

Beech bark disease poses threat to forests



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By Nate Smelle

The Bancroft chapter of the Ontario Woodlot Association had its biggest turnout ever last Saturday at its annual general meeting last Saturday. More than 30 members gathered at a private woodlot on the outskirts of Bancroft off Airport Road to take in a presentation by Ernie Demuth of Demuth Forestry Services on the impact of Beech Bark Disease on Ontario's forests and forestry industry.

Having first reared its head in Canada back in the 1890s in Nova Scotia, Demuth said BBD has since migrated to Ontario, mainly through the transport of wood and wood products. Noting the importance of the forestry industry to the local economy, he said North Hastings is a BBD hotspot. As devastating as the emerald ash borer has been in Ontario, Demuth said BBD will likely have a much larger impact on the forests of Ontario.

"We experience it much more severely," said Demuth.

"So, it's not that 80 per cent or 100 percent are going to die over 10 years, 80 per cent or 100 are going to die over three or four years. It happens that fast."

The result of two independent organisms, a scale insect followed by a fungus (*Neonectria faginata*) that causes the tree to rot, BBD almost always results in the death of the tree, explained Demuth. As larger trees die and open up the canopy, he said small beech

sucker trees, which grow quickly, sprout from the damaged roots of these trees and choke out the other saplings trying to grow. The way BBD establishes itself in the forest, Demuth explained is through the tiny scale insect which first arrives infecting the largest trees in the area. He explained further that BBD spreads through three phases ? first, with what he calls ?the advancing front,? which then progresses to ?the killing front? and eventually results in the third phase which he identified as ?the aftermath forest.?

?In the killing front, that's when you get really heavy, extensive above ground mortality, and it can't be overtaken,? said Demuth.

?The Trent-Severn Forest experienced 50 per cent mortality in three years. So, half their trees were gone in three years.?

Recognizing the dangerous predicament BBD creates for the forestry industry, Demuth said it is also bad news for biodiversity. Because BBD also reduces the beechnut production part of infected trees, he said it can also limit the contribution of beechnuts to a local ecosystem which is a primary food source for many species of wildlife in the forest. Limiting this food source creates an imbalance in the forest, and a significant problem for the black bear in particular. Acknowledging that beechnuts (11 per cent) have a much higher fat content than acorns (six per cent), Demuth said black bears consume a large amount of them to fatten up and ensure their survival over winter.

?There have been studies that have shown, that 80 per cent of sows reproduce better after a good mast year, so when they get a lot of beechnuts they have good reproduction rates,? Demuth said.

?In poor nut years that really drops, so we are going to have a major issue with bears. When I first started doing presentations on this I had never seen a bear's nest in an oak tree or a cherry tree, and everyone would say "Yes of course not. Now, I am seeing bear's nests in oak trees. They've got to get food from somewhere, so they are going to adapt.?

Demuth said on occasion in forests affected by BBD, an isolated mature tree will not exhibit any symptoms. Demuth also indicated that these resistant and tolerant trees are currently being studied and can be conserved to maintain tree species diversity throughout the forest.

According to Demuth, there are basically two types of treatment that can be employed to help prevent BBD from spreading further throughout the forest ? these being manual and chemical. He explained that manual treatment entails using a brush saw to cut down beech trees that are less than two inches in diameter; and girdling the stems of trees that are two inches to eight inches in diameter using a hacksaw, axe or flame torch. Goats can also be used to go beech trees of this size, however, he said this often results in small stems re-sprouting from the damaged roots of larger beech trees.

Allowing for an organic control option, Demuth said brush saw treatment is the most feasible for smaller areas because it is more cost-effective. He also pointed out that Québec is treating BBD manually without chemicals and it is working well.

In terms of chemical treatments, Demuth said there are three main options ? basal bark treatment, cut-stump treatments, and stem injection/hack and squirt. Using a chemical called triclopyr, he said basal bark treatment usually works well on infected beech trees less than six inches in diameter.

The other two forms of chemical treatment, although effective in fighting BBD over large acreages, can be less desirable for many woodlot owners because it requires the use of a hazardous chemical found in Monsanto's round up known as glyphosate. These types of treatments can be applied at any time of year, however, Demuth said they should never be done before, during or immediately after it rains. Emphasizing the different benefits and risks with each of the options for treatment, he said ?I think we've got to be trying all this stuff.?

Barbara Szita-Knight is the communications director for the Bancroft chapter of the OWA. After sitting in on the session, she described it as both educational and overwhelming. She said Demuth's report was ?fair and balanced,? and that he did a great job in a short period of time describing and relaying the mechanics of the attacking organisms, and best procedures for managing BBD.

?The woodlot walk was quite the eye-opener as to the wide scope and physical appearance of diseased trees, and a fundamental tool in fully understanding what the beech tree species is up against,? said Szita-Knight.

For more information on beech bark disease and the Bancroft chapter of the Ontario Woodlot Association, visit their website at www.ontariowoodlot.com.