



Maine Chapter

The American Chestnut Foundation



YOU ARE INVITED TO ATTEND!

The American Chestnut Foundation Maine Chapter Annual Meeting

When: Saturday, November 21, 2020 at 10 am until noon via ZOOM.

(Link: <https://une.zoom.us/j/99918026350>)

The November Board of Directors meeting will be held at 9 am, also via ZOOM.

3-year board terms: standing for new appointments, expiring at the annual meeting 2023 are current board members Charlie Hudson, Mark McCollough, Ann Rea, and Andy Reed, as well as new member Kirby Ellis of Hudson, Maine (owner of Ellis Greenhouses, 218 Old Town Rd, Hudson, ME 04449, Phone: 207-327-4674).

1-year officer terms: President, Al Faust; V.P., Tom Klak; Treasurer, Ann Rea; and Secretary, Charlie Hudson.

Nominations can also be submitted from the floor.

The Program:

***What should the Maine Chapter be doing next?* Featuring Dr. Jared Westbrook, TACF Director of Science, and Kendra Collins, TACF New England Regional Science Coordinator.**

In addition, Tom Klak, a member of our Board of Directors and a UNE Professor of Environmental Science, will update us on the SUNY Darling 58 FDA application and his efforts in support of it.



AN UPDATE FROM OUR PRESIDENT

Greetings TACF Maine Chapter Members and Friends,

It's been quite a year for us all. COVID restrictions have changed our Chapter operations, as they have the rest of our lives. Our Board of Directors meetings have been held via ZOOM; our outreach functions have come to a screeching halt; and we have managed our field operations cautiously with social distancing and masks.

Nonetheless, the trees continue to grow, as do the weeds. The hot dry summer was hard on trees planted in new orchards, but those planted in prior years did well. We established several new pure American Chestnut orchards as well as backcross test orchards. We are testing tall tubes in these orchards where the tree spacing is much larger than our seed orchards, making the electric fence impractical, although deer protection will still be needed for several years.

We had two repeat interns this past summer: Rachel Cole and Flynn Willsea. Rachel had volunteered one day a week the summer of 2019, so this year she hit the ground running. She is a senior at SUNY who is very familiar with Bill Powell's work as well as our organization's objectives. She outworked me on a regular basis. Also a repeat intern and an Environmental Science major from UNE who graduated in 2019, Flynn worked in our germplasm conservation orchards and on our Maine Darling 58 transgenic program. Thank you Rachel and Flynn! You both did a great job for us!

In other news, nationally and in Maine our membership has held up, but our Maine grantors have been suspending grant making so our finances are getting tight. Suggestions for new members and supporters are always welcome.

In addition, two items:

First, led by our Maine Chapter Breeding Coordinator Eric Evans, our annual tabulation of harvested B3F2 seeds from our breeding orchards and from pure

Americans is underway.

Second, I also wanted you know that member David Bevins of Starks, Maine has made a guitar of chestnut wood, which our chapter was allowed to recover from a tree in Atkinson that succumbed to the blight. The guitar has a great sound; and as you can see from the photograph above, it shows off the beauty of chestnut wood to great effect. Thank you, David, for applying your unique skills to benefit the chestnut project! Down the road once Maine fairs and conventions resume, look out for David's guitar at our exhibit table!

Finally, an update on SUNY's petition for non-regulation of the Darling 58 transgenic tree: A number of our directors along with some of you wrote letters to the USDA in support of SUNY's application, and the Sixty Day Comment Period then concluded on October 19th. The overall results of these public comments are 71% in support of their application, 28% against, and 1% neutral.

All the best,
Al Faust

Pollination and Shucking of Blight-Tolerant Chestnuts



In July our TACF Maine Chapter pollinated Maine's first wild chestnut trees with pollen that has fungal blight tolerance. This field pollination is allowed under USDA permitting while federal agencies consider deregulating the blight-tolerant chestnut.

Once deregulated, these trees can be made available to the general public. In this photo, Maine Chapter President Al Faust records pollination data called down to him from the lift. Among those pollinating at different times from above were Chapter Board Members Larry Totten and Tom Klak, Chapter Intern Flynn Willsea, and New Hampshire/Vermont Chapter President Doug McLane.



In October, TACF Chapter Members from three states converged at Maine Chapter Board Member Tom Klak's home in Southern Maine to "shuck" chestnut burs, i.e., remove the chestnuts from their protective burs and separate the fertile (plump) and unfertile (flat) chestnuts, as can be seen in the photo above.

Chapters represented in the collective effort included Massachusetts/RI, New Hampshire/Vermont, and of course Maine. Working on a gorgeous autumn day, "shuckers" strictly adhered to mask wearing and physical distancing protocols.

