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Media Release

Woodlot Owners Key to Butternut Recovery

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"I can remember cracking butternuts as a child for the nutmeat inside," says John Dunsmore, who with his wife Rosemary, raises cattle on the shore of Kempenfelt Bay east of Barrie. "It was part of putting food away for the winter. We also have a cabinet made of butternut from one of our trees that snapped off in a wind storm."

Butternut was never abundant or of significant commercial value in Ontario, but it is part of our natural history and forest diversity. In the past 40 years, however, butternut has undergone serious declines due to butternut canker, a non-native fungal disease. Enough cankers will effectively girdle the tree, starving the root system and causing crown dieback.

A short-lived tree, seldom older than 80 years, butternut grows on various sites, but does best on deep, well-drained fertile soils. It can grow 21 meters tall and 0.9 m in diameter. Closely related to black walnut, butternut wood is softer and suited to interior finishing, furniture, cabinetwork and woodenware.

Dunsmore selectively harvests sawlogs and up to 40 cords of firewood from his 125 acres of woodlot every winter,. He knows where each butternut is. With input from local Ontario Ministry of Natural Resources (OMNR) staff, he has thinned around these shade-intolerant trees to encourage their growth and the germination and growth of their seedlings. "I like diversity in my woodlot," says Dunsmore, "and having butternut there doesn't affect my own forest management activities."

Ken Britton, a cash crop farmer near Mitchell in Perth County, grows beans, wheat and corn. His woodlot is just two acres, with one butternut tree, 30 cm in diameter. Britton manages his woodlot mainly for firewood, taking out the occasional log for lumber. He had two butternut, but one blew over in a windstorm. "I salvaged the lumber, and just might use it for a casket," says Britton, with a touch of irony.

Butternut has been designated endangered in Ontario and Canada and is at risk throughout its United States range. Ontario is the northern edge of butternut's range. Edge of range populations can have unique genetic variation and may hold the key to a species survival. For butternut the key could be genetic resistance to canker.

In Ontario, the Forest Gene Conservation Association (FGCA), Rideau Valley Conservation Authority (RVCA), and several local OMNR Stewardship Councils are working together on butternut recovery. These partners are working with landowners to find good seed trees, and ones with potential resistance to conserve through grafting.

For many decades nut growers bred butternut with non-native walnuts. Mature hybrid trees can now be found across Ontario. OMNR's Sault Ste Marie lab can do DNA analysis on leaf samples to focus the recovery program on native trees.

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“Saving butternut hinges on finding native trees which may be resistant to canker,” says Greg Bales, Coordinator for Halton-Peel Woodlands and Wildlife Stewardship. Healthy trees growing near heavily cankered butternut may be resistant. Grafting can clone and rejuvenate their genetic material to support a long-term screening and breeding program which could ultimately produce resistant trees.

Frozen twigs (scions) are collected from healthy native butternut in March and grafted onto two-year old black walnut rootstock which is tolerant of the canker fungus. For two years the grafts are protected in greenhouse and cold storage areas, and then permanently transplanted to a fenced archive. “Seed and grafts from archived trees are the basis for butternut restoration on the broader landscape,” explains Rose Fleguel, Forest Technician working with RVCA.

Fleguel manages the eastern Ontario archive program, supported by FGCA, OMNR, RVCA and the Ferguson Forest Centre. Another program is starting at OMNR's Angus Tree Seed Plant. Genetic and environmental variability across Ontario requires at least two locations.

Charles and Ken McDonald are cash crop farmers near Lancaster in eastern Ontario. In winter they harvest 130 acres of mixed hardwood for firewood and logs. Butternut are present in small numbers throughout their bush. “We like laying claim to having butternut in our bush. Some are saplings, some have died of canker, and some are diseased but holding on. There are a few trees that appear disease-free, and we tend to find these in better conditions at woodlot edges,” says McDonald.

Fleguel verified their butternut as native, and the McDonalds are willing to allow grafting of selected trees. Trees to be grafted must be within 40 meters of an infected tree, at least 25 cm diameter at breast height, and have no visible cankers or growing vigorously in spite of canker. With permission from the McDonalds, seeds will be collected from these trees every year when available and scions collected after a few years of reassessments to verify the tree’s potential disease resistance.

Ontario's Endangered Species Act 2007 (ESA) protects all butternut unless they have been assessed as “non-retainable” by an OMNR-trained Butternut Health Assessor. Non-retainable trees may be cut and sold or bought for any use. The harm or removal of a healthy butternut tree of any size requires an ESA permit, but careful logging practices are allowed nearby. Bales emphasizes that, “Farmers need to know that having butternut trees in their woodlot does not stop them from thinning that woodlot.”

McDonald puts things in perspective. “We're leery of being over-regulated, but we're pleased these trees are protected and that the effort is there to save them. We didn't cut live butternut before, so it doesn't affect our logging plans now.”

Landowners play a crucial role in butternut recovery by simply conserving them on their land, no matter how few. For more information on how you can help, contact the Forest Gene Conservation Association at www.fgca.net. For information on identifying butternut and their hybrids, visit www.extension.purdue.edu.

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For further information and photo of a butternut tree, please contact Ontario Soil and Crop Improvement Association at Andrew.Graham@ontariosoilcrop.org or 1-800-265-9751.