

BLACK KNOT ON ORNAMENTAL *PRUNUS*

Black knot is a disease that attacks plants in the genus *Prunus*, which includes varieties of ornamental plum, cherry and flowering almond. Black knot is caused by the fungus *Apiosporina morbosa* (formerly named *Dibotryon morbosum*). The most recognizable symptom of infection is the presence of unsightly thick black swellings, called knots, on woody parts of susceptible plants. These knots are 1 to 30 cm in length, and up to 5 cm in circumference. They may be on only one side of an infected twig, or completely encircle or girdle a branch. The knots are usually spotted in the winter, when foliage does not hide them from view. By the time that these knots are noticed, the plant has been infected with the fungus for a year or more. The earliest symptoms are small, light brown swellings on young twigs (this year's or the previous year's growth) however these are very difficult to detect, and often go unnoticed. Trees that are heavily infected will have numerous knots. The symptoms of this disease are not only unsightly in the landscape, but cause stress to plants that are infected, resulting in weakened, disfigured or stunted growth beyond the knots. A weakened plant is more susceptible to attack by other diseases and insects. In severe cases, an infected tree or shrub will die.

BLACK KNOT – LIFE HISTORY

This fungus spends the winter in the knots. In the spring (approximately when buds emerge), spores are released from microscopic sacs embedded in the surface of the knots after periods of warm, wet weather. These spores are dispersed by wind and rain. This infection period lasts until 2 to 3 weeks after bloom has finished. The spores infect

succulent green shoots and occasionally wounded wood. The growth of the fungus causes abnormal plant growth. By the end of the first summer, the knots appear as small, pale, soft galls which become green or white. By the end of the second growing season, the knots have enlarged, and changed to a hard, black structure. Knots enlarge by infecting new plant tissue at the edges of the knot, and fungus can also spread within branches, causing new galls to form at some distance from the original knot. The black knot fungus within galls will eventually die, but the gall does not automatically disappear. They tend to crumble as, they are attacked by insects and other fungi.

HOW DO I MANAGE BLACK KNOT WITHOUT RESORTING TO CHEMICALS?

- Select plants which are not susceptible, or varieties of *Prunus* which are less susceptible to this disease.
- Only purchase plants which are disease-free. When buying susceptible plants, inspect stems carefully for swellings that might indicate an early infection. Never buy plant material with visible knots.
- Check susceptible hosts regularly, and remove all shoots and branches which have knots. Pruning should be done during the winter, before spores are released (at bud break). Cuts should be made at least 15 – 20 cm behind the knot to ensure that fungus that occurs within the branches is removed. The knots are capable of producing and releasing spores after being cut from the tree so

remove and send to the City Compost or destroy pruned plant material.

Remember to surface sterilize tools with 10% bleach or Isopropyl (Rubbing) alcohol between cuts.

- If knots cannot be removed (i.e. they are on the trunk or on scaffold branches) remove diseased tissue down to healthy wood at least 1 cm. beyond the edge of the gall with a chisel.

- Make sure that nearby *Prunus* plants are not infected. Remove or prune wild plants from woodlots or hedgerows near your property. Talk to your neighbours about this problem if symptoms are visible on their plants.

For more information about Black Knot check the following web sites:

http://plantclinic.cornell.edu/FactSheets/black_knot/blacknot.htm

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/faq7622?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/faq7622?opendocument)