

Oak Wilt

An Invasive Pathogen on Canada's Doorstep!



P. Kurzeja, Forest Health Division, Michigan D. N. R.

What is it?

Oak wilt is a vascular disease of oak trees, caused by the fungus *Ceratocystis fagacearum*. The fungus grows on the outer sapwood of oak trees restricting the flow of water and nutrients through the tree.

Trees at risk:

All oak species are susceptible and at risk. The red oak group (red, black, pin) is the most susceptible, with mortality frequently occurring within one growing season. Oaks in the white oak group (white, bur) are also affected but are more resistant.

Where is it?

Oak wilt has spread throughout the Eastern United States. In 2016, oak wilt was confirmed on Belle Isle (United States), in the middle of the Detroit River, 579 meters from the shores of Windsor, Ontario.

Signs and Symptoms:



Invasive Species Centre

- Leaves turn dull green, brown or yellow
- Discoloration of leaves progressing from the edge of the leaf to the middle
- Wilting and bronzing of foliage starting at top of the tree and moving downwards
- Premature leaf fall (including green leaves)
- White, grey or black fungal mats just under the bark that emit a fruity smell
- Vertical bark cracks in the trunk and large branches as a result of the fungal spore mats (also referred to as pressure pads) exerting outward pressure on the bark


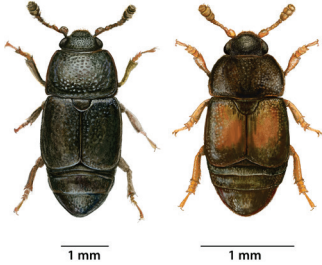

Impacts:



D.W. French, University of Minnesota, Bugwood.org

- Impacts property values and neighbourhood aesthetics
- Increased costs with tree maintenance, removal and replacement
- Loss of a valued shade tree
- Negative impacts to the forestry industry and production of high value oak products
- Reduction in food source for forest animals provided by oak trees
- Loss of habitat for some species
- Reduction of ecological services (air and water filtering)
- Safety and liability issues

How is oak wilt spread?

Roots	Insects	Humans
<p>The disease spreads from infected trees to uninfected trees of the same species through root-to-root contact.</p>  <p>James Solomon, USDA Forest Service, Bugwood.org</p>	<p>Insects such as sap-feeding nitidulid beetles can move spores from infected trees to healthy trees.</p>  <p>USDA Forest Service, Northeastern Area State and Private Forestry</p>	<p>Movement of wood products, (particularly those with bark), such as firewood can spread the pathogen over long distances as they can harbor fungal mats.</p>  <p>Joseph OBrien, USDA Forest Service, Bugwood.org</p>

What can you do?

There is no cure for oak wilt infected trees. The best approach is to avoid or reduce infection in areas where disease occurs by:

- Identifying and removing diseased trees
 - Preventing the formation of, or severing existing root connections between diseased and healthy trees
 - Minimizing wounds on healthy trees during the flight period of potential insect carriers
- **DO NOT** prune oak trees from **April to July**. If pruning must occur, or if a tree is injured, apply a thin layer of wound paint immediately.
 - **DO NOT** move firewood. Oak wilt is spread by the movement of infected wood.

If you see signs and symptoms of oak wilt, report the sightings to:

- The Canadian Food Inspection Agency (CFIA)
<http://www.inspection.gc.ca/about-the-cfia/contact-us/eng/1299860523723/1299860643049>
- EDDMapS Ontario
<https://www.eddmaps.org/ontario/>
- Invading Species Hotline
1-800-563-7711

For more information on oak wilt visit:

- Oak wilt species profile on the Forest Invasives Canada website
<http://forestinvasives.ca/Meet-the-Species/Pathogens/Oak-Wilt>