

The

# Canadian Sweet Chestnut

- Journal of the Canadian Chestnut Council



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<http://www.canadianchestnutcouncil.org>

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In this issue: - Chestnut Council awarded CAAP grant, Recovery Strategy Posted by MNR, New St Thomas chestnut nursery established, planting and resistance testing and more.

## **CCC receives Canadian Agricultural Adaptation (CAAP) Grant**

The CAAP grant was awarded to the CCC to investigate the feasibility of establishing a commercial American chestnut industry in Ontario. The grant from CAAP is \$95,903.00 and from the Ontario Nut Growers Association, \$2,000.00. To obtain this grant the CCC must contribute \$20,000.00 in cash and contribute \$21,000.00 in “in-kind” labour. Volunteer time is valued at \$15.00/hour which helps to make up “in-kind” labour. (This is why all volunteers at the nurseries must now sign in and verify their hours of work).

The objectives of the grant will not interfere with the current goal of producing a disease resistant forest type tree. The funds will be used to continue the CCC contract with Dr Adam Dale and Dragan Galic. The objectives, as written in the grant, are as follows:

To facilitate the opportunity to develop over the long term, a commercial chestnut industry in Ontario. Presently there is considerable interest in Ontario and relatively few nut species are suitable for the Ontario climate, one of this is the American chestnut. Diversity of agricultural opportunity into nut growing will provide producers the chance to seize an opportunity to develop a new market.

The project will identify germplasm to be used to develop blight resistant commercial cultivars of chestnuts adapted to Ontario conditions and the

rooting methodology to propagate them vegetatively from cuttings. The American chestnut is also an endangered species, so as part of its preservation, the project will identify interested farmers who will be willing to establish windbreaks of American chestnuts, which can be used as nodes to reestablish the species”

### **The specific project objectives:**

- “1. Develop and test selections of chestnut adapted to Ontario and suitable for nut production.
2. To identify sites for wind breaks as “nodes” to reestablish American Chestnuts..
3. To develop methodology to root cuttings of chestnuts.”

Dr Adam Dale and co-workers at the U of Guelph and the Simcoe Research Station and the Ontario Nut Growers and Dr John Kelly of the Ontario Fruit and Vegetable Growers are to be congratulated for their efforts in writing and submitting this successful proposal.

It should also be noted that although the Research Program has funding for 2 years, the Outreach Program and the web site maintenance are currently struggling to find sufficient funds. More memberships would help this cause so if you know of any potential new members please advise them of the CCC goals and how to join.

External funding sources are under investigation by the CCC Board to also assist the Outreach Program. More information on this will be available in the next newsletter.

## The Canadian Chestnut Council

*The CCC is a scientific and charitable organization with the mission to restore the American chestnut. All its officers volunteer their services both in the field and at the desk. The CCC annual meeting, the web site and this Newsletter dispense information to generate support for saving and restoring this once-important forest tree.*

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## Correspondence

In January, 2012, I received an e-mail and photo from John Enright at the Upper Thames Valley Conservation Authority. He has had some considerable success in growing American chestnut. He writes as follows:

“Attached is a picture of a 13 yr. old American chestnut that is now 17.5 cm dbh and approx. 40 ft. in height. In 1998 I planted 10 seedlings acquired from the GRCA. Eight of them are alive today and doing very well, no sign of blight yet. (see below)



After volunteering for the Onondaga planting day, Dorothy MacLeod wrote:

“I started my day in Cobourg early enough to get to Onondaga. However, your guesstimate of traffic clogging would get an "A" later. I was delayed because I needed a rental car for that event and had to wait for them to open at 7:30 am. In any case, I made it, pitched in as long as my knees held up and met everybody on site at the planting of over a 1000 healthy-looking starter chestnut trees. I was expecting and met cheery, good-spirited planters under Dragan's guidance. What a trojan of a leader Dragan is! Nobody, young or old could match his pace. That young fella in the tractor knew where he was going, too. No doubt about it, The Tim Horton Foundation in connection with Dr Dale's hopes and leadership do sterling things for this entire longterm project. Even though I am four foot nothing tall, I felt ten feet high as I left a bit early. (Old knees) I got a cheerful sendoff from all. It was the usual delight to meet up with Kelly at lunch. George noted for me, of the defunct fund to keep Kelly as an active participant via TH, but maybe things will change there.

