The

Canadian Sweet Chestnut

- Journal of the Canadian Chestnut Council

Issue # 61 July, 2013

http://www.canadianchestnutcouncil.org

In this issue: - The CCC is Incorporated , Blight in Nova Scotia, Nursery Activities 2013, Penicillium mould on chestnuts, Plans for the AGM, Executive meeting summaries.

The CCC becomes an Incorporated Charitable Organization.

On May 13, 2013, the CCC incorporated under the Canada Not-for profit Charities Act. During negotiations with the Ministry of Natural Resources to obtain a long-term Stewardship Agreement to legally assist in the restoration of the American Chestnut, the CCC was informed that the MNR would only sign an agreement with an incorporated organization. After some discussion, Directors voted to incorporate and Interim Director Doug Fagan agreed to take the initiative and proceed with the application on-line. The total application cost was $298.24 and was approved quickly. Our corporate name is: Canadian Chestnut Council" or alternatively "Conseil Canadien du Chataignier".

Doug noted that the benefits of incorporation are:

- The CCC is now a legal entity rather than a group of individual personalities.
- Protects CCC name.
- Allows the CCC to enter into contracts as an organization rather than as various individuals.
- Limits the Director's liability.

Hopefully, the long awaited agreement with MNR will also be approved shortly.

During the application process, Doug noted that some areas of our constitution required minor updating. A constitution committee consisting of Doug Fagan, Tom Welacky and Terry Anderson was established to review these proposals. Proposed changes will be communicated to the general membership prior to the 2013 AGM where a general vote will be called to approve any changes.

Correspondence: We have recently learned that our Interim Director, Alisha Tobola who has managed our Facebook website, will be returning to school in September. Good luck in your studies Alisha!

Kelly Schaffer has agreed to manage the Facebook site again. Kelly originally set up the site for the CCC. Thank you Kelly for reassuming this duty.

How far north do chestnuts grow? Sue Miller found nuts beneath her American chestnut tree in North Bay last fall and grew 13 healthy seedlings this spring. This must be a record for regeneration under northern conditions. In addition, Alisha Tobola reported from Facebook, that Mark Bridge from the vicinity of North Bay had a healthy American chestnut 6 feet high in his yard. He will eventually need more trees or a pollen source for seed production.

American chestnut seedlings produced in North Bay, Ontario in 2013

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.

Executive

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D/Chair: - (currently vacant)
Treasurer - Mr. Paul Faires
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PR Director - (currently vacant)

Founder - Dr Colin McKeen, 355 Broadway- Suite 159,
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Steve Schmitt (Brant) 519-754-8624
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Stewardship Assistant

Currently vacant

Honorary Directors

Ms Jocelyn Clarke, Prince Edward Island
Mr. Leslie Corkum, Falmouth, Nova Scotia
Mr. Arthur Loughton, Vittoria, Ontario
Dr. Peter Rice, Ottawa, Ontario
Dr Greg Boland, Fergus, Ontario

Correspondence (cont)

Chestnut article printed in Forestry Journal Terry Schwan, Assistant Journal Editor and Webmaster for the Forest Historical Society of Ontario informed us that Laura Mousseau wrote an excellent article on the American chestnut including history, problems and efforts to restore it. The article can be found in the Society's journal "Forestry, Vol 4, Issue 1, Spring 2013" on page 32. Visit their web site at http://www.ontarioforesthistory.ca for more information and a great source for information on Ontario forests.

CCC Founder Receives Honour: Dr Colin McKeen was recently inducted into the Essex County Agricultural Hall Of Fame. Dr McKeen was a a Plant Pathologist at the Agriculture Canada, Harrow Research Station for 27 years before accepting an administrative position at the Central Research Farm in Ottawa. He was instrumental in forming the CCC in 1978 and served as the Chairperson for 19 years. Congratulations Colin! (Please note Colin and Beatrice's new address under CCC addresses and phone numbers.)

Dr George Collin Passes The CCC Executive was deeply saddened when it learned that George had passed away at home on Wednesday, July 3. George leaves behind Dorothy, his wife of fifty years, 3 daughters and a son as well as 9 grandchildren and a great grand daughter. George was pre-deceased by his daughter Sarah, who passed away last July. George was a Research Scientist with the Ontario Ministry of Agriculture and Food, director of the Simcoe Research Station and Assistant Deputy Minister of Agriculture. After retirement, he completed a Masters Degree in Landscape Architecture. George had been active with the CCC for a number of years and was a Director and Chair of the Public Relations Committee since 2004. During his tenure with the CCC, he provided calm and sage leadership that was readily acknowledged by the other Directors. He had excellent problem solving and management skills. George was first to volunteer for public talks and events to promote the CCC and the goal of restoring the American chestnut. He will be greatly missed by the CCC Directors and all those who knew him.

