

In this issue: - 2012 AGM, Volunteer of the Year, New pest on Chestnuts in Ontario, Funding Request, Technique for rooting chestnut cuttings and more

2012 Annual General Meeting held at Tim Horton Foundation/Onondaga Farms

The Canadian Chestnut Council held the AGM at the Science Center at Onondaga Farms on October 27, 2012. Approximately 60 members were in attendance for updates on the chestnut breeding work and progress on chestnut breeding in the USA.

Chairman Ron Casier opened the meeting at 10:30 am with a brief history of the CCC goals and activities during the past year. Although the breeding program is progressing with the planting of more than 1500 second generation chestnut seedlings and establishment of a new nursery, an agreement with the MNR which would outline the legal and obligatory parameters under which the CCC could continue its recovery activities has not been signed.

Paul Faires presented the treasurer's report and budget and the CCC has a small surplus but is always looking for new sources of funding. Terry Anderson presented the minutes of the last AGM and presided over elections of new board members. Christine Vey was elected as a new Director and three individuals Doug Fagan, Alisha Tobola and Steve Schmitt volunteered to act as interim directors for the next year. Interim directors would be allowed to attend executive meetings, provide input to decision making and volunteer for special projects. After 1 year, interim directors could stand for election by the membership at the next AGM or step down. It was felt that this special category of director would allow individuals the opportunity of learning how the board operates and to familiarize themselves with duties associated with directorship without formally committing to 4 years of service.

Dr George Collin outlined activities of the Outreach Committee. He presented Outreach Coordinator, Kelly Schafer with a small gift of appreciation for her past work with the CCC.

In 2012, the CCC initiated a new tradition to acknowledge efforts by volunteers by presenting a Volunteer of the Year Award. This year the award was presented to Dorothy MacLeod of Cobourg, ON.

The award was accompanied by a hand crafted bird house made by John Hill's grandson.

Dorothy is a former school teacher from northern Ontario where she taught grades 3-13 over a span of 40 years in Kapuskasing and Timmins. She attributes her love and respect for nature from her outdoor activities in the north and example set by her father who was manager of a small woodcutting operation in New Brunswick and Timmins. She credits her mother for teaching her to pitch in whenever possible. Dorothy helped with planting, measuring blight lesions to evaluate resistance and collecting chestnuts in the nursery. While she says it is getting harder to keep up with the younger volunteers, I think it is getting harder to keep up with Dorothy. She not only helps with field work but she has a number of creative ideas for improving public relations and communication that she shares with the Secretary. Thank you Dorothy for all your efforts and keeping the rest of us on our toes.



Dorothy MacLeod, Volunteer of the Year, receiving congratulations from John Hill at the 2012 AGM

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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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

(2012 AGM continued)

This year our guest speaker was Dr Fred Hebard, Chief Scientist for the American Chestnut Foundation breeding program at Meadowview, VA. Fred reviewed the history of chestnut blight in the USA including the spread of disease throughout the native range of the American chestnut. He studied the spread of the disease within the chestnut tree as a graduate student and presented photographic evidence of the fungus progressing under the bark of susceptible trees. The American Chestnut Foundation is using the backcross method to introduce resistance from Chinese chestnut into local American chestnuts. TACF has many state chapters that work in conjunction with the main program at Meadowview. In this way, resistance can be incorporated into trees representing diverse locations and germplasm sources across the original range of the American chestnut. In later generations TACF intercrosses different sources of chestnut germplasm to maintain genetic diversity of the resistant trees. Resistant trees have been distributed for field trials to evaluate long term survival at different locations in the USA. Fred cautions that although a tree may have resistance based on inoculation in the nursery, it must have a number of additional qualities such as vigour, cold hardiness, tolerance to other diseases and insects, ability to reproduce in nature as well as long term blight resistance. He briefly outlined other on-going programs in the US including crossing surviving chestnut trees that appear to have some resistance, creation of transgenic chestnuts with genes for resistance from sources other than chestnut and use of hypovirulence to attack the blight fungus. Fred believes strongly in the backcross method of introducing resistance genes from Chinese chestnuts as the most feasible way of restoring the American chestnut to the status that it had prior to the introduction of blight. In describing the success of TACF program, Fred maintains it is not easy but they are winning.