Rewarding and inspiring to be a very small part of this enterprise. (I feel like the asterisk in any main deal, but I am still proud of it!!!)

Thank you all. Dorothy MacLeod”

### **Correspondence continued:**

Freda Flook from Milton reported that she has 2 saplings obtained from the CCC that are doing well. One is 12 feet and the other is about 5 feet tall. Great work Freda!

### **Research Activities**

The breeding program continued to expand in 2012 with the planting of over 1600 chestnut F2 seedlings made from crosses of trees selected in 2011. The 2012 plantings essentially doubled the number of trees in the Chestnut Council nurseries. All F2 trees are planted at close spacing because after testing for resistance by trunk inoculation, only the best 10% or less will be saved for additional crossing.

On May 17th, a new third nursery was established at the farm of Ron Casier near St Thomas, ON. In total 510, F2 seedlings were planted using plastic mulch for weed control. Ron and his daughter provided salads, drinks and BBQ hamburgers for the entire crew at lunch time. While the CCC will continue to evaluate and make crosses at the Riverbend location it was decided to discontinue planting there because of the absence of a CCC farm manager at the site.

Although the Casier site is limited in size it will eventually be home to over 1000 F2 trees. Ron has agreed to water the seedlings and maintain the site grass cutting, fertilization, pruning, etc, with assistance of the CCC when required.

On May 24th, 1101, F2 seedlings and controls were planted at the THF-Onondaga Farms nursery by 24 volunteers in extremely hot weather. THF provided lunch, coffee, donuts and water for the planting crew. A group photo is not available but the volunteers included:

Carol Singleton, Emily Slood, Natalie Muir, Alireza Rahemi, Toktam Taghani, Dianlong Chen, Mike Brison, John Hill, George Colin, Blair Prakis, Bruce Pierce, Shawn Abraham, Kristyn Lee, Gary Joe, Dorothy MacLeod, Rupika Sharma, Soni Sheth, Christie Vey, Ryan Dickinson, Ryan Gerber, Clayton Freeborn, Dragan Galic and Adam Dale.

**Many thanks to Ron Casier and the THF for providing great lunches and refreshments!**



Planting volunteers and crew at the new nursery site at Ron Casier's farm near St Thomas, 2012. From left to right: Emily Slood, Natalie Muir, Keith Helmer, Annalise Castle, Dragan Galic, Dianlong Chen, Carol Singleton, Alireza Rahemi, Tom Welacky, Ron Casier and the dog "Romeo". Absent: Toktam Taghani, Adam Dale and Terry Anderson.



## Outreach Activities

Feb, 2012 Mr Dragan Galic made a presentation to the Peninsular Niagara Escarpment Field Naturalists in March promoting the importance of the American chestnut in the Carolinian landscape and explaining the recovery program undertaken by the CCC. Chair of the Field Naturalists, Dr John Potter reported that Dragan made an excellent presentation to an interested group. Some background on the PFNC is presented below for CCC members in the area that may be interested in getting involved.

Peninsula Field Naturalists Club (PFNC)  
Since its founding in 1954, the PFNC has provided a meeting place for people with a passion for the natural world. We hold seven indoor meetings (including our AGM) from September to April, with guest speakers sharing their insights on a wide variety of topics concerning nature and the environment. As well, we offer field outings and trips, locally and out of the Niagara Region, led by knowledgeable members and guests, to experience nature firsthand. Our goals are: “to promote the preservation of wildlife and the protection of its habitat; to provide members and the community with information and opportunities to learn about nature and the environment; to promote public interest in, and a knowledge of, the natural history of the Niagara area; to collaborate and cooperate with area, provincial, national and international organizations having an environmental focus; to raise awareness of members and the community about land use policies, habitat loss, and environmental degradation”.

Throughout nearly 60 years, PFNC members have been active on issues of nature conservation in our Region. Our mailing address is: P.O.Box 23031, Carlton RPO, St. Catharines ON, L2R 7P6. Phone messages or email to: 905-892-2566; jmpotter(at)talkwireless.ca will also be answered promptly.

Website: peninsulafieldnats.com

In April, Outreach Coordinator, Kelly Schafer hosted a tour of the THF breeding nursery for students from Assumption College. Dragan Galic spoke to them about careers and about the breeding program. Later they assisted with some early planting of chestnut seedlings at the nursery. Also in April, John Hill and Kelly gave a tour of the nursery to two local woodlot associations. A wagon tour of THF/ Onondaga Farms and lunch at the Molly Henderson Building followed. In May we had a booth at the Ontario Envirothon Competition. Teams of students from across Ontario came to the camp to compete to go to the National Competition.