2013 Annual General Meeting

The CCC will hold the AGM on Saturday, October 26 at the Tim Horton/Onondaga Farms complex in St George. This year the meeting will start later and the lunch will be replaced with a coffee and snack break. Unfortunately, there will be no children's program because of space limitation. Two excellent speakers have been engaged.

Dr. Dennis Fulbright from Michigan State University will be our featured speaker at this year's meeting. He is best known for his work helping to establish an edible chestnut industry in Michigan. He is president of the Northern Nut Growers Association and is the Michigan State University advisor to three nut grower groups.

In addition, Eleanor Wood will enrich us with her contagious sense of humour as she talks about her experiences as a farmer, wife and mother. Her unique view of the world embraces the positive, emphasizes the ridiculous and recognizes the humorous. Her engaging presentation will help you gain a fulfilling perspective on the lighter side of life. For a full agenda, further updates and contacts please view www.canadianchestnutcouncil.org

Breeding Program Milestone Near Completion

In 2013, the CCC will complete screening the first generation of trees produced from surviving American chestnut trees in Ontario. The final blight inoculation of trees of the F1 generation, consisting of hybrid crosses and Canadian x Canadian crosses was completed on June 17th by a dedicated group of volunteers. This traditional annual event of infecting maturing tree branches that grew to a minimum size of 25 cm (one inch) or more in diameter has been carried out since 2007 at both the Onondaga and Riverbend nurseries. All that remains to be completed are measurements of the developing lesions in August and final data analysis. Trees with the smallest lesions will be used as parents for the next generation of trees. This has been an on-going project and as a result the CCC has already planted approximately 2500, 2nd generation or F2 trees. The next step is to screen the F2 trees for blight resistance. The first milestone of assessing the relative resistance of the native Canadian trees and hybrid crosses required the dedicated resources and help of Dr. Greg Boland and his technical staff the University of Guelph and many volunteers organized and led by Dragan Galic and Dr. Adam Dale. Submitted by:Tom Welacky

Sara Healy, graduate student from U of G talks “inoculation methods” with Tom Welacky

Emily Sloot inoculates a chestnut tree with blight at Onondaga Farms. Emily will be an optometry student in Boston this fall.

Spring, 2013 inoculation crew (left to right) Alireza Rahemi, Dragan Galic, Sara Healy, Hunter Roberts, Doug Fagan, Emily Sloot, Greg Boland and Tom Welacky. (absent, Dorothy MacLeod) Photo: Terry Anderson

Chestnut blight found on American chestnut in Nova Scotia

By Greg J. Boland

The native distribution of American chestnut in Canada occurs primarily in the Carolinian forests of southwestern Ontario, and the distribution of chestnut blight occurs throughout this same range. Therefore, there are no natural refuges in Ontario where chestnut trees can escape the impact of chestnut blight. However, American chestnut has also been reported from several other regions of Canada, including Nova Scotia. These reports mostly consist of single or small groups of trees that are considered to be horticultural plantings or accidental introductions. In some cases, these trees are suspected of being hybrids with other *Castanea* species, such as Chinese chestnut (*Castanea mollissima*). At least 10 sites have been identified in Nova Scotia where American chestnut trees has been surviving outside their native range. It is also said that the largest living American chestnut tree in Canada, and one of the largest in North America, is a single tree that still survives in Ashdale, Hants County, and is often referred to as the Ashdale tree. These trees have been considered an important source of germplasm in recovery planning because they are adapted to Canadian environmental conditions and chestnut blight has never been known to occur in Nova Scotia.

The largest known collection of American chestnut trees in Nova Scotia is an orchard of approximately 60 trees that was established at the former Bowater-Mersey tree nursery in Melvern Square, Annapolis County, as part of a public relations project. The presence and health of these American chestnut trees in Nova Scotia has been monitored for more than a decade by a dedicated group of volunteers. Mr. Leslie Corkum, an Honorary Director of the Canadian Chestnut Council, has played an important role in these efforts.

In the summer of 2012, this group of trees at Melvern Square was visited by Les Corkum, Greg J. Boland and several others. Upon arriving at the site, it was clear than many of the trees had large cankers on their main trunks, and often the upper part of the tree was dead. There were numerous small orange-colored spots on the edges of many of the cankers and diseased branches – which indicated the likely presence of the Chestnut blight pathogen. There were branch sprouts arising from the base of many cankers, a trait that is often associated with the presence of Chestnut blight.

Most, or even all, of the trees in the orchard appeared to have at least some symptoms of Chestnut blight.

