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Black Knot on Plums, Prunes and Cherries

Black knot is caused by the fungus *Dibotryon morbosum*. It is an important disease of many species and varieties of plum and occasionally cherries. The black knot fungus overwinters on the limbs and trunk of the tree in elongated swellings or knots varying in length up to six inches or more. Its color ranges from brown to black. Some of the knots, especially the older ones, may show pink or white color due to the fungus *Cephalothecium roseum* Corda, which parasitizes the black knot fungus. Newly-formed knots are greenish and soft.

Mature ascospores are produced on many of the knots by the time tree growth begins in the spring. These spores are discharged during rainy periods and carried to the new growth by wind or a combination of wind and rain. New knots begin to appear in July and August and may produce new spores that fall or winter. Many knots produce spores for more than one year, but require at least one to be able to produce mature spores.

The length of time during which infection may occur seems to be governed primarily by the availability of soft, rapidly growing tissue. While various spore forms of fungus are present for most or all of the season, most infections occur during the spring when spores are present in the orchard air. Several months pass between initiation of the infection and the appearance of knots.

Since brown rot blossom blight, caused by the fungus *Sclerotinia fructicola* (Wint. Rehm.), is generally a threat in most home orchards, both diseases must be considered in the development of a disease control program. The black knot control program is based on the removal of the knots from the tree.

Many knots can be removed without serious tree injury by cutting off the limb on which the knot is borne. Knots on the trunk or main branch present a more serious problem, but they can often be removed by cutting out the diseased tissue down to the wood and outward for at least 1/2 inch in all directions. The success of this work depends on how it is done.

Suggested control measures for black knot

The fungus does not extend much beyond the visible swelling during the summer, but it may be growing three inches beyond the knot during the fall and winter. To remove a knot during the normal winter pruning season, the cut should be about four inches below the visible swelling. Prune before budbreak. Destroy pruned materials.

Chemical pesticides are available. If you choose to use chemical pesticides, contact your local Cooperative Extension office for specific recommendations. However, sprays will be ineffective if pruning and removal are not practiced. The most important period for black knot sprays is from white bud through shuck split. Black knot infection periods require rain and are most likely at temperatures above 55°F, thus sprays are most likely to be required under these conditions. Once the disease is established, it may require two to three years of vigorous effort to bring back under control.

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