Dr Fred Hebard addressing the CCC, AGM

Correspondence

The CCC executive has received a number of offers from interested individuals willing to donate large areas for planting chestnuts suited to commercial production of nuts. These offers have been transferred to Dr Adam Dale and Dragan Galic for consideration when trees become available. Determining the interest and availability of potential sites 1-2 acres in size is an important part of the current research grant, so the CCC wants to hear from you if you have ideas or potential sites. Please don't hesitate to contact us.

Jocelyn Clark from PEI has offered to continue keeping the chestnut tree registry in the Maritimes. Thank you Jocelyn! On the same note the registry in Ontario is slowly getting out of date. It has been at least 10 years since our last survey and a new survey is needed. A number of sightings of isolated trees have been reported by members during the past few years and these require confirmation. At our November meeting, Directors discussed the inability to follow-up on reports of potential trees from individuals. This usually occurs if the location is a considerable distance from Directors' homes. Several options were put forth to ensure the continuation of tree reports from members. You will hear more of this in the future. In the meantime please continue to send in sightings.

A new book on sweet chestnuts has recently been published entitled: "Following chestnut footprints (Castanea spp.): cultivation and culture, folklore and history, traditions and uses" (2009) by D. Avanzato. The book is 175 pages long and written in English and Italian. It describes chestnut trees in Europe, America and Asia. I was unable to find the publisher but viewed the abstracts at www.cabdirect.org/abstracts/20103105789.html. The book contains many photos of chestnuts both wild and cultivated as well as numerous stories on production and uses. I think this would be an interesting book for all those interested in chestnuts.

The MNR has released its Chestnut Recovery Strategy which can be found on the MNR web site at http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@species/documents/document/stdprod_075550.pdf. The CCC breeding program to develop more resistant native American chestnuts is included as a part of the recovery strategy. A Stewardship agreement between the CCC and the MNR is as yet incomplete. Hopefully this agreement will outline conditions under which the CCC can legally distribute chestnut seed and trees under the Species at Risk Act.

Our CCC chestnut roaster in Ottawa, Luciano Pradal, has informed me that he will be moving to the Sparks Street Mall for the winter. I haven't heard if the move was successful but if you are in the Ottawa area, please check out his new location.

Oriental Chestnut Gall Wasp reported in Ontario

This tiny wasp was accidentally introduced from China to North America via Georgia in 1974. Since that time the wasp has spread northwards until it is now present in most northern states. It was found in Ontario in 2012. It only attacks sweet chestnut including American, Chinese, European and Japanese varieties.

Damage is caused by female wasps that lay eggs in the new buds and shoots of chestnut in the early spring. As the shoots develop galls are formed and new growth is prevented. The wasp larvae develop slowly over the summer and emerge from the galls the following spring. The damage is easily visible in the fall after normal leaf drop. Frequently dead leaves remain attached to the branch in the vicinity of the galls.

Currently there is no effective control other than pruning and destroying the affected branches in the fall. This is not feasible on large trees. There is no chemical control available. The gall wasp is in turn attacked by a parasitic wasp that acts as a form of biological control where this parasitic wasp is present. These "parasitoides" have been released in the USA with mixed results but it may take time to build up suitable populations of the parasitic wasps to be effective.

Research in the USA indicates that tree resistance is controlled by a single gene so obtaining resistant American chestnuts may not be too difficult.

Dr Fred Hebard who spoke at the recent AGM, feels that chestnut blight is a far greater problem than gall wasps. He felt that biological control will eventually control the new pest.

There is considerable information on this pest on Google.