Above Maine Chapter Director Mark McCollough processes some of the first-ever crosses between Maine chestnut trees and pollen from the Darling 58 lineage that has been documented to have blight tolerance. These chestnuts will be among those out-planted in May in four locations including Maine under federal permitting. Over the next years we will monitor their performance in the field and will eventually inoculate them with the fungal blight to ensure field results on blight tolerance match those from the lab.

**RAM ISLAND FARM & TACF MAINE CHAPTER
EXTEND THEIR PARTNERSHIP**



Maine Chapter Director Tom Klak recently met with some key people in Cape Elizabeth, Maine who are as enthusiastic about chestnut restoration as he is. The foursome met at the Sprague Family's Ram Island Farm, which has eighteen known chestnut trees and has hosted several other chestnut plantings in recent years.

At the meeting the participants agreed to extend the partnership between Ram Island Farm and the Maine Chapter of The American Chestnut Foundation. With this extension, under federal permit we will plant an orchard of chestnut seedlings that have inherited the gene for blight tolerance. The orchard will allow us to test the ability of the seedlings to withstand the fungal blight under field conditions.

John Greene (President of the Sprague Corporation), Travis McCourt (Land Manager of Ram Island Farm), Seth Sprague (whose family owns Ram Island Farm), and Tom Klak (Maine Chapter Director) are pictured left to right above. Many thanks to Ram Island for their ongoing support and continuing participation!

EXCITING WORK AT THE UNIVERSITY OF NEW ENGLAND



Over recent years, University of New England Environmental Science students have contributed mightily to our collective effort to return the “Mighty Giant” to Maine and its entire native range.

Above students work in Tom Klak’s lab performing a test on chestnut seeds from Maine trees that have been pollinated with blight-tolerant pollen. The students are placing a sample taken from each chestnut seed in a uniquely identified test tube. They’ve loaded the test tube with a chemical reagent that includes oxalic acid, which is what the fungal blight uses to kill American chestnuts.

If the chestnut sample in the test tube turns black, it means it is resisting the fungal blight, has inherited the gene for blight tolerance, and is emitting hydrogen peroxide (which colors the solution black).

UNE students Tyler Riendeau, Kristina Genthner, and Virginia May are pictured above left to right. While the students are helping to restore the American chestnut, the work provides them with hands-on experience with the fundamentals of ecological restoration through biotechnology.



ESTABLISHING AND PROTECTING CHESTNUT TREES IN MAINE

By Brian Roth

Restoration of the American chestnut in Maine is very challenging because our cold temperatures place us at the northern limit of the native range. But for trees to be able to mature and provide crucial food for turkeys, blue jays, squirrels, and large game, we have to do more than just plant a nut in soil to be successful.

In order to minimize the chances that they will be dug up and eaten, directly planted seeds need tube protection. If a seedling is planted, then the attached nut will need to be removed or the seedling will be at risk of severe damage from whatever is digging for the remnants of the nut. Furthermore, a chestnut sapling that is less than 6 feet tall is prime fodder for browsing deer and moose. While in Southern Maine Dr. Tom Klak has been using tall tree tube shelters with great success, these are

expensive and require ongoing maintenance.

Another option is some form of chemical repellent sprayed directly on the seedlings. While this option is less expensive and less time consuming, depending on the product, its effectiveness has varied.

A new deer and moose repellent product from Europe is being tested in North America. A natural product developed from sheep fat, its brand name is TRICO. It is applied directly to the top of the seedling, and browsing animals are repelled by its taste and smell.

Member of the METACF Board of Directors, Brian Roth is working with Kwizda, the manufacturer of TRICO, to field test the product for various North American tree species. A field trial is underway in Mayfield TWP, Maine using American chestnuts established on Weyerhaeuser property. Two other METACF Directors, Marc McCollough and Ron Lemin, worked with Frank Cuff from Weyerhaeuser to establish the trial using several varieties of chestnut. Kirby Ellis grew the seedlings in his greenhouse.

We applied the TRICO repellent in October to a subset of trees for comparison, a sheltered and non-sheltered group. In the spring we will revisit the research plot to evaluate for effectiveness.

Pictured above is Frank Cuff from Weyerhaeuser in October when we applied the TRICO repellent. We will revisit the research plot in the spring to evaluate the effectiveness of the various treatments.



If you would like to try some TRICO product this fall on your seedlings, please contact Ron Lemin at Ronald.lemine@nutrien.com.



Thank you, Weyerhaeuser for donating thousands of tree shelters to METACF. We are extremely grateful for your support!