Dragan Galic explains some additional details of the breeding program to an interested PFNC member of the audience.



Members of the PFNC observing the CCC slide presentation.



A grey tree frog takes advantage of a nursery tree for a nap.  
Photo: Kelly Schafer

## Draft Recovery Strategy for the American Chestnut placed on The Web.

The Ontario Ministry of Natural Resources has placed on its web site a draft recovery proposal for the American chestnut under “Draft Recovery Strategies”. Unfortunately the opportunity for comment was brief but some of you may have read it and commented. Below is the executive summary:

### EXECUTIVE SUMMARY – DRAFT Recovery strategy for the American Chestnut (*Castanea dentata*) in Ontario

Prepared by Greg Boland, John Ambrose, Brian Husband, Ken A. Elliott, and Melody Melzer  
American Chestnut (*Castanea dentata*) was a dominant forest tree species in northeastern North America before populations were devastated by the introduction in 1904 of the fungal pathogen, *Cryphonectria parasitica*, which causes chestnut blight. By the 1950s, American Chestnut had been devastated throughout its native range. In southwestern Ontario, populations of American Chestnut were reduced to far less than one percent of the original 1.5 to 2.0 million trees estimated to have been present. Recent surveys in 2001 to 2003 confirmed that Ontario has at least 601 mature and immature individuals of American Chestnut, but this estimate likely represents 30 to 70 percent of the total number in Canada. The native range in Ontario accounts for 3.9 percent of the native range of American Chestnut in North America. In 1987, American Chestnut was designated as a threatened species by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and in 2004 was re-designated as endangered. American Chestnut is listed as endangered on the Species at Risk in Ontario (SARO) List and receives protection under the *Endangered Species Act, 2007* (ESA).

American Chestnut’s native range extends from southern New England to the southern Appalachian mountains. It still survives as remnant populations and individuals throughout this range, mainly by resprouting from collars of surviving root systems. During a survey conducted from 1994 to 1997, American Chestnut was identified at 135 sites in southwestern Ontario. Approximately 58 percent of the sites contained only one tree or regenerating clump. Between 2001 and 2003, 601 individuals were located at 94 sites (average of 6.5 per site); nearly 50 percent of these were less than 10 m tall and greater than 10 cm in diameter at breast height. At least 60 of the 601 individuals showed evidence of flowering or producing burs, however, these trees produced no detectable seed. Approximately one half of the sites containing surviving chestnut were located in Elgin, Haldimand and Norfolk counties.

The goal of this recovery strategy is to restore American Chestnut populations in Ontario to a self-sustaining state, whereby natural recruitment results in the maintenance or an increase of current population size throughout the species’ native range. The objectives of this recovery strategy are to:

1. survey suitable habitat and /or formerly occupied habitat for American Chestnut, and protect and monitor known populations within the species’ native range in Ontario;
2. promote protection and public awareness of American Chestnut; develop and evaluate management strategies
3. secure Ontario sources of germplasm originating from blight-free trees.

Initiation and/or completion of these objectives will contribute to increased knowledge and conservation of remnant populations of American Chestnut in Canada measures to control threats; and assess strategies for improved management of chestnut blight.

Chestnut blight continues to have the greatest negative impact on populations of American Chestnut. Other factors such as loss and degradation of habitat, possible hybridization with other *Castanea* species, and the possible introduction of oriental gall wasp (*Dryocosmus kuriphilus* Yasumatsu) from the United States are also of concern.

Until the impact of chestnut blight can be reduced, restoring American Chestnut to a more secure position in the Carolinian forest is unlikely. Therefore, approaches to control chestnut blight are critical. Potential approaches include hypovirulence (a viral infection that weakens the blight fungus), natural resistance to disease and breeding for disease resistance. Although hypovirulence has been successful in controlling blight in Europe, there has been less success using this approach in North America. Further research may identify factors that contribute to increased efficacy. Qualitative or complete resistance to blight has not been observed in surviving populations of American Chestnut, but concerted attempts have been and continue to be made to identify and select quantitative or incomplete resistance. Finally, breeding programs using resistance genes from Asian chestnut species are underway in the United States and more recently in Canada. Here emphasis has been placed on incorporating environmental conditions within the native range of American Chestnut in southwestern Ontario.

