

The

Canadian Sweet Chestnut

- Journal of the Canadian Chestnut Council



Issue # 65

February, 2016

<http://www.canadianchestnutcouncil.org>

Chair's Comments

Despite a few bumps along the way the Council and the various projects involving our American Chestnut are progressing well. I will mention a few highlights. Mid-May frosts in 2015 that destroyed the blossoms at two of our plots but our third plot produced sufficient burs for the collection of 3809 nuts this past autumn which are currently germinating at the Simcoe Research Station. A total of 2824 seedlings were planted out by machine (first time) at the Onondaga Farm research plot and an additional 400 seedlings are currently in cold storage for spring planting at the Central Elgin plot. Fourteen plots were established around existing, isolated native trees using propagated trees to promote natural cross pollination and increase genetic biodiversity. The first American Chestnut Gene Pool Pod was established with 26 different grafted trees at the Yarmouth Natural Heritage Area in partnership with the Catfish Creek Conservation Authority. So despite some setbacks we are progressing well.

I wanted to share with you some of the chestnut related events that I found the most profound personally this past year. I had the privilege to participate in site visits with our scientists to many of our wild trees in the western half of the range. With maps and GPS coordinates in hand, it was still an adventure to track down these chestnuts and evaluate them for inclusion in our programs. There are still some magnificent trees out there that need our assistance to survive. It really inspired me that we need to continue to work hard to preserve and restore this species to its original ecological role in our forests.

I have had the pleasure of making a number of "Restoration the American Chestnut" presentations to a number of Nature Clubs this past year which were well received.

(Chair's comments cont.)

People are fascinated by the long forgotten ecological, cultural and economic roles of the original American Chestnut prior to the blight. They are equally intrigued by the council's efforts to preserve and restore the species to its roles since its decimation by the blight. It is a rewarding experience to share our knowledge of this species with the public and kindle in them an interest in preserving and restoring the tree. We may gain a few memberships, but more importantly some individuals step forward to give us leads on possible new trees to add to the provincial registry and increase the genetic diversity of our trees.

The discovery and reporting of some new wild American Chestnut has given me an opportunity to engage with landowners and talk about preserving their endangered tree. It is amazing the size and good condition of many of these trees. More exciting is the opportunity of adding their new genetic component to our breeding strategy and recovery programs. Owners are eager to become involved with our recovery program and we hope to accommodate all of them in the coming season with breaking isolation projects. I encourage all members to talk to neighbours and report new sightings which helps advance our mission. This autumn, the students of the Environmental Leadership Program of East Elgin Secondary School were cleaning up our Riverbend Research plots by removing dead trees. One student, Dillion Cain happened to mention playing in the plot as a small child. Upon further inquiry, it turns out that Dillion is a grandson of Murray Alward who was instrumental in establishing and caring for the Riverbend plot for many years and my chestnut mentor. It is great that we still are generating that inter-generational connection and interest in the chestnut.

The Canadian Chestnut Council

The CCC is a scientific and charitable organization with the mission to restore the American chestnut. The CCC annual meeting, the web sites and this Newsletter dispense information to generate support for saving and restoring this once-important forest tree.

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(Chair report continued)

From the survey of the wild trees last year an interesting discovery has been made. Three chestnut trees one of which belongs to my neighbour Robert Ward are demonstrating hypovirulence and it turns out that the trees were part of a hypovirulent inoculation nearly 25 years ago by the council. For the following three years after the initial inoculation, nothing could be detected and further action terminated. This is an investigation that the council hopes to reopen and investigate as another possible solution to the blight. It certainly pays to be vigilant and hopefully other trees will be discovered showing effective hypovirulence.

I was a part of a group that visited Henry Driedger of Leamington who is a long standing member of the council and a supporter of the American Chestnut. Henry has generously donated an old tobacco planter which the council is having converted to a plug planter for our chestnut trees. In the past we could plant several hundred trees out in the research plots with volunteers by hand. However as the breeding program expands and thousands of seedlings need to be planted in a small window, mechanization is the route to follow. This will save time, volunteer efforts and money for the council which will free up these resources to pursue other vital work of restoring the American Chestnut. Thank you Henry!

Hosting Dr. Stacey Clark of the USDF from Tennessee, our AGM guest speaker, was a very rewarding experience. There was a great deal of information shared back and forth with our American guest. We toured her through our three research plots and the Simcoe trees and propagation materials. Stacey was impressed with our program and offered advice on possible modifications for improvement. She was also able to visit numerous wild trees in Elgin. Stacey was impressed with the condition and size of our wild trees. Stacey offered advice on the challenges of reintroducing the tree to the wild which we will face. She definitely felt that we are on the right track which was reassuring.

(Chair report continued)

There are more individuals and events I could tell you about but I will end with a story that a gentleman from West Elgin shared with me about a farmer's son in the 1920's. I think it illustrates in part the economic importance of the chestnut that we have lost and need to regain as we move towards restoring the ecological role of the tree to the forest. This young lad upon graduating from the local high school wished to pursue postsecondary in London. To fulfil his dream he harvested American Chestnuts from his father's woodlot on Graham Road and sold them in the city. This income was sufficient to pay his entire way through college in London. The blight soon arrived and deprived others from following in his footsteps.

Sincerely Yours in the Restoration of the American Chestnut
Ron Casier

Update on Breeding for Blight Resistant American Chestnuts for Ontario

Adam Dale and Dragan Galic
Department of Plant Agriculture, University of Guelph.

In 2015, we continued the steady progress we have made in previous years. We finalized the list of selections from our first generation of crosses and made crosses between those selections at Onondaga Farms – Tim Horton's Foundation, and harvested and stored those nuts. The nuts from the crosses we made in 2014, were planted at Onondaga Farms and we began testing our second generation trees for resistance.