Photo courtesy of Michele Warmund

Galls on chestnut caused by the Oriental gall wasp. Galls develop during the summer and are visible in the fall after leaf drop. Photo from Plant Science Department, University of Missouri, Extension brochure

Chairman's Report to the Membership

I wish to thank our members who attended our recent AGM and on how they responded to the council's appeal for assistance. By the end of the day, we had a new director elected and a total of three new interim directors appointed to swell the ranks of the council and to begin to learn the business of restoring the American Chestnut. Also, we have received a variety of phone calls and emails with suggestions for improvements to the CCC and our membership enrolment and renewal is up. With such great momentum from the AGM, I wish to again ask for your assistance in promoting the American Chestnut and the work of the Canadian Chestnut Council in restoring the species. With directors in only five counties: Essex, Elgin, Brant, Peel, and Wellington, we cannot physically cover many other counties of the province and need assistance with our home areas as well. The CCC needs you to volunteer to perform one or more of the following functions in your home area of our province. The current directors will assist and support your efforts and you will be an important link to the growth of our Outreach in your area.

If you have an email address, the CCC would greatly appreciate it if you would allow us to use it so you can be better informed. The CCC will not use it for any other purposes. By emailing your copy of the CCC Newsletter, the council will save on postage, supplies, and volunteer time which can then be directed towards other projects. For those who want to assist with field work including plantings, pollinations, inoculations, measurements, harvest, husking, etc. your email will allow the CCC to better direct your efforts to the proper time and place since many of these are weather dependent. We also often require booths or activity stations at various public functions. One example is "Chestnut or Chestnot" an interactive student activity developed by Kelly Schafer. It requires volunteers to operate the activity at the Carolinian Forest Festival every October on behalf of the CCC. A quick E-blast to registered volunteers will definitely keep you in the loop for either type of volunteering. So if you can email your email information to the secretary and ask him for the electronic version of the newsletter that would be great. At the same time you can be requested to be placed on the e-blast list of volunteers for field work and/or events. We have three research plots at the present time that need maintenance and your efforts at one or all would be appreciated. A third advantage of email is that the CCC can inform you of current research or articles related to the American Chestnut as they become available. For those members who do not use the technology, the CCC will continue to inform you by the traditional methods. **Please send your current email to the secretary for the CCC to use.**

The CCC often gets requests to identify a possible American Chestnut or the report of a newly located chestnut.

Depending on distance and time available, past and current directors have attempted to assist with identification and verification of new locations of American Chestnuts. However many requests have gone unheeded in the past unfortunately. The CCC is asking for one or two volunteers (or more since some counties are large) in each county that would be willing to investigate possible American Chestnut reports on behalf of the CCC and report their findings back to the council. The secretary would send you the contact information for the location of a possible tree in your home area. You would represent the CCC in assisting the landowner in identifying the tree and where appropriate encouraging him/her to become a member and/or add the location to our tree inventory. This information will help identify sites for the re-introduction of resistant trees and to identify trees whose genetics can be incorporated into our breeding program. In my county of Elgin, member Keith Helmer locates and reports new trees and keeps me updated on their progress in one part of the municipality. This year I spent a great day exploring the lower reaches of the Catfish Creek for a possible American Chestnut. Not that you will be required to go to such great lengths unless you are so inclined. So if you are interested or willing to help with this assignment in your neck of the woods please contact me or the secretary.

The CCC occasionally gets requests for presentations on the American Chestnut and the CCC from a variety of groups. This past September, I had the pleasure of making such a presentation to the Ridgetown District Horticultural Society in Chatham-Kent. Being only 10 minutes from my mother's home, I could get a free meal and bed for the evening and a great visit with my mom. The horticultural society made a generous donation to the CCC for the effort. Kelly Schafer, our Outreach Co-ordinator has covered a large area around Guelph, Hamilton and Brantford in the past but until our Outreach project is renewed, the CCC has had to reduce this service. The CCC has been unable to provide this service to a large part of the province. So we are asking for volunteers to be **American Chestnut Ambassadors** for your local area. A prepared power point presentation along with our "A Species in Crisis" program will be available for you to make the presentations to a group in your location. As an Ambassador you would represent the CCC and assist with educating the public on the plight and importance of the American Chestnut and how the public can assist. Again the secretary would forward the contact information to you to arrange the presentation to the local organization. Don't be shy, I am certain that there are some of you would be great at this activity and it would certainly promote our restoration of the species. Again if you are interested or willing to become an **American Chestnut Ambassador** please contact me or the secretary.

