

Black Knot of Cherry and Plum

Enlarged black growths on stems

Pathogen—Black knot is caused by the fungus *Apiosporina morbosa*.

Hosts—Hosts of black knot are cherry and plum species.

Signs and Symptoms—Elongated swellings or knots (about 1-8 inches (2.5-20 cm) long and 1/3-1 inch (8-25 mm) thick) on twigs, branches, and small stems are commonly seen on susceptible hosts. The knots start out greenish in color and soft but become hard and black over time (fig. 1).

Disease Cycle—Spores are discharged from the fruiting bodies (in knots) in the spring as new growth starts to elongate. Spore discharge ends at about the time terminal growth stops. Rain is required for spore discharge, and spores are carried by both rain and wind to new infection sites. The fungus enters unwounded twigs. Infections are severe under moist conditions in the spring at the time of spore discharge.

Knots start to appear a few months after infection. Some appear in late summer, others not until the following spring. One to 2 years are required for the knots to produce fruiting bodies.

Impact—Fruit production can be significantly reduced in heavily infected cherries and plums. In heavy infections, small branches and sprouts can die over time (fig. 2).

Management—Management is generally not needed for black knot. When necessary, prevention of infection is the most efficient means of control. Removing infected wild hosts surrounding plantings will reduce infections in plantings. Pruning the knots can also reduce infections. Cuts should be made well below the knot (3-4 inches [7.6-10 cm]) as the fungus may extend beyond the swelling. Fungicides can also be applied in addition to the sanitation efforts. There is considerable variation in cultivar susceptibility to black knot.



Figure 1. Swellings on branches caused by black knot. Photo: Joseph O'Brien, USDA Forest Service, Bugwood.org.



Figure 2. Black knot on plum. Photo: William M. Brown, Jr.; Bugwood.org.

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1. Riffle, J.W.; Peterson, G.W., tech. coords. 1986. Diseases of trees in the Great Plains. Gen. Tech. Rep. RM-129. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 149 p.