To ensure that this was truly Chestnut blight, Boland collected several samples of the cankers and diseased branches and transported these back to the University of Guelph. He then confirmed the presence of chestnut blight through culturing the fungus into pure culture, and through comparing portions of the DNA of the pathogen. All of the results confirmed that Chestnut blight was present at Melvern Square.

The presence of Chestnut blight in Nova Scotia is important for three reasons. First, it indicates that Chestnut blight is continuing to spread in North America, even though most American chestnut trees have already been destroyed. Secondly, blight may continue to spread to other American chestnut trees in Nova Scotia and threaten their survival. Third, Nova Scotia can no longer be considered to be a blight-free zone and, therefore, established and new plantings of chestnut may also be at risk.

Plans are underway to have the trees at Melvern Square destroyed and either buried or burnt to prevent the blight from spreading any further from this site. Meanwhile, volunteers will continue to regularly inspect American chestnut trees in Nova Scotia for signs of Chestnut blight, and to continue looking for American chestnut trees in other maritime provinces, such as New Brunswick or Prince Edward Island.

There is no way to determine how Chestnut blight arrived in Nova Scotia. This disease can be spread by wind, rain, insects and birds, and typically spreads by up to 25-35 km per year. However, there are no known sources of Chestnut blight within several hundred kilometers of Melvern Square. Sometimes plant diseases can spread over longer distances when carried on - or inside - seeds, or in storms that may carry the pathogen spores farther due to the stronger winds and updrafts. Also, the pathogen can spread on diseased plants that are regularly moved across the country from horticultural producers to retailers and, of course, logs and firewood cut from diseased trees can also carry the blight over longer distances. It seems likely that blight arrived in Nova Scotia through one of these longer-distance methods of transport.

This article is a summary of "*Blighted. American chestnut in Nova Scotia no longer safe from fungal pathogens*" by G.J. Boland and L. Corkum in the Atlantic Forestry Review 19(5): 34-36 (May 2013).

American Chestnuts for Agriculture
Adam Dale and Dragan Galic

During the last fourteen years, we have been breeding blight-resistant American chestnut trees to re-establish the species in the forests of the Carolinian zone in Canada. During this time we have noticed large differences in the nut size of different trees. Then last year, we had the opportunity to investigate the potential of these trees for commercial nut production. This we have started to do.

We knew that our trees would be unlikely to have both blight resistance and nuts as large as the commercial nuts imported into the supermarkets. However, we had to start somewhere, so we wanted to find those with the largest nuts, and then compare them for their blight resistance. This would give us some trees, which in the next generation could give us the best of both traits.

At our two sites at Tim Hortons Foundation, Onondaga Farm, St George, and Riverbend Farms, near Aylmer, we have been growing two populations: the first, Canadian trees open-pollinated or pollinated by Canadian trees, and the second, Canadian trees pollinated by American chestnut back-crosses from Dr Sandra Anagnostakis in Connecticut. In blight-resistant tests, we have been unable to distinguish between the two populations.

So, last fall, Dragan Galic, Angela Hare and Derek Lauszus collected nuts from each tree at the two sites. It was a monumental task that took 205 hours – over two and half weeks**.** The burrs were collected, and then the nuts had to be removed from the shells. Safety boots worked well to break the burrs open, and heavy work gloves kept the prickles at bay. Finally, the nuts were counted, weighed and the average nut weight calculated.

At Onondaga Farms, nuts were collected from 280 trees and the average nut weight varied from 0.77 gms on a Marshall x Canadian tree to 7.04 gms on a Brad Reeve 2 x Persall tree, and at Riverbend Farms nuts were collected from 104 trees and the average nut weight varied from 1.16 gms on a Light Cemetery x Canadian tree to 6.22 gms on a Hodi x Van Meer tree. This clearly shows that our Canadian trees cover the whole range of nut sizes.

When the two sites and the two populations are compared, neither the two sites nor the two populations differ from one another. At THF, Canadian nuts averaged 3.8gms and hybrids averaged 3.9gms. At Riverbend, Canadian nuts averaged 3.5gms and hybrids averaged 3.3gms/nut

Dragan also bought some nuts from the local supermarket. These averaged 13.33 gms with the range from 8.26 to 18.23 gms, so we still need at least one generation to get to larger nuts.

In September we will be collecting the nuts again so that we have two years of data to see how consistent the nut size is.

If anyone wants to help, please call Dragan at 519-426-7127 ext 332 or email him at dgalic@uoguelph.ca. One of the conditions of the grant we have is that volunteer time is considered a contribution towards the grant and costs at $15/hr. So your volunteer time counts.

