

Black Knot Fungus (*Apiosporina morbosa*)

Not every pest attacks field crops and livestock. Many pests can also cause serious economic and aesthetic losses to shelterbelts, yard sites and gardens.

Biology: Black Knot fungus (*Apiosporina morbosa*) is a fungal disease common to shrubs and trees of the Prune family including; cherries, chokecherries, plums and apricots. It can spread very rapidly if left unchecked, resulting in loss of productivity, loss of aesthetic value, branch and tree death.

Spores are released following a period of wet warm weather with optimal temperatures for infection between 16 and 27C. Spores can be spread by wind, birds and rain splash, with the initial infection around time of bud emergence. The initial infection is a small light brown swelling on the current season's new growth or on the new growth from the previous season. In the following year the brownish swelling becomes a green or olive-green gall or swelling which often has a velvety surface. In time, over two to three years the gall matures becoming hard, black to black-grey in colour and up to 15 cm in length. The gall surface will appear to be cracked or ruptured.



Figure 1. Infected Tree

The mature galls release large numbers of spores during the bloom period, rapidly spreading the infection. In addition the fungus spreads both internally and externally on the infected the branch and tree.

Identification: Black Knot can be distinguished by the characteristic black, tar-like swellings that develop on infected branches over a period of years.

Scouting Techniques: Frequent and repeated scouting is critical in managing the infection. Scouting should continue into the fall after leaf drop as it can be effective in detecting new infections, the spread of known infections and allow planning for fall pruning.



Figure 2. Infections showing mature galls and a developing olive green gall

Control Measures: Black Knot fungus management depends on scouting, chemical sprays and sanitation. The primary goal of any black knot control program should be to limit sources of inoculum to prevent spread to uninfected trees and pruning to reduce internal and external infection for trees already infected. Prune branches 15 cm past the galls while the trees are dormant (late fall to before March 1st) or after flowering. Pruning tools should be sterilized with bleach, alcohol or chlorine after each cut and any plant materials removed must be bagged and either burned or buried immediately to prevent spore spread.



Figure 3. Infection around pruned branch end

Chemical Options: A lime-sulphur spray can be applied when trees are dormant from late fall up to spring bud break. Following spring pruning Captan fungicide can be applied just prior to bud opening and repeated twice at 7 to 10 day intervals.

Similar Diseases: Black Knot fungus should not be confused with Poplar galls which are caused by the poplar bud gall mite.