Chairman's Report (continued)

By volunteering to assist with one or more of the above tasks you will help preserve and promote the American chestnut in your area and assist the Canadian Chestnut Council in fulfilling its mandate. I look forward to working with you this coming year. If you have any questions about becoming involved please contact me with your inquiries or ideas. If you require more information on becoming an interim director please contact me as well.

Sincerely Yours in the Restoration of the American Chestnut.

Ron Casier

ron@amtelecom.net

519 631 5279

Outreach Activities

Oct 2-4. The CCC participated in the Annual Carolinian Forest Festival held this year at the Jaffa Forest Tract of the Springwater Conservation Area of the Catfish Creek Conservation Authority to the south west of Aylmer. Approximately, 1500 elementary students plus their teachers and parents/guardians from Elgin, Middlesex, Oxford and the London, St. Thomas, Woodstock attended. The event was organized and operated by community volunteers and secondary school students. The event includes a number of practical demonstrations as well as activities for students to help them better understand the value of woodlands and benefits to flora and fauna as well as soil qualities and conservation. Activity kits involving the CCC were assembled by Kelly Schafer. Ron Caier and Tom Welacky represented the CCC.



Small gall on the petiole of a chestnut leaf caused by Asian gall wasp in Ontario. Photo: Tom Welacky



Participants at the 2012, Carolinian Forest Festival discover new appreciation for native woodlands as well as the importance of American Chestnut. Photo: Tom Welacky



The value of native germplasm is demonstrated by a late frost that occurred in Essex County, 2012. The tree on the left is from a nut purchased in grocery store (European or Chinese) that suffered damage while the American chestnut on the right was not damaged because of delayed bud break. Both trees are side by side in my yard. Photo: Terry Anderson

Propagation of cuttings of American Chestnut

Dragan Galic, Murray Alward and Adam Dale

A feasible technique is needed to clone to maintain American chestnut trees which are dying in woodlots, and to propagate the 35 selected mother trees used in the breeding program. This will secure diversity within program. Also, it will enable us to conserve trees so that the genetic diversity does not become depleted further, and enable us to keep the many recessive genes that may be present in the local chestnut population. Moreover, we will be able to replicate selected F1 and F2 trees so that we can plant them in different places to obtain F3 nuts as quickly as possible.

Normally, American chestnut trees that are started from nuts take 8-10 years to produce a crop of nuts. In nature, maturity is delayed so that the tree can direct all resources towards its establishment before its energy is directed to reproduction. A grafted tree can produce catkins in the first or second year, and burrs in the third and fourth year.

Grafting is the most widely used vegetative propagation method in chestnut, while tissue culture propagation is still in its infancy. However, there are several problems associated with grafting: sometimes, there is incompatibility between the scion and rootstock, the union is susceptible to chestnut blight infections, the trunk is weak at the grafting union, and there can be “sudden death” of a fully grown tree.

Rooting softwood and semi-hardwood cuttings may be an ideal method to clone an American chestnut. It has been successfully done with European chestnut, but not with American chestnut. However, in last several years we have been able to successfully root several American chestnut cuttings.

Research with European chestnut suggests that cuttings taken from young mother plants, or from stump or coppice shoots of older trees, usually root more easily than cuttings taken from the crown shoots of mature trees. This is because shoots taken from near the root-shoot interface are more juvenile than those from further away.

Adventitious rooting is affected by physiological maturity, endogenous inhibitors and the anatomy of the stem sclerenchyma ring and by environmental factors. The propagation environment can be controlled more easily than the endogenous factors, and can be managed to maximize the number of rooted cuttings. Propagation systems in other crops have been designed to maintain an atmosphere of low evaporation; to minimize water loss from cuttings; to ensure adequate temperatures for root regeneration and to provide sufficient light levels for photosynthesis during root formation and plant establishment.

Based on our research, cuttings collected in mid July and kept under controlled propagation environment root more easily than those collected both earlier and later. However, in July, the shorter growing season and reduced light intensity does not induce rooted cuttings to grow and survive the winter or cold storage. We estimate that at least 25 mm of new shoots are needed for the cuttings to survive cold storage and grow the next spring.

