The Canadian Sweet Chestnut

-Newsletter of the Canadian Chestnut Council-

Issue # 81 – September 2021

http://www.canadianchestnutcouncil.ca

Council Mission - to help restore the American Chestnut to the areas of Canada it once occupied.

Current Priorities

1) Breeding resistance
2) Breaking Isolation / Establishing Gene pool Nodes
3) DNA Analysis
4) Survey of existing Chestnuts in the wild

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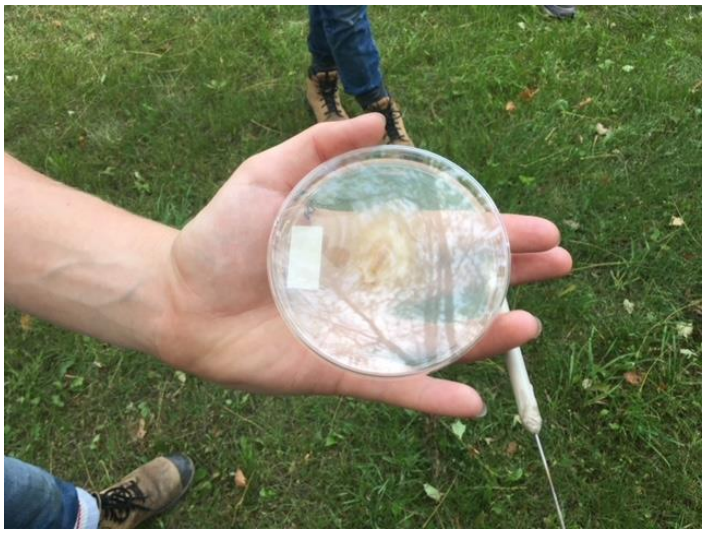
Breeding Resistance – Summer 2021 inoculation

In late June, volunteers inoculated approximately 170 F2 Chestnut trees with two strains of the Chestnut blight.
The blight was provided by the University of Guelph in Petrie dishes.
A small bore-hold is made in the trunk of the tree and the blight is placed in the bore hole and covered with paraffin film.



Petrie dish with chestnut blight inoculum

Dragan Galic creates small bore hole.

Volunteer places blight inside bore hole

Inoculated hole covered with paraffin film

An inoculated chestnut tree.
(photos courtesy of Neil Dunning)

The inoculation for 2021 season at Onondaga was done on 24 June and Ron Casier's farm 29 June. In total, we inoculated 169 trees (Onondaga 80 and Ron's farm 89). Unfortunately, the inoculum did not take this season and we will need to re-inoculate again next year. All previous year's inoculations measurements were completed.

Breeding Resistance – Summer 2021 Tree Pollination

Pollination season started shortly after inoculation sessions with labeling trees and flowers bagging started late June. The camp management despite all COVID 19 restrictions provided us with timely permits for pollination. Over the course of pollination, we have attached over 640 bags and pollinated 25 trees and made 80 crosses of that 28 native and 6 F3 generation. Nuts will be harvested in early October

DNA Analysis - Think You Have an American chestnut – Want to Check its Pedigree?

The Canadian Chestnut Council has made arrangements with Dr. Brian Husband at the University of Guelph to extract, sequence and analyze the DNA from submitted leaf samples.
To recover the cost of lab materials and sequencing, a fee of $25 per sample will be charged. Cheques should be made out to the Canadian Chestnut Council and included in the outer packaging.
If you have a sample that you want to check, please contact Heather Dover at hj.dover@hotmail.com. She will advise where the sample can be sent or make arrangements for it to be picked up.

American Chestnut - DNA Sampling Procedure - Simplified

1. Select an appropriate leaf.
Sample a fresh, mature leaf only, preferably not from a branch with blight. Do **Not** sample leaves that are withered, yellowing, diseased, or insect damaged. A leaf that is in good health, fully intact, and recently completed opening is the best candidate for sampling for DNA testing. Only one leaf per tree is required for DNA testing but if the leaves are of a lower quality 2 or maybe 3 can be sampled.

2. Prepare the Envelope
Use a paper envelope that will fit in the envelope that you will use to submit the sample/samples (a brown coin envelope or equivalent is a good choice). Label the sample envelope with an ID for the tree and include in the envelope a completed "Reporting a Chestnut in the Wild Form" that can be found on the Canadian Chestnut Council's website www.canadianchestnutcouncil.ca under the Found a Chestnut/Report a Chestnut link. Please be sure to include the date taken and the contact information of the person submitting the sample/samples (name, address, e-mail and phone number). If multiple samples come from the same tree, be sure to mark this clearly on the envelopes.