Investment in this project has been provided by Agriculture and Agri-Food Canada through the Canadian Agricultural Adaptation Program (CAAP). In Ontario, this program is delivered by the Agricultural Adaptation Council.

Informal Mould Research Meeting held June 17, 2013

The Research Committee met briefly between inoculations at THF and Riverbend Farms to discuss the mould that reduced the viability of a large proportion of hybrid seed in 2012-13. Greg Boland identified the mould as a species of Penicillium. This mould is frequently a problem on stored chestnuts but this is the first year it has caused problems for the CCC. The following action plan was put into place for the coming season.

1) Greg Boland will monitor for mould on a regular basis throughout the season to determine when the problem begins to occur.
2) Dragan will harvest and husk nuts ASAP after maturity.
3) The moisture of peat moss or similar storage material will be monitored as well as storage temperature.
4) If nuts are contaminated at harvest a seed treatment will be used to surface sterilize the nuts.
5) Nuts will be monitored for mould throughout the storage period.

Planting at the Casier Nursery, Alymer

On May 31, 2013 the CCC planted 195 back-crossed, second generation seedlings at the Casier nursery near Alymer. In addition, seedlings of trees with known response to blight were planted to compare the progress of the breeding program in the effort to increase resistance to disease. Forty-eight control seedlings that represent a range of resistance included susceptible native trees and resistant Chinese trees such as "Everfresh" and "Labour Day" varieties. The volunteers that assisted with the planting were Kayla McClay, David Roberts, Keith Helmer, Emily Sloot, Murray Alward, Ron Casier, Carol Singleton, Angela Hare and David Cormier as well as Dragan Galic. Although Dragan's report failed to mention it, I suspect that Ron provided a BBQ lunch of burgers, hot dogs and salads for the participants. One of the perks of volunteering at Ron's. This is the second planting at Ron's nursery and I think it worthy to mention that Ron only lost one tree last year although there is a high deer population in the area. Ron looks after the watering and fertilizing when he is not busy with his duties as Chair of the CCC.

A healthy chestnut seedling ready for staking and tree guard protection. Photo: Emily Sloot

Keith Helmer (left) and Ron Casier (right) plant seedlings into plastic mulch that helps with moisture retention and weed control. Photo: Emily Sloot

The Casier nursery, consisting of sandy loam soil and a slightly acid pH, is an excellent location for American chestnut growth. Photo: Emily Sloot

CCC Director's Meetings

Woodstock April 3, 2013

Directors discussed at length, the requirement for a new website management system. The current site is out of date and it was felt the CCC required a more hands-on approach to update the site on a regular basis. None of the Directors felt qualified to assume this duty. Tom Welacky and Doug Fagan volunteered to investigate new systems. Terms of office were discussed and it was determined that 1 Director would retire in 2013 and 4 Directors in 2014. The Fund Raising Committee will create a new CCC brochure with updated information. The CCC logo will be updated. Raffle tickets are available for the Chestnut Hope Chest. Terry Anderson will assume the duties of Membership Secretary when George Collin resigns in October, 2013. Annual membership fees will increase from $20 to $25 /yr beginning in October. The long term Stewardship agreement can not be signed until the CCC incorporates. Incorporation was discussed. Doug volunteered to get information.

Simcoe, May 16, 2013

The secretary reported that individuals continue to request chestnut trees for planting. Hopefully some trees might be distributed after the Stewardship agreement is signed. The first trees with improved resistance are still 6-7 years away. Website inquiries led to Doug Fagan agreeing to manage to site using our current "Word Press" system with some training. The domain name would move to the CCC secretary. Penicillium mould caused major problems with seed stored at Simcoe. Greg Boland will meet with the Research Committee in June to look for solutions

Changes in the CCC administration: Beginning in October, 2013, the Secretary will assume the duties of Membership Secretary formerly performed by Dr George Collin. As I am learning the "tricks of the trade", one fact immediately comes to mind. It would be much simpler if all members renewed between October and December each year. To encourage this, I will mail out a reminder prior to the October AGM. In addition, the CCC has allowed a 3 year lapse in dues before removing individuals from the membership. I suggest that this should be reduced to 2 years. This also begs the question.....if a member is 2 years in arrears should they pay 2 years membership to be reinstated? This is a matter that the Directors should discuss in the near future. Please continue to notify me in writing or by e-mail if there are mistakes in names or addresses. Mistakes sometimes get into the system and need to be pointed out to the Secretary.

Terry Anderson

Volunteering with the CCC

If you wish to volunteer in 2013, 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
Nut collection.....Sep 15-Oct 30

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. 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

Membership

Membership 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: Membership and donation cheques should be sent to the Secretary at the address listed on page 2