To mitigate these conditions, we have developed a two-step protocol to root American chestnut cuttings. In the first year a shoot from a selected tree is grafted onto a rootstock, and in the second year, it is moved into a greenhouse in February and new shoots taken and rooted in May. This gives us a long enough growing season for the cuttings to root and grow new shoots.

This research has been supported by funding from the Ontario Ministry of Natural Resources through its Species at Risk Stewardship Fund and the Agricultural Adaptation program

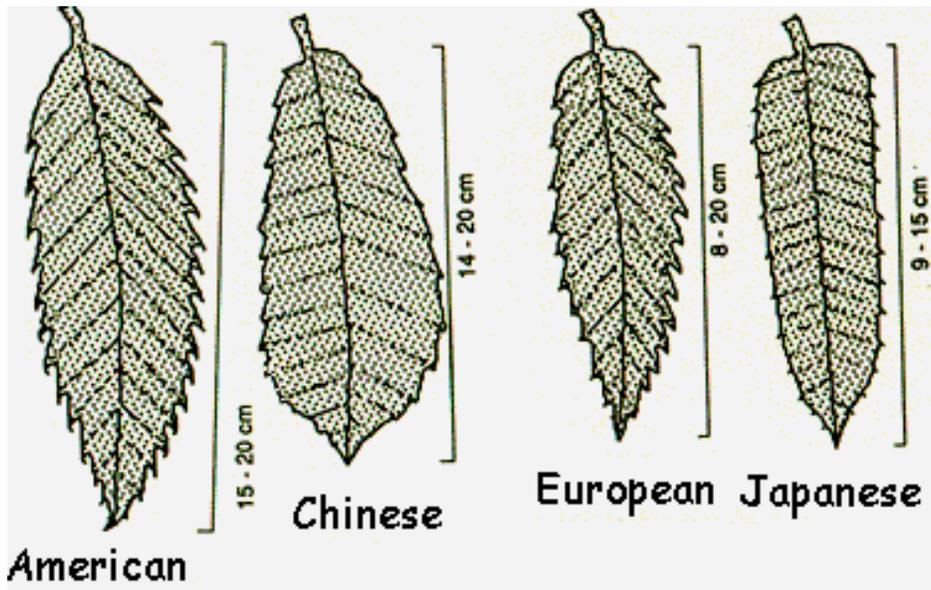


Rooted cutting of American chestnut, Simcoe Research Station



Attendees at the CCC, 2012 AGM at Onondaga Farms listen to Dr Fred Hebard from The American Chestnut Foundation

AGM lunch with camp attendees at the THF Molly Henderson Building.



Leaf shapes of those chestnuts which closely resemble American chestnut

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

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, Aug-Nov, 2012

Aug 9, Ron Casier's Home. Ron reported that the CCC had successfully obtained a Species at risk Grant for \$30,752.00 over 3 years 2012-2015 for breeding/selection work. Treasurer Paul Faires payed the CCC liability insurance. George Collins presented the final Ontario Trillium Grant report for the Outreach Program. All agreed that it was a success. The research group had unfortunate news in that many of the pollinated nuts from the past summer were mouldy when harvested. The group felt that excessive heat during the summer contributed to the problem.

Sept 13, THF/Onondaga Farms. The main topic was organization of the CCC, AGM in October. Volunteers were required to harvest chestnuts in the nursery and for Forest Festival to be held at Catfish Creek Conservation Area. Ron and Tom volunteered. Funding was approved for Dragan Galic to attend the International Chestnut Conference in Ashville, N.C. to present his research results on rooting chestnut cuttings.

Oct 27, THF A brief meeting was held before the AGM to finalize plans.

Nov 19, Simcoe Research Station. John Kelly, Vice President of Erie Innovation and Commercialization outlined possible funding strategies for NGOs. A Fund Raising Subcommittee was formed to seek funds from non government sources. All nurseries are in good condition. Tree removal is required at 2 locations. All nuts have been collected and dehusking is required at Simcoe in the near future.



CCC Directors inspect the new chestnut planting at Ron Casier's. Trees and sunflower doing well!

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

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