

# Butternut Canker

(*Ophiognomonia clavigignenti-juglandacearum*)

Butternut canker is a fungus that infects and kills healthy butternut trees (*Juglans cinerea*) of any size or age. We don't know where the disease originated, but scientists believe it spread from Asia to North America. The effects of butternut canker were first noticed in the late 1960s.

The fungus usually kills trees quickly. Diseased areas called "cankers" develop under the bark and eventually surround the branches and main stem. The cankers restrict the flow of water and nutrients and "strangle" the tree. Fungal spores can be spread by splashing raindrops, by insects and birds, and by infected seeds, making the fungus hard to control.

Butternut canker kills most trees it infects. However, some trees have few symptoms and live much longer than most. Researchers believe these trees may be genetically resistant to butternut canker, or some environments may increase a tree's tolerance to the disease. These standing trees need to be retained to support the recovery of the species. They provide researchers with valuable genetic information about butternut, as well as seeds for planting and twigs for grafting.

## Range

In Canada, the butternut tree is found in southern Ontario, southwest Quebec and New Brunswick. Butternut canker has been reported throughout the entire native range of butternut in Canada and the United States. In some areas of the United States it has killed up to 90 per cent of the butternut population.

## Impacts of Butternut Canker

- Butternut canker infects and kills healthy butternut trees.
- Loss of a diseased tree's crown and vigor reduces the number and quality of seeds it produces.
- The butternut tree is now at risk in much of eastern North America. It is listed as an endangered species in Ontario under the Endangered Species Act and in Canada under the Species at Risk Act.
- The commercial value of butternut can be decreased by the surface discoloration of the wood caused by the fungus.



Young butternut showing established canker. The cankers cut off the flow of water and nutrients and can kill an otherwise healthy tree. Photo: Joseph O'Brien, USDA Forest Service, Bugwood.org

## How to Identify Butternut Canker

- Branches in the tree's crown are dying or leafless.
- Dark, sunken, elongated cankers are found on branches and stems, often with a dark, sooty patch of bark.
- During the spring, black fluid oozes from the cracks in the bark. During summer, fall and winter the black fluid dries, leaving a sooty stain.
- Small, stress-induced branches (called epicormic branches) usually grow from the trunk below the dead or infected area.
- Bark may be loose or missing over older cankers.



Black fluid oozing from cracks in the bark. Photo: Barb Boysen, MNR

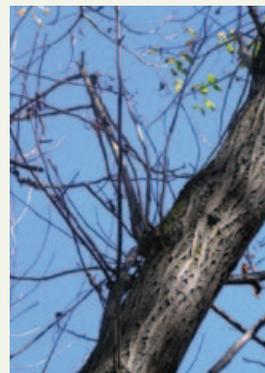
## What You Can Do

- Learn how to **properly identify the butternut tree** and symptoms of butternut canker, and spread the word to others on what to do when you find butternut.
- Contact your local Ministry of Natural Resources office at [ontario.ca/mnr/offices](http://ontario.ca/mnr/offices) for more information before you consider cutting a butternut. All naturally occurring butternut trees of any age and size are protected in Ontario, whether or not they are infected with butternut canker, but some infected trees may qualify for exemption.
- Help protect butternut and increase our knowledge about infection and death rates, seed crops and regeneration by reporting butternut locations to your local Ministry of Natural Resources office, or to the Natural Heritage Information Centre at <http://nhic.mnr.gov.on.ca>.



Oozing butternut canker. Photo: Barb Boysen, MNR

- If you have a healthy butternut tree on your property, staff in your local Ministry of Natural Resources office can help you determine if your tree is a pure, naturally occurring butternut and if it is healthy enough to be used for seed collection, or as a source of cuttings that can be grafted for conservation and research.
- Consider planting butternut trees on your property to help maintain the species. Ask growers for seedlings that are grown from locally adapted, pure native butternut seed.
- Don't move firewood. Burn it where you buy it.



Epicormic branches sprouting from the stem. Photo: Greg Bales, MNR

## Other Resources:

[www.invasivespeciescentre.ca](http://www.invasivespeciescentre.ca)  
[ontario.ca/invasivespecies](http://ontario.ca/invasivespecies)  
<http://nhic.mnr.gov.on.ca>  
[www.fgca.net](http://www.fgca.net)  
[www.invadingspecies.com](http://www.invadingspecies.com)

## For More Information:

Please contact the Invading Species Hotline at 1-800-563-7711.

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