3. Take the sample.
Using a clean pruner (sterilized is best, see below), carefully remove the selected leaf from the tree. It is fine to cut the stem of the leaf or even to cut off a small portion of the leaf closest to the branch, as long as the sample leaf is mostly intact. If you are sampling multiple Chestnut trees with the same pruner, you should sterilize the pruner between trees by washing it with a diluted alcohol or bleach solution. This helps to prevent any chance of chestnut blight being spread from tree to tree.
CAUTION: Chestnut blight is a wound pathogen, which means it infects trees through cuts and scrapes in the tree's bark. Take extra care not to scrape or damage the tree's trunk or branches when taking a sample!

4. Prepare the sample for submission
Place the sampled leaf in the prepared envelope (if multiple leaves were sampled from the same tree, put each leaf in a separate sample envelope). It is okay to fold the leaf neatly, if that is needed to fit the leaf inside of an envelope, but try to limit the amount of folding of each leaf. Folding once is fine, but more than that will affect the drying process not allowing them to dry out properly, as will balling up or scrunching up the leaf. Multiple leaves in the same envelope will also hinder drying. If you have some, immediately add 20-25 ml (2 tablespoons) of silica gel into the paper envelope with the leaf sample. Do not seal the envelopes. Leaving them open helps with air circulation and allows for checking the samples and changing out the silica. If you do not have silica, it will be put in when the samples are received.

5. Submit the Sample/Samples
E-mail Heather Dover at hj.dover@hotmail.com for information as to where to send your sample. Multiple sample envelopes can be submitted in the same envelope/package. Dr. Brian Husband's lab will look after the drying and preparation of the samples for DNA extraction. Please include a cheque ($25/ per sample) in the outer envelope. Cheques should be made payable to the Canadian Chestnut Council.

Meet the Board of Directors (Nathan Munn)

Nathan Munn

EDUCATION:

- University of Western Ontario
  Graduated in 1999 - Bachelor of Science Degree (Biology)
- Sir Sandford Fleming College
  - Graduated in 2001 - Forestry Technician Diploma

WORK EXPERIENCE:

- Tree Marker
  - Algonquin Park and surrounding area - 2001
- Toronto Region Conservation Authority
  - Forestry Assistant – 2002-2006
- Grand River Conservation Authority
  - Forestry Specialist (main duties pertaining to our private land tree planting program) – 2006-2012
  - Supervisor of Forestry Operations (coordinating various operational aspects of forestry programs and managing our nursery) – 2012-present

CERTIFICATIONS/QUALIFICATIONS:

- Registered Professional Forester (with the Ontario Professional Foresters Association)
- Managed Forest Plan Approver
- Ontario Certified Tree Marker

PERSONAL:

- Currently lives in Guelph with his wife and two young children.
- Enjoys running, outdoor activities, and growing rare native trees.

The CCC on Instagram - This summer the CCC Board decided to expand our reach in the social media world. We currently have a Facebook account, and have now added an Instagram account. Evidence of the social media public's interest in our work is the fact that we now have over 100 followers within weeks of going live on Instagram. We have all heard the negative reporting on abusive behaviour in social media, but the discussion of all things tree is generally very positive and collegial on Facebook, Instagram, and also Twitter. This makes it a great place to share our work with a very sympathetic and interested audience.
Since all the social media platforms are very visually oriented, any photographs of your adventures with the American chestnut would be appreciated, with a short caption. Please send photos to neil@northpine.ca. To fully view and interact with our Instagram posts you will need an Instagram account. To view our account with pictures only, go to www.instagram.com/canadian_chestnut_council/ Please be sure to check into the Canadian Chestnut Council Facebook account as well.

33rd Annual General Meeting 2021 – Oct 23, 2021

The 2021 Annual General meeting will take place virtually on Oct. 23rd, 2021.

Please **see annual meeting notice** for link (sent separately).

Following the annual meeting, there will be a presentation entitled **"High genetic diversity in American chestnut (*Castanea dentata)* despite a century of decline"** by Sophia Stolz, Ph.D. candidate, University of Guelph. The presentation is based on her work on the DNA analysis of the American Chestnut in Canada.

Membership Dues (Terry Anderson) – a reminder that membership **dues for 2022 as of the Annual Meeting.** It is the Foundation's policy to remove members from the mailing list after three years in arrears. Dues can be forwarded to our Membership Secretary, Terry Anderson. The fee is $25.00 and your cheque should be mailed to Terry Anderson.

Make cheques payable to: the Canadian Chestnut Council.
Please send to:
Terry Anderson
261 Sandy Brook Way,
Kingsville, ON. N9Y 0A4

Want more information:

Website - www.canadianchestnutcouncil.ca

Contact - Mr. Ron Casier Phone - 519-631-5279 Email - ronjcasier@gmail.com	**Membership Secretary** - Terry Anderson Address - 261 Sandy Brook Way, Kingsville, ON. N9Y 0A4 Phone - 519-733-3796 Email - andersonterry419@gmail.com

Council Directors – Chuck Beach, Ron Casier, Tim Casson, Gord Chinnick, Heather Dover, Neil Dunning, Doug Fagan, Stan Furman, John Hill, Ken MacGillivary, Nathan Munn, Christine Vey.