It is recommended that the Ecological Land Classification (ELC) ecosite types where one or more American Chestnut trees currently occur or where one or more individuals were previously documented in his resistance into germplasm adapted to written reports or surveys (for example, Ambrose and Aboud 1987, Melzer et al. 2004, Tindall et al. 2004, Natural Heritage Resource Centre database, etc.) be prescribed as habitat within a habitat regulation under the ESA. It is recommended that trees planted for horticulture, landscaping or research be exempt from the habitat regulation but should be individually assessed for genetic conservation value.

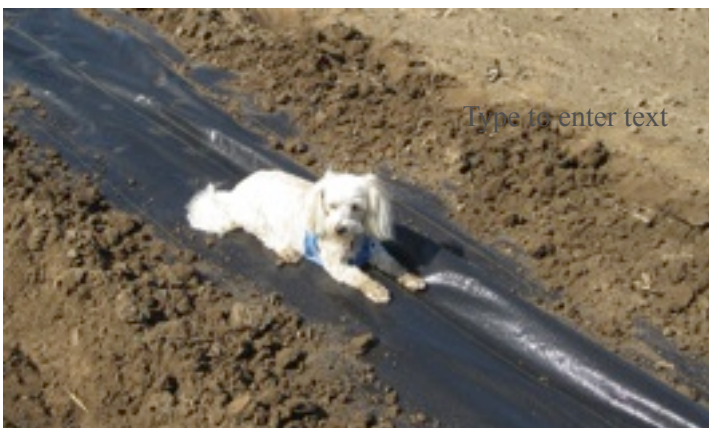




Volunteers planting second generation trees at Tim Horton/Onondaga Farms. In 2012 the nursery was expanded to the north to accommodate an additional 1500 seedlings. Seedlings are planted in close spacing because after being tested for resistance in 5-6 years, only 10% or less will be grown to maturity for future cross breeding.



A new CCC chestnut nursery was established in 2012 near St Thomas on the farm of Ron Casier. The location is ideal for chestnut growth with sandy loam soil and is within the original chestnut growing region of Ontario near London. Trees are planted with plastic mulch to help with weed control.



The new St Thomas nursery comes with Ron's guard dog "Romeo" who spent the day supervising the planting. At the end of the day over 500 trees were planted with space for an additional 500 trees in the future. Ron has volunteered to water and help maintain the trees. The new nursery is adjacent to a well travelled road and the installation of sign would provide great publicity for the CCC at this locality.



## 2012 resistance testing

On June 13, volunteers inoculated F1 chestnuts at Tim Horton/Onondaga Farms and on June 14, 2012 at Riverbend Farms to determine the relative resistance among trees. Greg Boland's laboratory at U of Guelph produced the inoculum which consisted of the the two standard isolates of the blight pathogen growing on culture medium in petri plates. This procedure was somewhat complicated this year because Melody Melzer who has been in charge of the cultures and inoculum for field resistance screening for the past several years has accepted a new position. Her assistance in storing and growing inoculum for the CCC program will be missed as well as her attention to detail during inoculations.

It should also be noted that Melody was involved in earlier surveys of chestnut in Ontario and was co-author on the American chestnut recovery strategy. The CCC wishes Melody success in her new position as a Plant Diagnostic Pathologist with OMAFRA and hopes that she doesn't forget the CCC in the future.

The Newsletter editor was remiss this year in that he did not get a photo of the inoculation crew at THF. The crew consisted of Tom Welacky, Adam Dale, Dragan Galic, Alireza Rahemi, Greg Boland, Laura Barbison, Kelly Schaffer and Terry Anderson.

Except for a few repeat inoculations next year, the CCC has completed inoculations and screening of all 'mother' and F1 trees in the nurseries. Within the next few years the CCC will begin evaluating F2 or 2nd generation trees.



