



ATTS Group

Black knot – Avoid mistakes

By Toso Bozic

Black knot (*Dibotryon morbosum*) is a prevalent disease in the Canadian prairies, naturally occurring and predominantly affecting trees and shrubs within the Cherry (*Prunus*) genus. Various species, including ornamental and edible cherries (such as Maydays, Shubert chokecherry, chokecherry, Nanking cherry, pin cherry, sand cherry, sour cherry, etc.), Saskatoon's, and plums are susceptible to this disease.

While black knot may significantly reduce crop yield in fruit production, for individual trees, **it usually takes years, and sometimes even decades, to fully destroy the mature tree**. Unlike rapid and deadly diseases that can swiftly kill a tree within a year or two, black knot with proper management; prevent its spread and eventual demise of the affected trees and shrubs.

Improper pruning and the timing of pruning are major contributors to the spread of Black knot. Avoiding pruning mistakes and selecting the right time for this activity is crucial in preventing the disease from spreading.

Identification of the Disease and Symptoms

Recognizing black knot is relatively straightforward, particularly during fall and winter when infestation is most apparent. Dark, black-colored swelling galls resembling tumor growth on branches or stems become noticeable from a distance on affected trees. In early summer, newly developed infections exhibit velvety green/olive color swellings along branches or twigs. The maturation of black knot, turning black, may take up to four years. During winter, spores mature, and a single average-sized (2-4 inch) black knot can release millions of tiny spores. Spores are dispersed in spring during wet periods, and without control, they naturally spread.

Mature black knots typically measure between 2-4 inches, though infestations as long as 10 inches on large branches are not uncommon. Deformed twigs and branches are frequent indicators of the disease. Galls encircle and strangle branches, ultimately causing the death of twigs and branches. Older black knots may be partially covered with a white-pinkish fungal mold or perforated by insect-made holes. Wood decay fungus may infiltrate the trunk or branches afflicted by black knot.



Pictures: Deformed branches (L); Old black knot with pinkish/white mold (C) and heavy infested tree (R)



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Management of black knot

Management of black knot involves addressing the natural spread of spores by wind and rain, acknowledging that little can be done to control these factors. Unfortunately, one prevalent means of disease transmission is through improper pruning during the growing season. The key action is monitoring of trees and shrubs for potential infestation, with a focus on timely and proper pruning to minimize or eliminate risks. Opting for tree and shrub species resistant to black knot is also a viable strategy, as chemical control methods are not effective against this disease.

Effective timing for black knot control

- Pruning should only be conducted during wintertime when temperatures are well below 0 Celsius, rendering spores inactive and unable to survive exposure to the cold winter climate. At this time, trees and shrubs are dormant, ensuring that they will not be harmed by pruning cuts.
- Avoid pruning in late fall (September, October, and November) or early spring (March, April, and May), as both periods pose potential risks to trees and shrubs. Pruning in late fall can damage cuts, as trees may not have completely shut down for winter. In early spring, it may be challenging to determine if spores are active, and sap is already flowing within trees and shrubs.
- Refrain from pruning during the growing season unless there is a first-time observation of new infestation. Pruning during this period is a high-risk activity that can contribute to the spread of the disease.
- Avoid pruning on wet, rainy, and windy days, as spores are easily dispersed under these weather conditions.

Guidelines for proper pruning and removal

- Begin by acquiring basic knowledge about [proper pruning](#), emphasizing safety precautions.
- Ensure the availability of suitable and [sharp tools for the pruning](#) of trees and shrubs.
- Recognize that the fungus spreads within the wood well below the infested area. Consequently, it is essential to prune at least 12 inches, or ideally 24 inches, below the affected region.
- If pruning a few infested branches during the growing season, disinfect pruning tools after each cut. In winter, disinfect tools both before and after pruning.
- Pruning all the way to the collar of a branch is sometimes recommended for effective removal.
- In the case of heavily infested trees and shrubs, complete removal is the most effective method to mitigate the impact of black knot.
- **Immediately remove infested wood.** The proper disposal of infested branches is as crucial as the pruning process itself, as spores can be dispersed even up to four months after pruning. Avoid leaving branches near other trees or shrubs.
- For a small number of branches, place them in a garbage bag, while the entire tree material should be disposed of in a landfill. During winter, burning infested wood is a viable option.

For more information:

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