However, we had a couple of minor setbacks. The flowers on all the trees at Riverbend Farms were killed by the spring frosts. In addition, inoculations to test resistance on 24 trees of the second generation were unsuccessful because the fungus had lost pathogenicity in storage.

From our first generation of trees we selected, 17 pure Canadian trees and 18 trees back-crossed to Connecticut third and fourth back-cross trees. The Canadian trees have the following Ontario trees as their female parents: Bradshaw, Dundas, Glen Meyer, Hodi, Light Cemetery, Marshall, Pursell, Sheers and Springbrook. back-cross trees have Bradshaw, Dundas, Glen Meyer, Gundry, Hodi, Island Lake, Ken Smith, Kerr, Marshall, Nemoroski, and Riverbend as their female parents, plus there is an open-pollinated selection from Minnesota.

From the crosses, we made in 2014, we were able to harvest 3159 nuts. This spring we were able to germinate them successfully and were able to plant 2824 trees at Onondaga Farms. So far, we have been able to plant 6965 second generation trees at Onondaga, Riverbend and Casier Farms. However, although many of these will die from American chestnut blight, we anticipate that some trees will possess strong resistance.

This year we pollinated 36 trees at Onondaga Farms, made 43 different crosses, and collected 3159 nuts. The nuts are presently in storage, and are sanitized monthly to stop the *Penicillium* infection which killed most of the nuts in 2013. These will be planted in late February, and we hope to plant about 3000 trees at Onondaga in June.

Many of the trees planted in 2010 and 2011 are now big enough to be inoculated this spring. In this generation we wait until the trees are 5cm in diameter, and then inoculate the trunks. Last year, 24 trees were big enough, so that this year we could have to inoculate hundreds of the 2935 trees planted in 2010 and 2011 – a big task.

So the conclusion is that we hope to have about 10,000 second generation trees planted by the end of the spring. Clearly, we have taken a huge step towards the restoration of the American chestnut in Ontario.

CCC Donor Leaf Program 2015

White Leaf \$30 -\$99

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Patricia and Daniel Kerr
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Thomas Lovie
Marjory Watson
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Tom and Karen Pellar
Thomas Manley
Mike Hall
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Andrew and Sharron Pate
Stanley and Clara Wortner
David Catt

Green Leaf (continued)

Dragan Galic
Walter Zimmerman
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Darcie McKelvey

Bronze Leaf \$250 -\$499

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Gold Leaf \$1000 +

Doug Fagan
Adam Dale

Membership Secretary Report. Memberships have decreased slightly from 2014-15 and these are important when applying for grants as well as funding summer student assistants. If you haven't renewed for 2016 please consider doing so in the next few weeks.

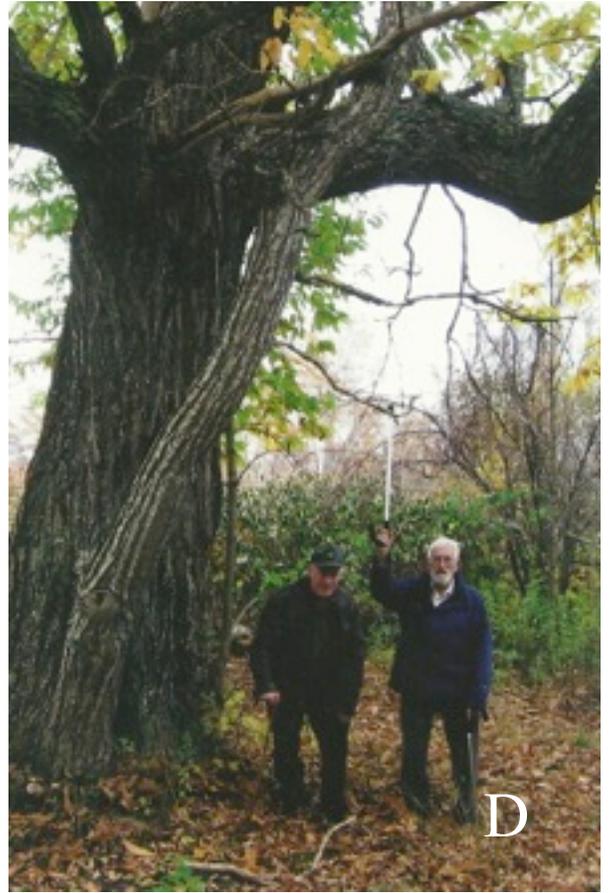
This past summer Dragan Galic and the executive visited Essex County to search for surviving trees with Tom Welacky and myself. A few were found in a Windsor conservation area but they were isolated and needed additional trees to provide cross pollination. These trees were put on the future plans list.

I received a photo from David Vernetto, Mahone Bay, Nova Scotia, of Mr Les Corkum and Richard Steele beneath the largest chestnut in Canada. (see next page). Thank you, David. Something for the CCC to shoot for!

The CCC executive made a 2nd visit to Essex to inspect an old tobacco planter donated by Mr Henry Driedger of Leamington (the tomato capital of Canada!). A few weeks later John Hill and Christine Vey loaded it on a trailer and will modify it at THF to plant chestnut tree seedlings. This should help with the numerous trees that will require planting in the coming years. Thank you, Henry, John and Christine.



A



D



B



C



E

A) Katherine Harrison, Dragan Galic and Doug Fagan with a large chestnut near Hamilton, ON.
 B) Old tobacco planter ready for modifications.
 C) Henry Driedger, Leamington, with old riding plough donated to THF agricultural museum.
 D) Ashdale chestnut, Windsor N.S. planted in 1905.
 E) Seedling protected by 5 ft deer screen and mouse guard at Catfish Creek. ON



Canadian Chestnut Council

www.canadianchestnutcouncil.org

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Thank you for your support