Inoculation crew at Riverbend Farms on June 14, 2012. From left to right, Dragan Galic, Emily Slood, Adam Dale, Wes Horley and Alireza Rahemi. Absent, Terry Anderson

**The CCC is now on Facebook.....Visit the site and post a question or comment.**

[http://www.facebook.com/pages/The-Canadian-Chestnut-Council/279156798779681?ref=tn\\_tnmn#!/pages/The-Canadian-Chestnut-Council/279156798779681?sk=wall](http://www.facebook.com/pages/The-Canadian-Chestnut-Council/279156798779681?ref=tn_tnmn#!/pages/The-Canadian-Chestnut-Council/279156798779681?sk=wall)

### **Is my CCC membership paid-up?????**

**In answer to your questions, the 2012 membership payment covers the period from October 2011 to September 2012. Look at the mailing label on the envelope of this newsletter. If the number 12 appears after your name, you have paid the membership for 2012. THANK YOU!! If the number is 11 or 10, please send \$20 to Treasurer Paul Faires ( 8724 Wellington Road 18, RR5, Belwood ON N0B 1J0 ) for your 2012 membership. If your number is 09 or 08, you will receive a caution that the next CCC Newsletter will be your last. Funding of CCC's work to reestablish the American Sweet Chestnut in Canada absolutely depends on support through your annual membership. Funding agencies ask for information regarding active membership numbers before granting funds for CCC's breeding and outreach activities.**

**CCC Director's Meetings, Jan-May 2012**

**Thursday, January 19, 2012, OMAFRA, Woodstock, ON.**

Chairman, Ron Casier opened the meeting at 10:15 pm

Attendees: Ron Casier, Paul Faires, George Collin, Terry Anderson, John Hill, Kelly Schafer, Greg Boland, Adam Dale, Dragan Galic and Dr Toktam Taghavi

Regrets: Tom Welacky, Melanie Sifton, Scott Parkinson

Ron reported that the CCC were in discussion with Colville Development to replace chestnut trees that will be removed for development with new trees at the ratio of 20 new trees to 1 old tree. Cuttings have been obtained from the old tree. New trees must be verified by molecular techniques as pure American. The CCC has germplasm from the Dundas Tree that should meet maturity requirements because it is from the same "seed zone". The entire process is subject to MNR approval. A new Director is being sought from the Elgin area to replace Murray Alward, and a representative from the Niagara region would also be a welcome addition. Kelly reported that she was planning activities at the THF for Earth Week in April.

**Tuesday, May 1, 2012, Agriculture Canada, Harrow, ON.**

Attendees: Ron Casier, Adam Dale, Dragan Galic, Greg Boland, Tom Welacky and Terry Anderson.

The Research Committee met at the Harrow Research Center to discuss plans for the summer and fall. Adam Dale discussed details of the new

Adaption Grant including goals and reporting schedule. Approximate dates were set for planting at each location, tree inoculation, data collection, crossing, and harvesting. The details of the new grant were discussed in detail in terms of new obligations to the CCC to become involved with development of an American chestnut suitable for nut production. Tree stature will not be a problem because in the course of the breeding program there are many short trees produced that are normally discarded. Nut size and weight must be determined on these trees to assess their potential as parents.

**Volunteering with the CCC**

If you wish to volunteer, the rough schedule for field work at the 3 nurseries is as follows: contact D. Galic 519 426 7172 ext 332

Planting seedlings and seed.....May 15-30th  
Inoculating.....June 10-20th  
Bagging and pollinating.....June 20-July 15th  
Rating resistance.....Aug 10-15th  
Harvesting seed.....Sept-Oct

**Do you wish to receive your Newsletter by e-mail ?**

Some members have expressed an interest in receiving their Newsletters via e-mail rather than a paper copy. In electronic format the Newsletter is in colour and will arrive more quickly than a paper copy. From the CCC's point of view, e-mail will save financial resources that can be used elsewhere in the CCC budget. If you wish to receive an electronic copy of the Newsletter send your name and e-mail address to the Editor : [anderson.terry44@yahoo.ca](mailto:anderson.terry44@yahoo.ca)

**Membership**

Membership fees and donations are tax deductible. Please make cheques payable to the Canadian Chestnut Council

**Membership Renewal:**

Annual subscription = \$20.00 \$\_\_\_\_\_

**Donations** in excess of the annual subscription will be recognized in the Newsletter in the following categories.

(Requests for anonymity will be honoured.)

- Gold Leaf: \$1,000 or more
- Silver Leaf: \$500-\$999
- Bronze Leaf: \$250-\$499
- Green Leaf: \$100-\$249
- White Leaf: Less than \$100

**Donation:** \$\_\_\_\_\_

**Total enclosed:** \$ \_\_\_\_\_

Note: Memberships can be sent to the Secretary or the Treasurer at the addresses listed on page 2