When grapes are exposed to light and good air circulation, they are less likely to have black rot. Good weed control also enables plants to dry more quickly. Always start new vineyards in areas isolated from old infected vineyards.

A fungicide spray program, especially early in the season, is extremely important. Apply fungicides when: new shoots are 6 to 8 inches long; just before blossoms open; immediately after bloom; 10 to 14 days after bloom; and 2 or 3 weeks later. Note: It is critical that sprays be applied before the rain, not after. Captan 50% WP (also sold as Orthocide); folpet 50% WP (also sold as Phaltan); and benomyl 50% WP (sold as Benlate) are suggested fungicides for control of black rot. Be sure to follow ALL label instructions when using pesticides.

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