

➤ Will beech bark disease affect yard trees?

Beech trees in residential areas are also susceptible to attack by beech scale and subsequent invasion by canker fungi. Infestations of residential beech trees have been found along Lake Michigan near Sturgeon Bay. Mortality of residential beech trees in the area has been reported.



Beech can be a part of urban landscape. Unfortunately, these beech trees near a house were infested with beech scale (Photo by Chris Plzak, WI DNR)

Diseased trees are a safety hazard because they can snap in high winds. In areas where failure of beech may be a hazard to people and structures, a tree may need to be removed once it is moderately infested with the scale.

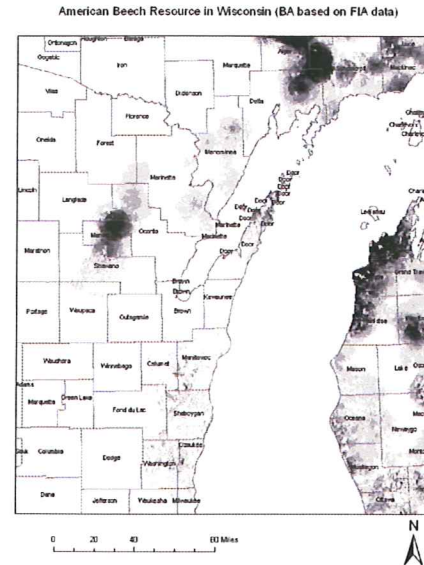
➤ Do I have beech in my yard?

Beech trees are easy to recognize. They have smooth light gray bark even when they are mature. Leaves are oval, 2-5" in length.



(left) Beech leaves (right) smooth bark of a large beech tree

In Wisconsin, beech is only found in eastern counties near Lake Michigan.



Beech abundance in Wisconsin. Darker color represents higher density of beech trees.

➤ How can I control attacks from the beech scale?

In Lower Michigan, invasion by the fungi occurs several years after initial infestation by beech scale. Keeping most of the scales off the tree may reduce the risk of infection by the fungus. A tree with only a few scales will produce fewer scale offspring, delaying population buildup.

In a recent study conducted in Michigan, use of a variety of insecticides and fungicides was not effective in controlling beech scale or beech bark disease. However, physically scrubbing scales off the trees provided effective control. For high value landscape trees it is recommended that the scale insects be removed by physical scrubbing or by washing off with water using a high pressure sprayer. This treatment needs to be repeated every year.

Homeowner's guide

How to detect and control

Beech Bark Disease



Wisconsin Department of Natural Resources
Division of Forestry, Forest Health Protection

<http://dnr.wi.gov/forestry/FH/bb.htm>
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➤ What is beech bark disease?

Beech bark disease is a disease of American beech (*Fagus grandifolia*) that occurs when an exotic scale insect, called beech scale (*Cryptococcus fagisuga*), colonizes beech and makes them susceptible to invasion by one or several species of canker-causing *Neonectria* fungi.

Native to Europe, beech scale was introduced into Nova Scotia, Canada around 1890. The scale and disease have been moving west and south across the United States and Canada since that time. The disease was first detected in Michigan in 2000. The scales are easily spread by the wind, birds, and as hitchhikers on infested firewood.

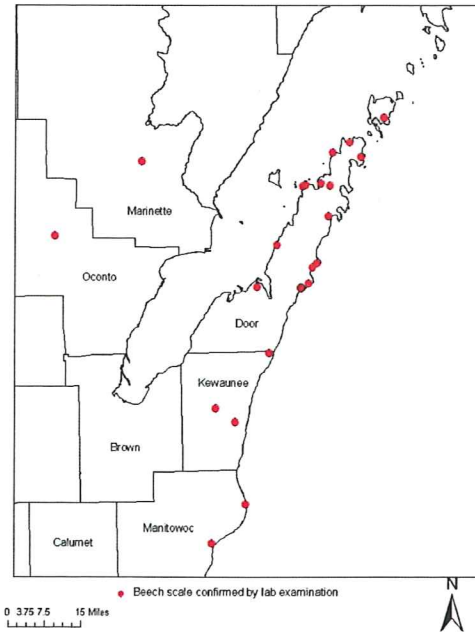
➤ Would it kill a tree?

Fungal invasion creates regions of dead wood tissue (cankers) beneath the bark. This restricts the flow of water and nutrients, killing the tree over time. Most beech trees are susceptible to beech bark disease and will be killed. Research has shown that only a small percentage (<5%) of American beech is resistant to this disease. When the disease first establishes, about half of the large beech trees typically die. Infected trees are structurally weakened and very susceptible to trunk breakage during high winds.

➤ Where is the beech scale found in WI?

Beech scale was first detected in east of Sturgeon Bay in Door County, Wisconsin in August 2009. Mortality of beech trees was also observed in the areas where scale populations were high.

Though mortality of beech appears to be confined to a relatively small area east of Sturgeon Bay, light to very light level of infestation by beech scale has been confirmed in Kewaunee, Marinette, Manitowoc, and Oconto Cos. as well as throughout Door County. Additional surveys are continuing in 2010.



Confirmed sites of the beech scale in Wisconsin as of June, 2010. Confirmed sites are shown with a red dot.

➤ What does the beech scale look like?

Scales are tiny insects (0.5 to 1 mm) related to aphids. Like aphids, they have a long tube-like mouthpart called a 'stylet' that is inserted into the tree to feed.



A young beech scale (photo:Forestry images)

Adults lay eggs during the summer and the eggs hatch in the fall. Once the young scales find a suitable location on a beech tree, they insert their stylet into the tree and begin feeding. They lose

their legs, become covered with a woolly wax, and remain there for the rest of their lives. They overwinter in this stage, and become adults in the spring.

➤ What does the infestation by the beech scale look like?

When a beech tree is heavily infested with beech scale, the entire trunk may appear white.



A beech tree heavily infested with beech scale

When scale infestation is light, there may only be tiny spots or patches of white wool on a tree trunk or a branch. Infestations often begin on rough surfaces such as rough bark, near old branch stubs, under large branches, wounds, cracks, or beneath mosses or lichens. Since many scales are washed down by rain, infestations are more commonly found on the lower part of a tree. At an early stage of scale infestation in a stand, "white wool" produced by the beech scale may resemble lint or a snow flake.



A small speck of the beech scale

It is common to find heavily infested trees next to lightly infested trees.